CRITERION-II

TEACHING- LEARNING AND EVALUATION

KEY INDICATOR: 2.6 (QIM) :

STUDENT PERFORMANCE & LEARNING OUTCOMES

2.6.1. Programme Outcomes (Pos) and Course Outcomes (COs) for all programmes offered by the institution are stated and displayed on website

INDEX

Programmes Offered

Under Graduate Courses

- B. A.
- B. Sc.
- B. Com.
- BCA

Post Graduate Courses

- M. A.
- M. Sc.

Programmes Outcomes

Programme Outcomes for Bachelor of Arts (B.A)

Pursuing a B.A. programme can greatly benefit students by providing them with a strong foundation of knowledge and skills that can help them achieve their future goals.

PO 1. Realizing human values.

PO 2. Becoming a responsible and dutiful citizen.

O 3. The Bachelor of Arts department offers courses that delve into the philosophies of Saint Dnyaneshwar, Saint Tukaram, Saint Kalidas, and the writings of Shakespeare, enriching children with diverse perspectives and insights.

PO 4. Getting well acquainted with the historical events happened in India as well as in the world.

PO 5. Students gain knowledge about the making and philosophy of the Indian Constitution through studying its historical context, key principles, and the contributions of its philosophers.

PO 6. Creating interest in basic Knowledge and major Knowledge in literature.

Programme Outcomes for Bachelor of Science (B. Sc.)

Students seeking admission for B.Sc. programme, permeating following qualities which help them in their future life to achieve the expected goals.

PO1. Conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias.

PO2. Appreciate the role of science in society; and its personal, social and global importance; and how society influences scientific research.

PO3. To understand and analyse the data (qualitatively/quantitatively) to identify patterns and relationships, identify anomalous observations, draw and justify conclusions.

PO4. Students should appreciate the role of science in society; and its personal, social and global importance.

PO5.Understanding environmental concerns by the students at the undergraduate level.

PO6. Understanding the relationship of man with the environment and help them change his attitude for more positive, proactive, eco-friendly and sustainable lifestyles.

PROGRAMME OUTCOMES FOR BACHELOR OF COMMERCE (B.COM)/ BACHELOR OFCOMPUTER APPLICATIONS (B.C.A)

Above course is structured and administered to cater to students professionally

PO1. Knowledge- Lay strong academic foundations to develop competent knowledge sets unique to business environment.

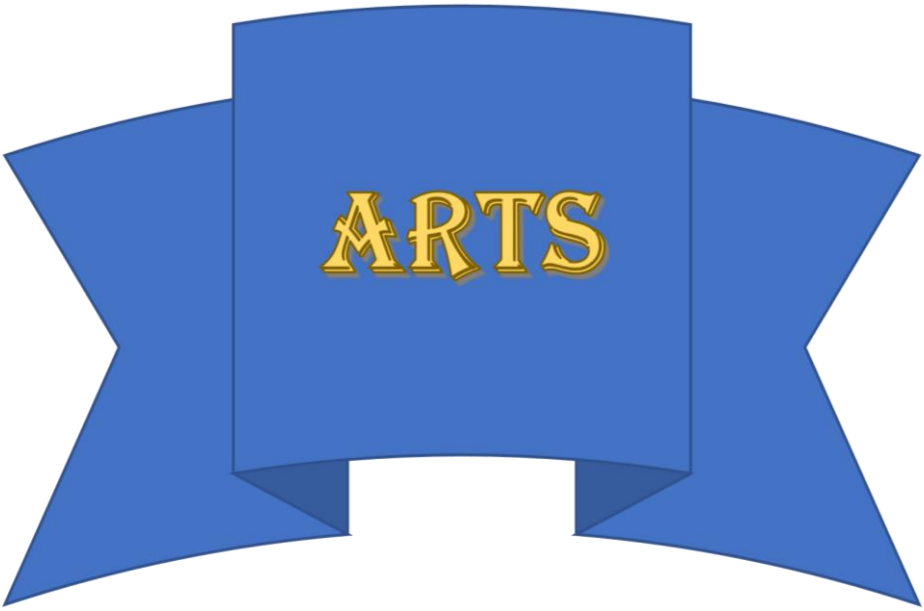
PO2. Problem analysis/ solving, Design and development of solutions: Impart analytical skills and soft skills required in workplaces and for progression into prestigious post graduate education.

PO3. Environment sustainability: Education in the value of trusteeship while engaging in environmental and social issues.

PO4. Ethics and Communication: Education in ethical principles leading to personal values, professional ethics and resulting in critical consumption and just business practice.

PO5. Individuality and Teamwork: Development of entrepreneurial mindset, leadership skills and emotional intelligence to face the evolving marketplace.

PO6. Competencies for employment and Research: Instil professional competencies and values that aid in rapid professional growth and to be in positions of responsibility and governance that help serve for the betterment of society.


ARTS

B.A. Part I (Discipline Specific Core) (DSC- A3) (English Paper –I)
(Semester – II)
Modern Indian Writing in English Translation

(CBCS with MEME in accordance with NEP)
Detailed Syllabus Course Objectives:

- Students are able to acquaint students with translated Modern Indian literature in English.
- Students are able to get introduced students to short story as a form of literature with reference to the texts prescribed.
- Students are able to develop literary competence among students.

B. A. Part II
ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)
(CBCS)
ENGLISH FOR COMMUNICATION
(Compulsory English)

(June 2019 Onwards)

Course Objectives:

- Students are able to develop communication skills in English, both oral and written.
- Students are able to equip with the language skills for use in their personal, academic and professional lives.
- Students are able to develop essential employability skills.
- Students are able to face the job market with confidence and the ability to work effectively.
- Students are able to learn and practice both language and soft skills.
- Students are able to take active involvement in learning process.
- Students are able to cultivate a broad, human and cultured outlook.

B. A. Part II
(Discipline Specific Core) (DSC-C5)

English (Paper III) (Semester III)

LITERATURE AND CINEMA (CBCS)
Course Objectives:

- Students are able to understand film and its relationship to literature.
- Students are able to acquire film literacy through a working knowledge of basic film terminology
- Students are able to develop critical approaches to engage with film adaptations
- Students are able to establish a clear understanding of literature through film adaptations of literary
- texts
- Students are able to understand the issues and practices of cinematic adaptations

B. A. Part II
(Discipline Specific Core) (DSC-C29) English

(Paper V) (Semester IV)

LITERATURE AND CINEMA
(CBCS)
Course Objectives:

- Students are able to understand film and its relationship to literature to the students
- Students are able to acquire film literacy through a working knowledge of basic film terminology
- Students are able to develop critical approaches to engage with film adaptations
- Establish a clear understanding of literature through film adaptations of literary texts
- To introduce students to the issues and practices of cinematic adaptations

Shivaji University, Kolhapur
B. A.III
Compulsory English
Ability Enhancement Compulsory Course (CBCS)

ENGLISH FOR COMMUNICATION

From June 2020 Onwards

Course Objectives

- To Enhance Students English Communication Skills.
- To Impart Employability Skills To Students.
- To Prepare Students For Competative Examinations.
- To Enable Students To Acquire Specific Professional Skills Such As Media Writing
- To Enable Students To Learn Manners And Etiquettes Required At Work Place.
- To Enhance Studetns Reading Comprehension Skills.
- To Creat Interest In English Literature Among Students.
- To Inculcate Human Values And Ethics In Orders To Enables Them To Become Good Citizens Of The Country

Course Outcomes:

After The Completion Of The Course , The Students Will Be Able To :

- Learn Group Behavior And Team Work.
- Acquire Knowledge Of Indian Culture And Tradition.
- Develop The Writing Skills Through Exercise In Grammar And Compositionn
- Students Will Develop English Communication Skills And Group Discussion Skils.

- Skill Of Writing E-Mail For Communication .
- Students Will Acquire Knowledge Of New Mathods And Techniques For Note Making And Note Taking.
- Acquire Professional Skills Required In Media Writing.
- Learn Group Behaviour And Team Work.
- Development Of Self Confidents For Facing Personal Interview For Job.
- Improve Voca Bulary.

Shivaji University, Kolhapur
B. A. Part III
Special English
INTRODUCTION TO LITERARY CRITICISM (CBCS)
Discipline Specific Elective
Semester V (Paper VII) (DSE- E11) & Semester VI (Paper XII) (DSE- E136)
From June 2020 onwards
Shivaji University, Kolhapur

Course Outcomes:

- Students are able to understand the major trends in criticism.
- Students are able to interpret critical concepts.
- Students are able to study the original contributions to literary criticism.
- Students are acquainted with literary and critical movements.
- Students are able to understand the meaning and appreciate the poems critically.

Shivaji University, Kolhapur
B. A.III
English Special
ENGLISH POETRY (CBCS)
Discipline Specific Elective
Semester V (Paper VIII) (DSE – E12) and Semester VI (Paper XIII) (DSE – E137)
(From June 2020 Onwards) Course

Outcomes:

- Students will be able to trace the development of the poetry in English from the days of Shakespeare to the contemporary India.
- Students will be able to appreciate and analyze the poems properly.

- Students will have a fairly comprehensive view of the Western and Eastern poetic tradition and they will be able to relate it to various literary movements.
- Students will have an insight into poetry and they will be able to make a lively and interesting reading.

B. A. Part III
Special English
ENGLISH DRAMA (CBCS)
Discipline Specific Elective
Semester V (Paper IX) ((DSE – E13) & Semester VI (Paper XIV) (DSE – E138) From June 2020

onwards

Course Outcomes:

- Students are able to understand different forms of drama.
- Students are able to relate drama to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of drama.
- Students are able to know about various aspects of the drama.

Shivaji University, Kolhapur
B.A. III
English Special
LANGUAGE AND LINGUISTICS (CBCS)
Discipline Specific Elective
Semester V –Paper XI (DSE - E15) & Semester VI – Paper XVI (DSE - E140) From

June 2020 onwards Course Outcomes:

- Students know the concept of communication.
- Students are familiar with varieties of the English language.
- Students know different levels of study of the English language.
- Students know basic units of grammar.

Yashwant Shikshan Sansthan's

Miraj Mahavidyalaya, Miraj

Department OF HINDI

Course Outcome

B.A I

B.A. – I COM_PAPER I/II

- हिन्दी में कार्य करने की रूचि विकसित कराना ।
- जनसंचार एवं इलेक्ट्रॉनिक माध्यमों से परिचय कराना ।
- अनुवाद साक्षात्कार के स्वरूप, महत्व तथा उपयोगिता से परिचित कराना ।
- रोजगार परक हिन्दी की उपयोगिता एवं हिन्दी के आधुनिक विधाओं पर प्रकाश डालना ।

B.A - I OPT_PAPER I/II

- राष्ट्र भाषा के प्रति अभिरुचि पैदा कराना ।
- आधुनिक हिन्दी के पद्य विधाओं का परिचय कराना ।
- वैश्वीकारणयुक्त ववितााओं का परिचय कराना ।
- हिन्दी के आधुनिक गद्य विधाओं परिचय कराना ।

B.A - II

2) Paper No III / V :-

Paper No III :-

- हिन्दी में कार्य करने की रूचि विकसित कराना ।
- रोजगार परक हिन्दी पर प्रकाश डालना ।
- अनुवाद विधाओं पर प्रकाश डालना ।

Paper No V :-

- हिन्दी के आधुनिक गद्य विधाओं परिचय कराना ।
- नाटक विधाओं पर प्रकाश डालना ।

2) Paper No IV / VI :-

Paper No IV :-

- मध्यकालीन एवं आधुनिक कविताओं पर प्रकाश डालना ।
- मध्यकालीन संत साहित्यों का परिचय कराना ।

Paper No VI :-

- हिंदी खंण्डकाव्य पर प्रकाश डालना ।
- आधुनिक हिन्दी के पद्य विधाओं का परिचय कराना ।
- संशय की एक रात खंण्डकाव्य का परिचय कराना ।

B.A. – III

1) Paper No VII / XII -

Paper No VII :-

- विधा विशेष का अध्ययन पाठयपुस्तक दिल्ली ऊँचा सुनती है (नाटक) नाटककार कुसुम कुमार की बहुमुखी प्रतिभा से परिचित होना ।
- नाटक का संक्षिप्त परिचय करा देना ।
- नाटक की कथावस्तु, पात्र, शीर्षक एवं समस्याओं का सामान्य परिचय देना ।

Paper No XII :-

- अंतिम साक्ष्य (उपन्यास) उपन्यास के तात्विक स्वरूप का परिचय देना ।
- अन्यासकार के व्यक्तित्व एवं कृतित्व से परिचित कराना ।

2) Paper No VIII / XIII -

- साहित्यशास्त्र

Paper No VIII :-

- साहित्य निर्मिति की प्रक्रिया का बोध कराना।
- साहित्य, समीक्षा सिद्धांत, काव्य के तत्व एवं अलंकारों से परिचित कराना ।

Paper No XIII -

- महाकाव्य, एकांकी एवं रेखाचित्र के स्वरूप एवं प्रमुख तत्वों पर प्रकाश डालना ।

3) Paper No IX / XIV :- हिन्दी साहित्य का इतिहास

Paper No IX :-

- हिन्दी भाषा तथा इतिहास से अवगत कराना ।
- छात्रों का युगीन सामाजिक, राजनीतिक परिस्थितियों से अवगत कराना ।
- हिन्दी के प्रमुख संत कवियों का परिचय देना।

Paper No XIV :-

- इतिहासकारो द्वारा प्रस्तुत काल विभाजन और नामकरण को जानने के लिए प्रेरित कराना।
- हिन्दी साहित्य के अंतर्गत गद्य-पद्य विधा और उसके भेदों, उपभेदों से अवगत कराना।

4) Paper No - X/XV :- प्रयोजनमूलक हिन्दी

Paper No X –:

- हिन्दी में कार्य करने की रूचि विकसित ।
- पारिभाषिक शब्दावली से परिचित करना |
- सरकारी पत्राचार के स्वरूप का परिचय कराना ।

Paper No- XI / XVI:-जनसंचार एवं इलेक्ट्रॉनिक माध्यमों से परिचित कराना |

- अनुवाद का स्वरूप, महत्व तथा उपयोगिता से परिचित कराना ।
- रोजगार परक हिन्दी की उपयोगिता स्पष्ट कराना |

Paper No- XX/XVI :- भाषाविज्ञान

- भाषा के विविध रूपों का परिचय कराना ।
- हिंदी भाषा का उद्भव एवं विकास पर प्रकाश डालना |

P.NO XVI :-

- भाषाविज्ञान का सामान्य परिचय देना।
- भाषा की शुद्धता के प्रति छात्रों को जागृत कराना |
- मानक हिंदी की वर्तनी और व्याकरण से छात्रों को परिचित कराना ।

अभ्यासक्रम शिकण्याची फलश्रुती

Course Learning Outcomes

मराठी
2023-2024

क्र.	वर्ग	विषयाचे नाव- अभ्यास-पत्रिका क्रमांक Paper No.	Course Learning Outcomes अभ्यासक्रम शिकण्याचे परिणाम
1	B.A.I	मराठी अभ्यासपत्रिका-अ/ब पाठ्यपुस्तक - शब्दसंहिता	① मराठी भाषा आणि साहित्याविषयी अभिरुची विकसीत होईल. ② विद्यार्थ्यांमध्ये मातृभाषा, राष्ट्रीय एकात्मता आणि उच्च मानवी मूल्यां-विषयी जाणीव निर्माण होईल. ③ विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडवून विविध परीक्षा आणि स्पर्धा परीक्षांची पूर्वतयारी करता येईल.
2	B.A.I	मराठी अभ्यासपत्रिका-१ व २ पाठ्यपुस्तक - अक्षरबंध	① मराठी भाषा व साहित्य यांची अभिरुची विद्यार्थ्यांमध्ये वाढेल. ② मराठी साहित्य परंपरा, लेखक आणि कवी यांचा परिचय होईल. ③ चित्रपट आणि प्रसारमाध्यमे यांच्यातील लेखन कौशल्य व आकलन यांची वाढ होईल.
3	B.A.II	मराठी अ.क्र.III नाटक साहित्यकृती : देवबाभळी	① नाटक या वाङ्मय प्रकाराचे स्वरूप विशेष साहित होईल. ② मराठी नाटकाची परंपरा व प्रवृत्ती समजून घेता येईल. ③ आभिवाचन कौशल्य विकसीत होईल.
4		मराठी अ.क्र. ४ - पद्य साहित्यकृती : पद्यांचे लक्ष थवे	① कविता वाङ्मय प्रकाराचे स्वरूप लक्षात येईल. ② मराठी काव्यपरंपरा व प्रवाहांचा परिचय होईल. ③ कविता व गीत यामधील साम्य-भेद समजेल ④ गीतलेखन कौशल्य विकसीत होईल.

क्र.	वर्ग	विषयाचे नाव - अभ्यासपत्रिका क्रमांक	Course Learning Outcomes अभ्यासक्रम शिकण्याचे परिणाम
5	B.A-II	मराठी अ.क्र.५ ललितगद्य साहित्यकृती : चांदण्यात भिजायचं राहून जाऊ नये, म्हणून!	① ललित गद्य या वाङ्मय प्रकाराचे स्वरूप लक्षात येईल. ② मराठी ललितगद्याच्या परंपरेचे आकलन होईल. ③ आ.ह. साकुरे यांच्या लेखन प्रेरणा, विचारविश्व, जीवननिष्ठा व लेखनशैली समजून घेता येईल.
6	B.A-II	मराठी अ.क्र.६ कादंबरी साहित्यकृती : बबागरवाडी	① कादंबरी वाङ्मय प्रकाराचे आकलन होईल. ② मराठी कादंबरीचे स्वरूप, परंपरा, प्रवृत्ती, प्रवाह यांचा परिचय होईल. ③ समाज आणि साहित्य यांचे परस्पर संबंध लक्षात येईल.
7.	B.A-II	Skill Enhancement Course (SEC) सत्र : तिसरे मुलाखत लेखन	① मुलाखत लेखन कौशल्य बुद्धिंगत होईल. ② माध्यमानुसार मुलाखतीचे बदलते स्वरूप लक्षात येईल. ③ मुलाखत लेखन कौशल्य वृद्धिंगत होईल. नोकरीची संधी मिळेल.
		सत्र : चौथे परीक्षणात्मक लेखन	① परीक्षणाचे संकल्पना-स्वरूप समजेल. ② परीक्षणाचे आकलन होईल. ③ परीक्षणात्मक लेखन कौशल्य अवगत होईल. ④ रोजगार संधी उपलब्ध होतील.

क्र.	वर्ग	विषयाचे नाव - अभ्यास-पत्रिका क्रमांक	Course Learning Outcomes अभ्यासक्रम शिकण्याचे परिणाम
8	B.A-III	अभ्यास पत्रिका क्र. VII/XII साहित्य विचार	① पौर्वात्य, पाश्चात्त्य व आधुनिक भारतीय साहित्यशास्त्राचे स्वरूप समजून येईल. ② साहित्याच्या प्रयोजनांचे आकलन होईल. ③ साहित्याच्या निर्मितीचे व स्वरूपाचे आकलन होईल. ④ शब्दशक्तीचे व साहित्यातील रसाचे आकलन होईल. ⑤ साहित्य आस्वादाचे आकलन होईल.
9	B.A-III	अभ्यासपत्रिका क्र. VIII / XIII मराठी भाषा आणि भाषाविज्ञान	① आधुनिक भाषाविज्ञानाचा परिचय होईल. ② भाषा उत्पत्तीचा विचार समजेल. ③ मराठी भाषेविषयीची आवड विकसीत होईल. ④ मराठी भाषेची वर्णव्यवस्था समजेल ⑤ ध्वनी व अर्थ परिवर्तनाची कारणे व प्रकार यांची माहिती मिळेल. ⑥ प्रमाण भाषा - बोली भाषा समजतील.
10	B.A-III	अभ्यासपत्रिका क्र. IX / XIV (इ.स. प्रारंभ ते इ.स. १५०० ते १८००)	① मध्ययुगीन मराठी वाङ्मयाचा कालिक अभ्यास करता येईल. ② मध्ययुगीन मराठी वाङ्मयाचे स्वरूप, वैशिष्ट्ये यांचा अभ्यास करता येईल. ③ मध्ययुगीन मराठी ग्रंथ व ग्रंथकार यांचा स्थूल परिचय होईल. ④ पंडित कवी व त्यांची रचना यांचा परिचय होईल. ⑤ बखर वाङ्मय आणि शाहिरी वाङ्मय यांचे स्वरूप-विशेष अभ्यासता येईल.

क्र.	वर्ग	विषयाचे नाव व अभ्यास पत्रिका क्रमांक	Course Learning Outcomes अभ्यासक्रम शिकण्याचे परिणाम
11	B.A.III	अभ्यासपत्रिका क्र. X/XV मराठी भाषा व अर्थार्जनाच्या संधी	① सर्जनशील लेखनप्रक्रिया समजून घेता येईल. ② शोधनिबंध व प्रकल्प लेखन कौशल्य समजून घेता येईल. ③ आंतरजालावरील मराठी लेखन पद्धती समजून घेता येईल. ④ प्रसारमाध्यमातील संधी आणि आर्थिक कौशल्य यांचा परिचय होईल. ⑤ स्पर्धा परीक्षांमध्ये मराठी विषयाचे महत्त्व समजेल. ⑥ उद्योग व सेवा क्षेत्रात मराठी आधारे रोजगार संधी याविषयी माहिती मिळेल ⑦ मुद्रित शोधन पद्धत अभ्यासता येईल.
12	B.A.III	अभ्यासपत्रिका क्र. XI/XVI वाङ्मय प्रवाहाचे अध्ययन: मध्ययुगीन / ललित गद्य पाठ्यपुस्तके :- निवडक दृष्टांतपाठ (संपादन) मुलखावेगळी माणसं (संपादन)	① मध्ययुगीन महाराष्ट्र व महानुभाव पंथ यांचा परिचय होईल. ② महानुभावीय ग्रंथकार केसोबास यांचा परिचय होईल. ③ दृष्टांतपाठातील आशय, अभिव्यक्ती, भाषाविशेष यांचा अभ्यास करता येईल. ④ ललितगद्य वाङ्मय प्रकार व व्यक्तिचित्र संकल्पना स्वरूप समजून घेता येईल. ⑤ व्यक्तिविशेषांचे आकलन होईल. ⑥ विविधांगी भावविश्व यांचा अभ्यास करता येईल. ⑦ जीवनाचे आकलन होईल, भाषाविशेष समजतील.

ज्ञानेश्वर ओहोळे
प्रमुख, मराठी विभाग
मिरज महाविद्यालय, मिरज

Yashwant Shikshan Sanstha's

Miraj Mahavidyalya,Miraj

Department of Ardhamagadhi

2023-2024

Course Outcomes "Compulsory (75213) - Paiyraynmanjusiya"

SEM I LESSON :

CO1) Do not kill the fetus and motherhood is a very beautiful felling so do not miss it.
CO 2) To achieve the goal we need to be patient.
CO 3) To fight against injustice we need three things that is thought , patience and unity.
CO 4) To change the nature of criminal not by punishment but by changing their behavior.
POEM :
CO 1) Importance of humble behaviour.
CO 2) To study six tendency of mind –Kruhsn, Nil, Kpot , Pit, Padam , Shulk and to avoid bad thoughts so you may get pleasure though good and good behavior.
CO 3) Every individual can get pleasure or unhappiness due to their good or bad work.
CO 4) Human life is very valuable than wealth so if you want to be successful you have to pay attention towards you own life.
Grammar :
CO 1) Initiation and development of Prakrit language.
CO 2) Introduction of Prakrit sub spoken languages.
CO 3) Introduction of Prakrit literature.

Course Outcomes "Compulsory (88375) - Paiyraynmanjusiya"

SEM II LESSON :

CO 1)If you can do work regularly & trustfully you may defiantly receive success.
CO 2) Women's are intelligent ,practical and brave than the men. Woman's can work hard for the development and happiness of family.
CO 3) Humble and good character is important in human life so everyone can adopt virtuable character.

CO 4) First identify capacity of the person then handle the work as per their own capacity

POEM :

CO 1) Kindness is the root of all religion.

CO 2) Knowledge destroys all bad habitat.

CO 3) In this topic it was clear that Ravan was good character person.

CO 4) Ego can destroy anyone's life.

Grammar :

CO1) Introduction of 'Prakrit Granth'

CO2) Study of Tense, Pronoun, Sentence, etc

Course Outcomes "Optional (75222) - Paiyraynmala"

SEM I LESSON :

CO1) Intensive behavior is not good that can give us painful life .

CO2) Religion is an important aspect in human life .

CO3) Intelligence can give success in life .

CO4)If we live longer time in relatives or friends house, that can be insulted or humiliated by their family member .

POEM :

CO1) Importance of Prakrit poem.

CO2) Due to transaction we get knowledge.

CO3) Righteous was knowledge is most powerful knowledge then other knowledge.

CO4) Greed and temptation destroy all the things.

Grammar :

CO1) Common introduction of Prakrit language.

CO2) Contribution of 'Jain Granth' and the development of Prakrit language with the help of Empires .

CO3) Study of vowel and consonants , coalescence.

Course Outcomes “Optional (88365) - Paiyraynmala”

SEM II

LESSON :

CO1) Give respect to ethics than the caste .

CO2) In human life religion is very important.

CO3) Do not behave over smartly.

CO4.1) Behaving thoughtfully

CO4.1) Women are very intelligent transactionly then men .

CO4.3) Tit for tat.

POEM :

CO1) Religion is importance in human life .

CO2)Always think scientifically.

CO3)Good work always fight against bad work and calamity.

CO4.1)Formation and importance of gemstones.

CO4.2)Precious thoughts.

Grammar :

CO1)Introduction of Prakrit Writers.

CO2)Study of Tense, Pronoun, Sentence, etc

Course Outcomes B.A.II , Sem - III

P. No. 03 (90833) : “ Nalkaha”

i. Students learn how to live life, happily and politely, avoiding bad abdication.

ii. Greed and temptation destroy all the things.

iii. Students can learn ethical values from the examples given by the topics Nulkaha.

iv. Students learn to speak, read, write and listen clearly Ardamagadhi - Prakrit language.

P. No. 04 (90834) : “Aaramsohkha”

i.From these topics students can aware about environment and their conservation.

ii. Good work always fight against bad work and calamity.

iii.Students can learn ethical values from the examples given by the topics Aramsokaha.

iv. Students learn to speak, read, write and listen clearly Ardamagadhi - Prakrit language.

Course Outcomes B.A.II , Sem - IV

P. No. 05 (93484) : " Paumcharium"

i.Students learn to create scientific view.

ii. Students can learn ethical values from the examples given by the topics Paumchariyam

iii.Students learn to speak, read, write and listen clearly Ardamagadhi - Prakrit language.

iv.Student could interest in pursuing personal or professional development

P.No.06 (93485) : "Gatha –Sapt -Shati"

i.Students learn to create scientific view.

ii. From these topics students can aware about environment and their conservation.

iii.Students learn to speak, read, write and listen clearly Ardamagadhi - Prakrit language.

iv. Student could interest in pursuing personal or professional development.

Miraj Mahavidyalaya Miraj

Department of HISTORY

B.A.I :-

Semester :- I - Rise and growth of Maratha Swaraja (1600 – 1680)

Course learning outcomes:-

1. Learn and understand the life and work of Chhatrapati Shivaji Maharaj in the light of fresh evidence that came forth since last two decades.
2. Learn the importance of Chhatrapati Shivaji Maharaj vision of Swarajya not only for the people of Maharashtra but also for the people all over our nation who were in need of self rule and self respect.
3. Understand how the magnificent coronation ceremony was necessary to assert our independence openly, at the same time inspire other people in the nation which were also seeking to free themselves for the clutches of Mughal or saltnat. 4. Understand how protecting and preserving our language and culture is necessary to the existence of our own identity.
5. Understand how the goal based on higher moral values can be achieved through consistent efforts and belief in our goal and our own people.

Semester :- II - Legacy of Chhatrapati Shivaji Maharaj (1630 – 1707)

Course learning outcomes:-

1. Understand the powerful Legacy of Chhatrapati Shivaji Maharaj reflected through various events after his untimely demise.
2. Learn and understand how the vision of Chhatrapati Shivaji Maharaj percolated in the minds and hearts of common people. Hence after his death the people wear United to fight Mughals almost for 27 years to protect the Swaraj and became successful in their war of independence.
3. Learn and work of Maratha Warriors and understand how Chhatrapati Shivaji Maharaj inspire common people with the value of Independence and selfless valor.
4. Understand the structure glory and magnificent of Maratha Fort which protected Swaraj during the time of Chhatrapati Shivaji Maharaj as well as afterwards.
5. Learn the Inception of Maratha navy and construction of sea port which applied give the recognition of Chhatrapati Shivaji Maharaj as the founder of Indian Navy

B.A. II

Paper 3-History of Modern Maharashtra (1900 to 1960)

Course outcome:

After studying the course, the student 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 Maharashtra.

Paper 4- History of India (1757-1857)

Course outcome:

After studying this course, the student will…

1. Acquaint him/herself 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.

IDS Paper 1-Ancient Indian History and Culture-1

Course outcome:

After studying the course the student will be able to…

1. Explain the history of early humans in India
2. Understand the legacy of the Harappan Civilization.
3. Give an account of the evolution of the Vedic culture
4. Know about the tremendous economic and religious changes that took place during the 6th century B.C.
5. Acquaint himself with the glorious legacy of Ancient India.

B.A.II

Paper 5-History of Modern Maharashtra (1960-2000)

Course Outcomes:-

After completion of the course, the student will…

1. Acquaint himself 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

4.Explain the growth of education

Paper 6-History of Freedom Struggle (1858-1947)

Course Outcomes:

After completion of this course, the student will be able to…

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

B.A.III

Semester –V

Paper VII : Early India (from beginning to 4th c. BC) Course Outcomes:

After studying the course the student will be able to …

1) Understand the transition of humans in India from Hunters to Farmers 2) Explain the transition from Early to Later Vedic period.
3) Clarify the causes for the first and second urbanizations
4) Give an account of the teachings of Gautama Buddha and Vardhamana Mahavira
5) Describe the rise and growth of the Mauryan Empire
6) Explain the salient features of Ashoka's Dhamma

Paper No: VIII

History of Medieval India (1206-1526 AD)

Course Outcomes:

After studying the course the student will be able to…

1) Describe the different types of historical sources available for writing the history of medieval India
2) Explain the contributions of medieval rulers like Allaudin Khilji, Muhammad-bin- Tuqhlaq, Krishnadevraya, and Mahmud Gavan
3) Give an account of the administration and economy of the Delhi sultanate and Vijayanagar Empire
4) Elucidate the significant developments which took place in religion, society and Culture.

Paper No: IX Age of Revolutions
Course Outcomes:
After studying the course the student will be able to…
1) Explain the causes and consequences of the Reformation
2) Give an account of the role played by Martin Luther
3) Explain the salient features of the Industrial revolution
4) Given an account of the American revolution
5) Explain the causes, effects and major events of French Revolution

Paper No. X
Political History of the Marathas
Course Outcomes:
After studying the course the student will be able to…
1) Describe the political conditions of the Marathas upto the year 1740 2) Explain the role of Balaji Bajirao.
3) Explain the causes and effects of the Battle of Panipat.
4) Understand the political condition of the Marathas after 1761.
5) Critically analyze the causes for the decline of Maratha power.

Paper No. XI History: Its Theory
(Field visit to any important historical place, monuments and record offices is essential) Course Outcomes:
After studying the course the student will be able to…
1) Understand the definition and scope of the subject of History
2) Know the process of acquiring historical data
3) Explain the process of presenting and writing history
4) Understand the methods of writing history

Semester VI,
Paper No. XII Ancient India (From 4th c. BC to 7th c. AD)
Course Outcomes:
After studying the course the student will be able to…
1) Know the political ,economic and religious developments which took place in early historic India
2) Explain the role played by Major Satavahana, Kushana, Gupta and Vakataka Kings

3) Give an account of the developments in the Post-Gupta period
4) Have an informed opinion about the society and culture of Ancient India

Paper No. XIII
History of Medieval India (1526-1707 AD)
Course Outcomes:
After studying the course the student will be able to…
1) Know about the various sources for writing Medieval Indian history
2) Explain the role of rulers like Babar, Akbar, Chandbibi and Ibrahim Adilshah II
3) Gain knowledge about the administrative and revenue system
4) Describe the condition of Industry and trade
5) Explain important developments in religion, society and culture

Semester VI , Paper No: XIV. DSE E-188
Making of the Modern World (16th to 19th Century)
Course Outcomes:
After studying the course the student will be able to…
1) Know the causes and consequences of the Glorious revolution in England 2) Explain the concept of Nationalism and account for its rise and spread.
3) Describe the unification of Italy and Germany.
4) Give an account of the rise, growth and impact of Imperialism
5) Explain the significance of the Partition of Africa
6) Know the life and thoughts of important leaders like Metternich, Karl Marx and Abraham Lincoln

Paper No. XV :- Polity, Economy and Society under the Marathas
Course Outcomes:
After studying the course the student will be able to…
1) Know the various sources for writing the history of the Marathas
2) Explain the significant developments in the polity of the Marathas 3) Describe the economic conditions 4) Explain the social conditions.

Paper No. XVI Methods and Applications of History
Course Outcomes:
After studying the course the student will be able to…
1) Understand the nature of archival sources

2) Gain conceptual clarity about recent trends in history.
3) Know about the application of history in museums.
4) Explain the concept and scope of heritage tourism.

Yashwant Shikshan Sanstha's

Miraj Mahavidyalaya, Miraj.

Department of Geography

Outcomes

B.A./ B.Sc. Part-1, Sem I Paper No. 1 (DSC B10) Physical Geography

- Students will have comprehensive knowledge in the discipline of Geography.
- To know the methods of representation of relief along with other cartographic techniques.

B.A./ B.Sc. Part-1, Sem II, Paper No. 2, (DSC B24) Human Geography

- To identify various Natural Resources for human.
- To understand the socio-economic structure of the population.

B.A./ B.Sc. Part-2, Sem III, Paper No. 3, (DSC D 19) Soil Geography

- To understand NPK ratio in the soil
- Students can solve the problems of fertile soil and its remedies of soil conservation

B.A./ B.Sc. Part-2 Sem III, Paper No. 4, (DSC D 20) Resource Geography

- Students have understood the resources from their surrounding area.
- Proper utilization of resources can study by the student.

B.A./ B.Sc. Part-2 Sem IV, Paper No. 5, (DSC D 47) Oceanography

- To search the natural resources in the Oceans
- Use of oceans for human being can explore by student

B.A./ B.Sc. Part-2 Sem IV, Paper No. 6, (DSC D 48) Agriculture Geography

- Student can understand the various agriculture zones according to climatic condition.
- Applications of modern techniques for growing agriculture production can explore by the student.

B.A./ B.Sc. Part-3 Sem V, Paper No. 7, (E 106) Evolution of Geographical Thoughts

- To understand the contribution of eminent geographers in the development of geography
- Student can develop the redefinition of geography through Geoinformatics

B.A./ B.Sc. Part-3 Sem V, Paper No. 8, (E 107) Geography of India

- To understand the geographical location of India as compare to other subcontinent countries
- Student can study varies styles of human being have living in the country.

B.A./ B.Sc. Part-3 Sem V, Paper No. 9, (E 108) Population of Geography

- Highly concentration of population is available in the sub-tropical area according to favorable climate
- High density of population creates various problems in the respective area.

B.A./ B.Sc. Part-3 Sem VI, Paper No. 10, (E 231) Economic Geography

- Student can understand the economic activities are depends upon the resources.
- Develop the ability of the student regarding the economic activities.

B.A./ B.Sc. Part-3 Sem VI, Paper No. 11, (E 232) Urban Geography

- To study the facilities available in the urban area for human being.
- Understand the development of urban area as per their phenomena.

B.A./ B.Sc. Part-3 Sem VI, Paper No. 12, (E 233) Political Geography

- Student can understand the political background should support the development of respective area.
- Student can compare the geographical and political boundaries of the tahsil, district, state and nation.

Political Science

B.A.I & B.A.II Course Outcomes

B.A.I Semester I Paper 1 introduction to political science

CO 1:Acquired domain knowledge
CO 2:Understand importance of political science
CO 3:Understand sub disciplines of political science
CO 4:Understand concepts of state and democracy
CO 5:Understand ki concepts of political science

Semester II (CBCS) Paper II Indian Constitution

CO 1:The students will get knowledge about making and philosophy of Indian Constitution
CO 2:The students will become aware about fundamental rights
CO 3:Students will become aware about directive principles of fundamental duties
CO 4:The students will understand about working of legislature executive and judiciary
CO 5:The students will understand about working and role of Judiciary

BA II DSC D7 paper III Political process in India

CO 1:Imparting knowledge of political process in India
CO 2:Understanding of approach in political process of India
CO 3:Understand voting behaviour
CO 4:Getting knowledge about election commission party system communalisation regionalism and language

BA II DSC Paper IV Indian political theory Part I

CO 1:Understand the historical development of Indian political thoughts
CO 2:Understand the relevance of ancient ideas with present time
CO 3: Understand the trajectory of ideas on key political questions and institutions of ancient Indian as developed by Kautilya
CO 4:Understand Renaissance and reformation in India and the role of Mahatma Phule and Rajarshi Shahu Chhatrapati in and it
CO 5:Understand the idea of nationalism of Lokmanya Tilak

BA II DSC (D 35) Paper V Local self government in Maharashtra

CO 1:To develop local leadership
CO 2:To create awareness of the local self government as well as developmental measures
CO 3:It will provide knowledge of the local self government in Maharashtra
CO 4:To understand the role of local self government as instrument to achieve rural and urban development goals
CO 5:Understand the constitutional provision of local self government

B.A.II DSC (D 36) Paper VI Indian Political Thought Part II

CO 1:The students will get knowledge about the development of Indian Political thoughts.
CO 2:Build up basic concepts like -Satya, Ahimsa, Satyagraha, Trusteeship and Sarvodaya of Mahatma Gandhi
CO 3:Students can understand about Secular Nationalism and Internationalism, Democrate, Socialism and Mixed Economy of Jawaharlal Nehru .
CO 4:Students will get idea about critique of caste system , state socialism & Parlimentary democracy for Social and economic democracy of Dr.B.R.Amebdkar.
CO 5:Students can understand the different thoughts of M.N.Roy

BA II IDS Public Administration CGE Paper I Public Administration

CO 1: To Impart knowledge about the nature scope importance of public administration

CO 2:The student will get knowledge about making theoretical clarity of basic concepts and dynamics relating to public organisation

BA II Semester IV CGE Elective II Paper II Public Administration

The students will able to:
CO 1: Get information about Personnel Administration
CO 2:Get acquired with the budgetary process in India
CO 3:Get knowledge about Delegated Legislation
CO 4:Understand New Trends in Public Administration.

YASHWANT SHIKSHAN SANSTHA'S

MIRAJ MAHAVIDYALAYA, MIRAJ

DEPARTMENT OF PSYCHOLOGY

COURSE OUTCOME

B.A. I [SEM. I] PAPER NO- I UNDERSTANDING PSYCHOLOGY

1. To acquaint students with basic concepts of Psychology.
2. To make students aware with neuroscience and behavior.
3. To make students aware with motivation, various approaches of motivation and human needs.
4. To understand emotions, range and the roots of emotions.

B.A.I [SEM. II] PAPER NO- II BASIC PRINCIPLES OF PSYCHOLOGY

1. To make the students aware with learning, classical conditioning and operant conditioning.
2. To makes the students familiar with foundations of memory.
3. To understand personality, various approaches, and assessment techniques of personality.
4. To make students aware with intelligence, theories of intelligence, Emotional intelligence, mental retardation and intellectually gifted.

B.A. II [SEM. III] PAPER NO- III PSYCHOLOGY FOR LIVING

1. To acquaint the students with Processes of Psychology for Living
2. To Introduce Students the Concept of Stress.
3. To acquaint the students with Understanding Mental Disorders 4. To Introduce Students Various Psychotherapies and their Uses.

B.A. II [SEM. III] PAPER NO- IV SOCIAL PSYCHOLOGY

1. To acquaint the students with Processes of Social Psychology.
2. To Introduce Students the Concept of Social Perception.
3. To acquaint the students with the Self and Self-Esteem.
4. To Introduce Students the Concept of Attitude Formation, Persuasion and Cognitive Dissonance.

B.A. II [SEM. IV] PAPER NO- V MODERN SOCIAL PSYCHOLOGY

1. To acquaint the students with Processes of Liking & Sources of Liking.
2. To Introduce Students the Concept of Social Influence, Conformity and Compliance.
3. To acquaint the students with Understanding Prosocial Behavior.
4. To Introduce Students the Concept of Aggression, its Causes and Controls.

B.A.II [Sem. IV] Paper No- VI Applied Psychology

1. To acquaint the students with Processes Personal Control, Decision Making and Personal Growth.
2. To Introduce Students the Work, Career, Play and using Leisure Positively.
3. To acquaint the students with Making and Keeping Friends.
4. To Introduce Students the Concept of Love and Commitment.

B.A.III [Sem. V] Paper No- VII Introduction to Cognitive Psychology

1. Gain an Understanding of Key Concepts and Research Techniques In Cognitive Psychology.
2. Gain and Understanding of the Basic Process of Sensation Attention and Perception.
3. Gain Understanding of the Memory Process.
4. Be Able To Broadcasting the Horizons of Cognitive Psychology.

B.A.III [Sem. V] Paper No- VIII Cross-Cultural Psychology

1. To Acquaint Students With Emerging Field Of Cross-Cultural Psychology.
2. To Make Students Aware Of Global V/S Relativistic Approaches To Study Human Behavior.
3. To Sensitize Students Recognize Cultural Aspects Of Individual Development And Socialization.
4. To Understand Socio-Cultural Influences In Development Of Abnormality And Its Treatment.
5. To Introduce The Importance Of Multiculturalism In Globalized World.
6. To Enhance Understanding Of Indigenous Psychologies.

B.A.III [Sem. V] Paper No- IX Introduction to Psychopathology.

1. To Make The Students Familiar With Field Of Psychopathology.
2. To Acquaint Students With Various Perspective Of Psychopathology.
3. To Make The Students Understand Anxiety And Obsessive Compulsive Disorder.
4. To Acquaint Students With Mood Disorders And Suicide.

B.A.III [Sem. V] Paper No- X Current trends in psychology

1. To acquaint students with emerging new trends in psychology.
2. To make students aware of health risk behavior and their causes
3. To sensitize students recognize developmental factors related to criminal behavior.
4. To understand psychological, family and social influences in development of criminality
5. To introduce work carried out in the field of cyber psychology

6. To learn about psychological processes behind digital usage, cyber bullying, gaming and gambling.
7. To make students aware of online crimes such as scams, fraud, illegal downloads etc.

B.A.III [Sem. V] Paper No- XI Practical Experiments

1. To Make The Students Familiar With Psychological Experiments.
2. To Impart The Knowledge And Skills For Conducting Experiments And Writing Their Reports.
3. To Make The Students Familiar With Some Statistical Methods.
4. To Provide Practical Experience through It Software (e.g. Coglab etc.)

B.A.III [Sem. V] Paper No- XII Psychological Testing

1. To Make The Students Familiar With The Field Of Psychological Testing In General.
2. To Acquaint The Students With The Nature, Types, Applications, Reliability And.
3. To Make The Students To Understand The Nature And Other Description Personality Tests.

B.A.III [Sem. V] Paper No- XIII Counselling Psychology

1. To Makes The Students Familiar With The Field Of Counselling Psychology.
2. To Acquaint Students With The Applications Of Counseling Psychology In The Fields Of Career, Marriage, School, College Counselling And Student Life Services.

B.A.III [Sem. V] Paper No- XV Organizational behavior

1. Gain an Understanding of Key Concepts in Organizational Behavior
2. Gain An Understanding Of The Idea Of Personality, Job Satisfaction And Leadership.
3. Gain An Understanding Of The Group Processes.
4. Be Able To Understand the Fundamental Change Processes of Organization.

B.A.III [Sem. V] Paper No- XIV Developmental Psychology

1. To Acquaint The Students With Process Of Change And Stability Through About The Life Span Development.
2. To Introduce Students The Process Of Birth.
3. To Acquaint The Students With Emotions, Self – Development Of Infancy And Intellectual Development Of Childhood.
4. To Recognize Students With Identity, Relationship And Problems Of Adolescents.
5. To Introduce Students With Career, Health And Personality Development Of Adulthood.

B.A.III [Sem. V] Paper No- XVI Practical – Psychological Test

1. To Make The Students Familiar With Psychological Tests.
2. To Impart The Knowledge And Skills For Administering Psychological Tests And Writing Their Reports.
3. To Make The Students Familiar With Some Statistical Methods.
4. To Provide Psychological Experience Testing Through It Software (E. G. Coglab Etc.)

Yashwant Shikshan Sanstha's,

Miraj Mahavidyalaya, Miraj

Department of Economics:

Name of the Course	Course Outcomes
Sem. –I Indian Economy-I Paper-1	To enable the students, 1. To understand the Structure of the Indian economy and changes taking place therein since independence. 2. To understand population Problem of Indian Economy and remedial measures to control. 3. To understand challenges before the Indian economy i.e. Unemployment, Poverty, Economic and social inequality, regional imbalance and measure taken by the government to overcome these problems. 4. To formulate the strategy for economic development.
Sem. –II Indian Economy-I Paper-2	To enable the students, 1. To understand the policies and performance of major sectors in Indian Economy. 2. To understand the nature, scope, challenges and opportunities of economic reforms. 3. To understand causes of agrarian distress and remedies. 4. To understand policy reforms regarding the industry and service sector.
Sem. –III Macro Economics-I Paper-3	To enable the students, 1. To examine the interrelations among the various aggregates/ Macro Economics variables i.e. national income concepts. 2. To understand the theories of production and employment. 3. To understand the basic theoretical framework underling in the field of macroeconomics. 4. To understand scientific methods of analyses of aggregates and empirical economic knowledge. i.e. multiplier, price index, consumption function etc.
Sem. –III Money and Banking Paper-4	This Course equips the students:- 1. To understand types and functions of banking system in India. 2. To create the awareness about banking and financial sector. 3. To create the awareness about Job Prospects in Banks and Financial Sector. 4. To Clear understanding of the operation of banks and financial institutions with practical inputs.
Sem. –IV Macro Economics-II Paper-5	This Course equips the students:- 1. To understand taxation, budgetary process, public expenditure, public debt, deficit financing etc. 2. To understand the basic primary and analytically important concepts, theories and policies in the working of the economy. 3. To apply various concepts in the process of policy making, planning of measures 4. To ensure and achieve the fundamental objectives of Macro Economics.
Sem. –IV Banks and Financial institutions Paper-6	This Course equips the students, To create the awareness about Indian financial system . To create the awareness about money market, capital market, financial institutions and financial instruments. To create the awareness about Job Prospects in financial market, insurance and NBFC. To Clear understanding of the operation of financial markets with practical inputs.

Course Outcomes

B.A. Part – I
Paper – I Introduction to Sociology.

- The student learn to apply to sociological perspective in understanding how society shapes our individual lives.
- It also provide a foundation for the other more detailed and specialized course in sociology.
- The student learn how to read and interpret complex ideas and texts and to present them in a cogent manner.

B.A. Part – I : Paper – II
Principles of Sociology.

- The course is intended to introduce the student to a sociological way to thinking.
- It also provide a foundation for the other more detailed and specialized course in sociology.
- The course provide competitive atmosphere for the student.

B.A. Part – II : Paper – III
Social Issues in India.

- Students get well acquainted with social issues.
- The students learn how to identify the causes of the social issues.
- The students learn to understand the remedies for socio, cultural, economic and legal issues.

B.A. Part – II : Paper – IV
Social Movements in India.

- Students will get the outline of the social movement.
- Students get well acquainted with the problems of social movement.
- The students get aware with engagement of socio- political forces and ideologies.

B.A. Part – II : Paper – V
Gender and Violence.

- Students get well acquainted with the variety of violence against women.
- The students will come to know causes and remedies for violence.
- The students learn divers types of women's harassment at workplace.

B.A. Part – II : Paper – VI -
Sociology of Health

- Students get understood the sociology of health and major diseases in India.
- Students learn health remedies , modern life style impacted on human health.
- Students aware with public health policies in India.

LOGIC IDS (Traditional)
B. A. II Paper – A
Deductive Logic

- Describe the basic concept of logic.
- Understand the classification of propositions.
- Distinguish between two types of immediate inferences.
- Understanding syllogism and dilemma.

Paper – B
Inductive Logic.

- Understanding inductive leap and imperial knowledge.
- Make student familiar with research methods.
- Generate valid hypothesis.
- Understand difference between rational and irrational thinking and disputing thoughts.

Yashwant Shikshan Sanstha's

MIRAJ MAHAVIDYALAYA, MIRAJ

ज्ञानम् परम् दैवतम्

Criterion-II

Teaching- Learning and Evaluation

Key Indicator- 2.6: Student Performance and Learning Outcome

SCIENCE

Yashwant Shikshan Sanstha's

MIRAJ MAHAVIDYALAYA, MIRAJ

Department of Physics

Programme Specific Outcomes (PSOs) B. Sc.

PSO1- Demonstrate a rigorous understanding of the core theories & principles of physics, which include mechanics, electromagnetism, thermodynamics, & quantum mechanics.

PSO2- Learn the Concept of Quantum Mechanics, Relativity, introduced in order to understand nature at atomic levels.

PSO3- Provide knowledge about material properties and its application for developing technology to ease the problems related to society. **PSO4** -Develop critical thinking and quantitative reasoning skills and empower to resolve scientific problems

PSO5 -Prepare and plan for career opportunities in Physics and Physical science after graduation

B. Sc. I -Physics

Course Outcome DSC A1 Mechanics-I

CO1 Students are able to understand and identify scalar and vector physical quantities in mechanics

CO2 Students are able to understand and apply vector algebraic methods to elementary exercises in mechanics

CO3 Students are able to understand and identify degree and order of given differential equations

CO4 Students are able to solve second order, homogenous ordinary differential equations in mechanics

CO5 Students are able to understand the conceptual evolution of conservation laws of momentum and energy for both single and system of particles

CO6 Students are able to understand and apply basic concepts of rotational motion

CO7 In general, students are capable of correlating above concepts and methods in mechanics to both theoretical and experimental domains revealing analytical as well as numerical skills

Mechanics II

CO1 Students are able to understand and apply Newtons Law of Gravitation to celestial objects

CO2 Students are able to understand geometry of planetary orbits under the action of central force

CO3 Students are able to solve numerical problems based on Kepler`s Laws of planetary motion

CO4 Students are able to understand simple concepts like weightlessness, Geosynchronous satellite and GPS
CO5 Students are able to setup differential equation for simple harmonic motion and its allied cases
CO6 Students are able to calculate time averages of KE, PE and TE **CO7** Students are able to revise basic concepts such as stress, strain and elastic constants of elasticity
CO8 Students are able to derive elastic constants for beam supported at both ends and at one end
CO9 Students are able to derive elastic constant (eta) of a wire under torsional oscillations (Searle's Method)
CO10 Students are able to explain the phenomenon of surface tension on the basis of molecular forces
CO11 Students are able to derive the relation between surface tension and excess pressure
CO12 Students are able to perform an experiment to determine ST by Jaeger`s method
CO13 Students are able to discuss and state the factors affecting the ST **CO14** In general, students are capable of correlating above concepts and methods to both theoretical and experimental domains revealing analytical as well as numerical skills

Semester-II

DSC B1 Electricity and Magnetism-I

CO1 Students are able to understand the physical significance of gradient, divergence and curl
CO2 Students are able to apply concepts in vector calculus such as gradient, divergence and curl related to vector and scalar fields using Gauss, Stokes and green`s theorem
CO3 Students are able to understand and apply concepts of electrostatic field, potential to point charges, electric dipole and geometrically regular charged bodies
CO4 Students are able to understand and apply concept of capacitor to isolated conductor, parallel plates, cylindrical and spherical capacitors and allied energy density in electric field
CO6 Students are capable of applying above concepts to solve numerical exercise in electrostatics

DSC B2 Electricity and Magnetism-II

AC Circuits contacting Inductance(L) Capacitor(C) and Resistance (R) and their various configurations
CO2 Students are able to define and apply the concepts in AC circuits such as Impedance (Z), reactance (XC and XL), Admittance, Susceptance and Quality Factor (Q)

CO3 Students are able to understand and design AC bridge: Owen`s Bridge **CO4** Students reveal mastery in basic terminology in network analysis for further studies
CO5 Students are able to state and apply Network theorems to simple circuits
CO6 Students are able to understand basic working principle of Ballistic galvanometer
CO7 Students are able to define constants of ballistic galvanometer **CO8** In general, students are capable of applying above concepts in network analysis to both theoretical and experimental domains
CO9 Students are able to understand simple elementary concepts such as magnetization and intensity of magnetization
CO10 Students are able to state Biot-Savart`s law and are capable to apply it to straight, circular wires and solenoid
CO11 Students are able to understand concept of magnetic vector potential along with Ampere`s circuital law
CO12 Students are able to understand the explain the phenomenon of hysteresis in magnetism

Paper V Thermal Physics and Statistical Mechanics-I

CO1-Highlight different types of velocities of gas molecules.
CO2: Acquire Knowledge of Maxwell's distribution of gas molecules.
CO3: Visualize Merits and drawbacks of thermometers.
CO4: Apply knowledge of thermodynamic processes in design of heat engine.

Paper VI Waves and Optics –I

CO1: Apply superposition principle to develop mathematical model of harmonic oscillators.
CO2: To develop the mathematical model for coupled oscillations.
CO3: Understand the ultrasonic waves and their applications.
CO4: Use of Basic principles of sound in context of acoustics of buildings.

Paper VII Thermal Physics and Statistical Mechanics-II

CO1: Develop Conceptual clarity of thermodynamic functions and ClausiusClapeyron equation.
CO2: Appreciate the problem associated with the black body radiation spectrum.
CO3: Know, how the problems can be solved by using Planck's law of radiation.
CO4: Acquire preliminary knowledge of classical and quantum statistical mechanics.

Paper VIII Waves and Optics-II

CO1: Draw ray diagrams to demonstrate Cardinal points.
CO2: Determine the resolving power of prism and grating by making use of Rayleigh criterion.

CO3: Qualitatively study phenomenon of polarization of light. **CO4**: Apply phenomenon of interference of light for determination of its wavelength.

Practical

CO 1: Acquire skills in setting up of optics experiments.
CO2: Develop the practical skills and techniques for accurate measurements. **CO3**: Acquire observational skills
CO4: Determine Least counts of different measuring instrument.

B.Sc. Part III, SEMISER-V PHYSICS (PAPER-IX) DSE-E1
MATHEMATICAL PHYSICS

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CO1 To know the orthogonal curvilinear Co-ordinate system from three different co-ordinate systems, have gained ability to apply for solving selected problem on it
CO2 Be able to apply differential equations of variations to diverse problems in physics including isoperimetric problems. Another interesting aspect is the use of Laplace equation and wave equation in solving physics problems. **CO3** To become familiar with the method of separation of variables to solve linear differential equations with inhomogeneous term.
CO4 To find solutions to integral equations using different methods. The students should be able to explain statistical physics and thermodynamics as logical consequences of the postulates of statistical mechanics.
CO5 Apply the principles of statistical mechanics to selected problems and also basic concepts apply for research area.
CO7 To learn the fundamental differences between classical and quantum statistics and learn about quantum statistical distribution laws After successful completion of the course, the student is expected to: **CO8** To have gained a clear understanding of Maxwell's equations and electromagnetic boundary conditions.
C02: know that laws of reflection, refraction are outcomes of electromagnetic boundary conditions. They will also be able design dielectric coatings which act like antireflection coatings. They will be able to distinguish between a good metal and a good dielectric.
C03: have grasped the idea of electromagnetic wave propagation through wave guides and transmission lines.
C04: extend their understanding of special theory of relativity by including the relativistic electrodynamics.
C05: understand the rather complex physical phenomena observed in plasma.

B.Sc. Part III, SEMISER-V PHYSICS (PAPER-X)
DSE-E2 QUANTUM MECHANICS

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CO1: Show an understanding of wave mechanics in three dimensions. **CO2**: Describe the structure of the hydrogen atom and show an understanding of quantization of angular momentum.

CO3: Apply techniques such as differential methods and ladder operators for selected problems in quantum mechanics.
CO4: Use the tools, methodologies, language and conventions of physics to test and communicate ideas and explanations.

B.Sc. Part III, SEMISER-V PHYSICS (PAPER-XI)
DSE-E3 CLASSICAL MECHANICS AND CLASSICAL ELECTRODYNAMICS

……

CO1 This course develops concepts in Classical mechanics such that the behavior of the physical universe can be understood from a fundamental point of view.
CO2 It provides a basis for further study of Classical mechanics. Content will include: Motion in central force field, Degrees of freedom, Moving coordinate system, generalized Co-ordinates, D' Alembert's principle, Coupled oscillation, Coriolise force
CO3 After successful completion of the course, the student is expected to: , Motion of rigid body, Lagrange's and Hamilton's equation, symmetries and laws of conservation.

B.Sc. Part III, SEMISER-V PHYSICS (PAPER-XII)
DSE-E4 DIGITAL AND ANALOG CIRCUITS AND INSTRUMENTATION

……

CO1- To illustrate the students different electronic circuit and their application in practice.
CO2-To impart knowledge on assessing performance of electronic circuit through monitoring of sensitive parameters.
CO3- To evaluate the use of computer-based analysis tools to review performance of semiconductor device circuit.
After successful completion of the course, the student is expected to: **CO4**: Identify relevant information to supplement to the Analog Electronic Circuit EC (EE) 301 course.
CO5: Set up testing strategies and select proper instruments to evaluate performance characteristics of electronic circuit.
CO6: Choose testing and experimental procedures on different types of electronic circuit and analyze their operation different operating conditions. **CO7**: Evaluate possible causes of discrepancy in practical experimental observations in comparison to theory.
CO8: Practice different types of wiring and instruments connections keeping in mind technical, Economical, safety issues.

B.Sc. Part III, SEMISER-VI PHYSICS (PAPER-XIII)
DSE-F1 NUCLEAR AND PARTICLE PHYSICS
Course Outcomes
……
CO1: Acquire knowledge in the content areas of nuclear and particle physics, focusing on concepts that are commonly assessed on the physics exams like NET, SET, GATE, JEST, TIFR etc.
CO2: Develop and communicate analytical skills in subatomic physics. **CO3**: Develop familiarity with nuclear and particle physics, facilitating informed decisions as students pursue research projects, internships, careers, and graduate study.
CO4: Learn about topics of interest independently, and subsequently organize and present information to each other and to a group, at an appropriate level for their target audience

B.Sc. Part III, SEMISER-VI PHYSICS (PAPER-XIV)
DSE-F2 SOLID STATE PHYSICS Course Outcomes
CO1 Students will be able to analyze different types of matter depending on nature of chemical bonds and their properties.
CO2 Students will be able to analyze crystal structures by applying crystallographic parameters.
CO3 Students will be able to determine the crystal structure by analysis of XRD data.
CO4 Students will be able to evaluate and analyze the chemical and optical properties of solids.
CO5 Students will be able to analyze electron transport and energy related problems by applying quantum mechanical principles.
CO6 Students will be able to analyze the lattice vibration phenomenon in solids.
CO7 Students will be able to outline the importance of solid state physics in the modern society.
B.Sc. Part III, SEMISER-VI PHYSICS (PAPER-XV)
DSE-F3 ATOMIC AND MOLECULAR PHYSICS AND ASTROPHYSICS
Course Outcomes
……
: **CO1** Know about different atom model and will be able to differentiate different atomic systems, different coupling schemes and their interactions with magnetic and electric fields.
CO2 Have gained ability to apply the techniques of microwave and infrared spectroscopy to elucidate the structure of molecules
CO3 Be able to apply the principle of Raman spectroscopy and its applications in the different field of science & Technology.
CO4 To become familiar with different resonance spectroscopic techniques and its applications.

CO5 To find solutions to problems related different spectroscopic systems. **CO6** Describe theories explaining the structure of atoms and the origin of the observed spectra.
CO7 Identify atomic effect such as Zeeman Effect and Anamolus Zeeman effect
CO8 Explain the observed dependence of atomic spectral lines on externally applied electric and magnetic fields.

B.Sc. Part III, SEMISER-VI
PHYSICS (PAPER-XVI) DSE-F4 ENERGY STUDIES AND MATERIALS SCIENCE
CO1 Describe theories explaining the structure of atoms and the origin of the atomic disorder in material.
CO2 Students are able to understand resources of renewable energy, solar energy.
CO3 Able to gain the research methods of nanotechnology in material science. Also to known what is the phenomenon of nanotechnology.
CO4 To know the conductivity of material & superconductivity of material this is useful in research area.
CO5 Be able to apply the principle of nanotechnology and its applications in the different field of science & Technology
CO6 Be able to apply the principle of renewable energy sources and its applications in the different field of science & Technology.

Head,
Department of Physics,
Miraj Mahavidyalaya, Miraj

MirajMahavidyalaya, Miraj

Department of Chemistry

Course Outcome

B.Sc. Part – I

The purpose of chemistry program at college level is to prepare our students for all fields where basic knowledge of chemistry is required in various industries and research institutions. At first year B.Sc. introductory Chemistry will give the student a basic knowledge of all the fundamental principles of Chemistry

Semester , Paper No. and Name	**Expected Learning Outcome**
Semester - I	
1. Paper -I - DSC-3A- Inorganic Chemistry	To learn and understand introductory inorganic chemistry. To understand size, shape and electron distribution in shellsand sub- shells of an atom.To learn different types of bonds and nature of bonding in inorganic compounds.Knowledge of nature of bonding, geometry, stability, and magnetic charactersofcovalent compounds by applying VBT.Understanding of role of acids and bases inchemistry. The study is useful inall chemical areas.To learn and understand the propertiesand uses of the compounds of p-block elements.
2. Paper- II - DSC-4AOrganic Chemistry	The students are expected to understand the fundamentals and basic principlesinvolved in organic chemistry.Understanding the spatial arrangement ofatoms of organic molecule and types of stereoisomers.Knowledge of general properties and fundamental reactionsofaromaticcompounds.Learning and understanding preparationand selective reaction of cycloalkanes, cycloalkenes and alkadienes.
Semester- II	
1. Paper -III DSC-3B Physical Chemistry	Learning and coherent understanding of basic concepts and rules of logarithms, graphs, derivative and integrations.Knowledge and coherent understanding of basic concepts in thermodynamics will begained by the student.Learning and understanding theknowledge about basic concepts in kinetics and first order, second order reactionswithcharacteristics and suitable examples.Learning and coherent understandingofsurface tension, viscosity and refractive index with suitable examples.Learning and coherent understanding of basic concepts in electrochemistry, conductors and conductivity cells, measurement of conductance with suitable examples.

2. Paper -IV-DSC-4B–Analtical Chemistry	Learning various analytical procedures and their importance. Learning aboutsampling, accuracy and precision. Distinguish between classical and Industrialchemistry. Learning and Understanding the concepts and various concentrationterms. Knowledgeofseparationtechniques. Knowledge of chromatographic separation technique and terms involved in it. Understanding of paper andthin layer chromatography. Knowledge of various types of titrations, neutralization curves and indicators used.Knowledge about the chemical natureand cleansing action of soapanalysis of some organic compounds.

MirajMahavidyalaya, Miraj

Department of Chemistry

Course Outcome

B.Sc. Part – II

Chemistry is taken further in the coming two semesters of the second year of the B. Sc. (Chemistry) program. As per NEP second year B. Sc. is taken as diploma in chemical science. To acquire a basic appreciation and experience of chemistry a separate two papers for each semester (Sem III and IV) are designed.

Semester , Paper No. and Name	**Expected Learning Outcome**
Semester - III	
1. Paper -V DSC-3C-Physical Chemistry	It will provide the theoretical as well as practical knowledge of handling chemicals, apparatus, equipment and instruments. Learning and coherent understanding of electrolytic conductivity, basic concept of thermodynamics, third law of thermodynamics , concept of entropy, chemical kinetics, states of matter, surface chemistry.
2. Paper- VI DSC-4C-Analytical Chemistry	Analytical chemistry gives knowledge and understanding the basic concepts in gravimetric analysis. Students will learn different water analysis techniques, the concepts in corrosion and electroplating, column and ion exchange chromatographic techniques, petroleum industry, biofuels and concept of IPR.
Semester- IV	
1. Paper -VII DSC-3D Inorganic Chemistry	It expected gain knowledge about basic concepts of coordination complexes, applications of chelates, understands the properties of 3d and 4f series elements. Student will learn the basic concepts of qualitative analysis of inorganic compounds.

2. Paper- VIII-DSC-4D - Organic Chemistry	It impart the knowledge about the synthesis, reactivity, applications of carboxylic acids, preparations and applications of amines and diazonium salts, configuration and structure of carbohydrates, nomenclature & reactivity of aldehydes- ketones, conformational analysis of some organic compounds.

Miraj Mahavidyalaya, Miraj
Department of Chemistry
Course Outcome
B.Sc. Part – III

Semester , Paper No. and Name	**Expected Learning Outcome**
Semester - V	
1. Paper -IX DSE-E5- Inorganic Chemistry	Useful for the study of role of acids and bases in Chemistry. The study of non –aqueous solvents is important to learn all chemical properties of solutes and Useful to understand geometry, stability , nature of bonding between metal ion and ligand in complexes,synthesis and the applications of the semiconductors and Superconductors in electrical and electronic devices, structure, method of preparation and theapplications of organometallic compound in various fields are explained. Classification, types, mechanism and applications of catalyst in industrial fields isexplained from the research point of view.
2. Paper- X DSE-E6- Organic Chemistry	Understanding of energy associated with electromagnetic radiation and its use in analytical technique. Knowledge ochromophore, auxochrome and calculation of λmax. Knowledge of vibrational transitions, regions of IR spectrum, functional group recognition. Understanding of magnetic, non-magnetic nuclei, shieldingdeshielding, chemical shift, splitting Pattern. Knowledge of molecular ion, fragmentation pattern and different types of ions produced.Student will predict the structure of organic compound with the help of provided spectral data.
3. Paper XI DSE-E7 - Physical Chemistry	Learning and understanding quantum Chemistry, Knowledge about spectroscopy, Electromagnetic spectrum, Energy level diagram, Study of rotational ,vibrational spectradiatomic molecules: Rigid rotor model of diatomic molecules, Raman spectra. Learning and understanding photochemical laws, reactions and various photochemical phenomena.Learning the various types of solutions, relations vapour pressure, temperature relations.Learning and understanding the knowledge of emfmeasurements, types of electrodes, different types of cells.

4. Paper XII-DSE-E8 - Analytical Chemistry	Understanding theory and applications of potentiometric titrations. Understanding, working and applications of optical methods as an analytical tool. Learning and understanding the whole process of manufacture of sugar and byproducts of sugar industry. Learning and understanding of physico- chemical principles of production of ammonia, sulfuric acid, nitric acid and sodium carbonate along with its manufacturing plant. Understanding the basics of Gas Chromatography, Quality control practices in analytical industries / laboratories.

Semester , Paper No. and Name	**Expected Learning Outcome**
Semester - VI	
1. Paper -XIII DSE-F5- Inorganic Chemistry	Understanding the mechanism of the reactions involved in inorganic complexes of transition metals. The students can understand the thermodynamic and kinetic aspects ofMetal complexes.The generation of nuclear power with the help of nuclear reactions is highlighted. Role ofRadio isotopes in medicinal, industrial and Archaeology fields is explained.The characteristics properties and separation of lanthanides and Actinides are discussed.Synthesis and IUPAC Nomenclature of trans -uranic elements (TU) explained. The techniques involve in ore dressing and extraction of cast iron from its ore is discussed. Role of various metals and nonmetals in ourHealth are discussed.
2. Paper- XIV DSE-F6- Organic Chemistry	Knowledge of reagents used in organic transformations and various reactions used in organicsynthesis.Knowing basic terms used in retrosynthetic analysis,retrosynthesis of some organic compounds. Student will learn addition reaction across >C=C< bond w.r.t. hydrohalogenation, hydration hydroxylation, ozonolysis and addition of halogenhalogen acid, hydrogen,water, etc. across −C≡C−bond.Knowledge of terpenoids and alkaloids w.r.t. occurrence, isolation, characteristics and classification.Analytical and synthetic evidences of Citral and Nicotine.Understanding classification of drugs, Qualities ofideal drug. Synthesis and uses of some representative drugs and Drug action of sulpha drugs.
3. Paper XV DSE-F7 Physical Chemistry	Learning and understanding of phase rule, learningof One component, Two component and Threecomponent systems. Knowledge about basic concept ofThermodyanamics, free energy, Gibbs-Helmholtz equation and its applications. Learning and understanding Space lattice, latticesites, Lattice planes, Unit cell. Laws ofcrystallography, Diffraction of Xrays,Derivation of Bragg's equation. Determinationof crystal structure by Bragg's method.Learning of kinetics, Simultaneous reactions.Learning and understanding the knowledge of Colloidal State, understanding of colloidal system, different types of colloidal system, preparation, properties, stability of different colloidal system, General applications of colloids.

4. Paper XVI-DSE-F8 - Analytical Chemistry	Knowledge about the chemical nature and cleansing action of soap. Understanding and learning the classification, synthesis and applications of various polymers. Knowledge of instrumental analysis of alkali & alkaline earth elements. Knowledge of analysis of soil essential parameters and nutrients, Understanding the fertilizers used in regular farming. Understanding and learning of nanotechnology including classification, optical properties, synthesis routes, characterization techniques and applications of nano-materials.

s/d
Head
Department of Chemistry

Yashwant Shikshan Sanstha's

Miraj Mahavidyalaya, Miraj

Department of Botany

Programme Specific Outcomes (PSOs)

PSO 1-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.

PSO 2 -Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth of knowledge/expertise in the field of Plant Identification

PSO 3-Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy

PSO 4-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.

PSO 5 -Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.

PSO 6 -Students will be able to apply fundamental mathematical tools (statistics, calculus) and physical principles (physics, chemistry) to the analysis of relevant biological solutions.

PSO 7 -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.

PSO 8 -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.

PSO 9 -Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for their area of specialization within biology.

Course Outcomes- B. Sc. I -BOTANY

CO1. Students will able to recognize the structure, types and multiplication of viruses.

CO2. Students will able to understand the bacterial types, structure and mode reproduction

CO3. Students will able to identify the different types of algae and their importance in day today life.

CO4. Students will able develop the skills for the production of different type of Biofertilizers,
CO5. Students will able to distinguish the prokaryotic and eukaryotic organisms and acquire the knowledge of different plant cell organelles and its role in the plant body.
CO6. Students will able to understand the different types of cell division and its phases.
CO7. Students will able to handle all types of microscopes.
CO8. Students will able to develop a skill in the chromatography techniques.
CO9. Students will able to identify and classify the different fungi and also realize the economic importance of fungi.
CO10. Students will able to identify the lichens on the basis of morphology and to know the medicinal value of the lichens.
CO11. Students will be able to recognize the different plant diseases and their management.
CO12. Students will able to develops the soft skill technique in the Mushroom Cultivation and realize the commercial status of the mushrooms.
CO13. Students will able to identify the bryophytes their importance.
CO14. Students will able to recognize the characters and ecological importance of Pteridophytes.
CO15. Students will be able to identify, classify the gymnosperms and understand the Economic importance of gymnosperms.

Course Outcomes- B. Sc. II -BOTANY

CO1-To impart knowledge of science is the basic objective of education.
CO2-To develop scientific attitude is the major objective to make the students open minded, critical, curious.
CO3-To develop skill in practical work, experiments and laboratory materials and equipments along with the collection and interpretation of scientific data to contribute the science.
CO4-To understand scientific terms, concepts, facts, phenomenon and their relationships.

CO5-To make the students aware of natural resources and environment.

CO6-To provide practical experience to the students as a part of the course to develop scientific ability to work in the field of research and other fields of their own interest and to make them fit for society.
CO7-To The students are expected to acquire knowledge of plant and related subjects so as to understand natural phenomenon, manipulation of nature and environment in the benefit of human beings.
CO8-To develop ability for the application of the acquired knowledge

C09-To improve agriculture and other related fields to make the country self-reliant and sufficient.
CO10-To create the interest of the society in the subject and scientific hobbies, exhibitions and other similar activities.

Course Outcomes- B. Sc. III -BOTANY

CO1. Students are acquainted with basic as well as recent knowledge in the field of molecular
biology, biotechnology and bioinformatics
CO2. Acquiring the basic procedure in the field of microbiology and plant pathology.
CO3. To develop skills in of horticulture including nursery, landscaping, gardening, floriculture and pomology.
CO4. Students will be able to demonstrate their knowledge, skills and attributes to be successful contributing members to the horticulture profession.
CO5. Acquaint the student with the comprehensive knowledge in the bio fertilizers, herbal drug technology and palaeobotany.
CO6. Students will able to demonstrate their understanding of relevant course theories and concepts Students able to Mendelian and Neo-mendelian genetics
CO7. Students become familiar with the Organic manures, Herbal Medicines, Herbal cosmetology and Pharmacognosy.
CO8. Understand the methods of Plant Biotechnology, Protoplast culture and Recombinant DNA Technology.
CO9. Acquainted the scope of palaeobotany in the present scenario and understand the fossil genera
CO10. Aware about the Spices, Beverages and Fibers, Cereals, Legumes and Oils.
CO11. Understand the of carbohydrates, lipids, proteins
CO12. Understand the techniques of plant breeding
CO13. Understand the techniques of mushroom cultivation.
CO14. Acquainted the techniques of micrometry, chromatography and other laboratory techniques used in the field of life science.

Programme Specific Outcomes (PSOs) B. Sc. I

SEMESTER- I
Paper – I Introduction to Microbiology.
(Credits 1)

Learning Objectives:

1. To develop a good knowledge of the development of the discipline of Microbiology and the contributions made by prominent scientists in this field.
2. To develop a very good understanding of the characteristics of different types of microorganisms, methods to organize/classify these into and basic tools to study these in the laboratory.
3. To explain the useful and harmful activities of the microorganisms and scope of different branches of Microbiology.
4. To describe characteristics of bacterial cells, cell organelles and various appendages like capsules, flagella or pili.

Paper – II (DSC 26 A)
Basic Techniques in Microbiology Credit-2 Learning Objectives:

1. To study the staining techniques for the observation of bacteria and bacterial cell components
2. To study the working principle, handling and use of microscopes for the study of microorganisms
3. To understand the principles of sterilization and disinfection of culture media, glassware and plastic ware and other objects to be used for microbiological work.
    1. To study the preservation of bacteria in the laboratory

Paper - IV (DSC 26 B):
Microbial Biochemistry

(Credits - 2) Learning Objectives:

1. To develop a very good understanding of various biomolecules which are required for development and functioning of a bacterial cell.
2. To develop the knowledge of how the carbohydrates make the structural and functional components suc as energy generation and as storage food molecules for the bacterial cells
3. To make well conversant about multifarious structures and functions of proteins, enzymes, lipids and nucleic acids.
4. To differentiate the concepts of aerobic and anaerobic respiration and how these are manifested in th form of different metabolic pathways in microorganisms.

PRACTICAL COURSE

Paper I &II: Introduction to Microbiology and Basic Techniques in Microbiolog

Learning Objectives:

1. To understand the basic techniques in Microbiology laboratory
2. To study the working principle, handling and use of compound microscope for the study o microorganisms
3. To study the simple and special staining techniques for the observation of bacteria and bacterial cell components
4. To understand the working principles and applications various equipment's in Microbiology laboratory
5. To study the preparation, sterilization and use of various culture media.

Paper III & IV: Bacteriology and Microbial Biochemistry

Learning Objectives:

1. To understand the basic laboratory experiments to isolate and cultivate
2. To study various biochemical tests used to differentiate bacteria

MIRAJ MAHAVIDYALAYA, MIRAJ

DEPARTMENT OF MICROBIOLOGY

(Affiliated to Shivaji University, Kolhapur, Maharashtra)

Programme Specific Outcomes (PSOs) B. Sc. II

Learning Outcomes:

A candidate who wish to graduate in B.Sc. (Microbiology Course) needs to hav acquired/developed following competencies:

1. Acquired knowledge and understanding of the microbiology concepts as applicable to diverse areas such as medical, industrial, environment, genetics, agriculture, food and others.

2. Demonstrate key practical skills/competencies in working with microbes fo study and use in the laboratory as well as outside, including the use of good microbiological practices.
3. Competent enough to use microbiology knowledge and skills to analyze problem involving microbes, articulate these with peers/ team members/ other stake holders, and undertake remedial measures/studies etc.
4. Developed a broader perspective of the discipline of Microbiology to enable hir to identify challenging societal problems and plan his professional career t develop innovative solutions for such problems.

SEMESTER-III
Paper V

C-9-DSC- 5: Microbial Physiology & Metabolism
(CREDITS:02)

Learning Objectives:

1) To make the students to learn concepts of microbial physiology.
2) To develop[a good understanding regarding effect of environmental factors o growth of microorganisms
3) To understand the mechanism of transport across microbial cell membrane.
4) To clear he basic concept of microbial metabolism.

Paper VI
C9-DSC- 6 : Applied Microbiology (CREDITS:02)

Learning Objectives:

1) To develop the knowledge regarding air microflora and its role and analysis.
2) To study water microbiology, water analysis and its purification and disinfection.
3) To study milk microbiology and quality control of milk.

4) To learn the basic understanding of industrial microbiology.

SEMESTER-IV

Paper VII

C-5-:DSC- 7 : Microbial Genetics & Molecular Biology(CREDITS:02)

Learning Objectives:

1) To learn the basic concepts of Microbial genetics.
2) To gain knowledge regarding types of mutation.
3) To demonstrate the model of gene transfer in bacteria.
4) To gain the knowledge about DNA repair and Lac operon.

Paper VIII

C5: DSC- 8 : Basics in Medical Microbiology & Immunology(CREDITS:02)

Learning Objectives:

1) To learn about basic concept of medical microbiology.
2) To make aware students about disease.
3) To understand the defense mechanism of vertebrate body.
4) To learn about concept of antigen and antibody.

PRACTICAL COURSE

Paper V & VI

Practical Course III (DSC-5+6) (CREDITS:04)

Learning objectives:

1) To understand basic techniques n special staining.
2) To study the biochemical characteristics of different microorganisms.
3) To study the effect of environmental factors of microorganisms

Paper VII & VIII

Practical Course IV (CREDITS:04)

Learning objectives:

1) To study the techniques of bacteriology analysis of water.
2) To understand the primary screening techniques of industrially importan microorganisms.
3) To study isolation and identification of pathogens.

MIRAJ MAHAVIDYALAYA, MIRAJ

DEPARTMENT OF MICROBIOLOGY

(Affiliated to Shivaji University, Kolhapur, Maharashtra)

Programme Specific Outcomes (PSOs) B. Sc. III

GENERAL OBJECTIVES OF THE PROGRAMME :

1) To make the students knowledgeable with respect to the subject and its practicable applicability.
2) To promote understanding of basic and advanced concepts in microbiology.
3) To expose the students to various emerging areas of Microbiology.
4) To prepare students for further studies helping in their bright career in the subject
5) To expose the students to different processes used in industries and in research field
6) To develop their ability to apply the knowledge of microbiology in day to day life.
7) To prepare the students to accept the challenges in life sciences.
8) To develop skills required in various industries, research labs and in the field of human health.

Yashwant Shikshan Sanstha's

Miraj Mahavidyalaya, Miraj

Department of Zoology

Course Outcomes- B. Sc. Part I - Zoology

CO1. To understand scientific terms, concepts, facts, phenomenon and their relationships.
CO2. Students will be able to identify, classify the Non chordates with different systems, locomotion, Reproduction.
CO3. Students will able to understand the Mendel's law of inheritance different terms and concepts in genetics.
CO4. Students will able to study organs and systems of Rat.
CO5. Students will able to distinguish the different Animal cell organelles and its role in the body.
CO6. Students will able to understand the origin of life, Evolutionary theories, Fossils and Extinction.
CO7. Students will able to identify the characters of chordates.
CO8. Create awareness to human society through study insect vectors , Diseases and their control .
CO9-To develop skill in practical work like practical based on Blood groups, cell organelles, genetics examples.

Course Outcomes- B. Sc. Part II -Zoolgy

CO1-To impart knowledge of science is the basic objective of education.
CO2-To develop scientific attitude is the major objective to make the students open minded, critical, curious.
CO3-To develop skills in practical work, like Biochemical experiments and laboratory materials and equipments along with the collection, interpretation of scientific data to contribute the science.
CO4-To understand Scientific terms, concepts, facts, natural phenomenon and the manipulation of nature and environment by Man.
CO5. Students will able to identify the characters of chordates, Vertebrates.
CO6-To The students are expected to acquire knowledge of Human reproductive organs ,Contraception, reproductive health of Human beings.
CO7-To develop ability for the application of the acquired knowledge applied Zoology as Poultry Farming and Sericulture.
C08-To improve agriculture through the study of Economic insects and other related fields to make the country self-reliant.

CO9-To create the interest of the students in Zoology subject and scientific hobbies, through the exhibitions and other activities.

Yashwant Shikshan Sanstha's

MIRAJ MAHAVIDYALAYA, MIRAJ.

DEPARTMENT OF MATHEMATICS

COURSE LEARNING OUTCOMES

B. Sc. Part – I Semester – I DSC –A5 – MATHEMATICS – I (CALCULUS)

Upon successful completion of the course students will able to;

1. Evaluate the limit and examine the continuity of a function at a point.
2. Understand the consequences of mean value theorems for differentiable functions.
3. Apply Leibnitz theorem to obtain higher derivatives of product of two differentiable functions.

B. Sc. Part – I Semester – I DSC –A6 – MATHEMATICS – II (DIFFERENTIAL EQUATIONS)

Students will able to;

1. Understand applications of differential equation.
2. Understand types of differential equation
3. Solve different types of ordinary differential equations.

B. Sc. Part – I Semester –IIDSC– B5 –MATHEMATICS – III (MULTIVARIABLE CALCULUS)

Students will able to;

1. Learn conceptual variations while advancing from one variable to several Variables in calculus.
2. Set up and solve optimization problem involving several variable.
3. Learn the concept of Jacobian of a transformation**.**

B. Sc. Part – I Semester – II DSC – B6 – MATHEMATICS – IV (BASIC ALGEBRA)

Students will acquire knowledge of;

1. Use fundamental concepts in Mathematics like set, relations and functions.
2. Use fundamental concepts in Number theory.
3. Solve examples on congruence.
4. Determine n roots of unity.
5. Understand various properties of hyperbolic functions.

B. Sc. Part – II Semester – III DSC–C5– MATHEMATICS –V (ELEMENTS OF DIFFERENTIAL EQUATIONS)

The students will acquire knowledge of;

1. Identify types of higher ordinary differential equations.
2. Solve different types of higher order ordinary differential equations.
3. Understand geometrical interpretation of simultaneous and total differential equations.

B. Sc. Part – II Semester – III DSE – C6 – MATHEMATICS –VI (NUMERICAL METHODS)

The students will acquire knowledge of;

1. Find numerical solutions of algebraic, transcendental and system of linear Equation.
2. Learn about various interpolating methods to find numerical solutions.
3. Find numerical solutions of integration and ODE by using various methods.
4. Apply various numerical methods in real problems

B. Sc. Part – II Semester – IV DSE – D5 − MATHEMATICS –VII (VECTOR CALCULUS)

The students will acquire knowledge of;

1. Understand and evaluate the concepts of gradient, divergence and curl of point functions in terms of Cartesian co-ordinate system.

2. Understand and evaluate different types of line, surface & volume integrals and the two integral transformation theorems of Gauss and Stokes.

B. Sc. Part – II Semester – IV DSE – D6 − MATHEMATICS –VIII INTEGRAL CALCULUS)

The students will acquire knowledge of

1. Understand special functions.
2. Understand types of multiple integrals.
3. Apply special functions in applications.
4. Apply multiple integrals in real life problems.

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Yashwant Shikashan Sanstha's

MIRAJ MAHAVIDYALAYA, MIRAJ

Department of Statistics

Course Outcome

B. Sc. Part – I Semester – I DSC –7A – STATISTICS – I (DESCRIPTIVE STATISTICS):

The students will acquire knowledge of

i. Meaning and scope of Statistics, various statistical organizations

ii. Data and types of data, various data presenting methods, iii. Population, sample and various methods of sampling,

iv. Various measures of central tendencies and dispersion, v. moments, skewness and kurtosis.

B. Sc. Part – I Semester – I DSC –8A – STATISTICS – II (ELEMENTARY PROBABILITY THEORY)

Students will be able to;

i. Distinguish between random and non-random experiments

ii. Acquire knowledge of concepts of probability iii. Use the basic probability rules, including additive and multiplicative laws iv. Understand concept of conditional probability and independence of events. v. Understand concept of univariate random variable and its probability distributions vi. Acquire knowledge of mathematical expectation of univariate random variable

B. Sc. Part – I Semester – II DSC –7B – STATISTICS – III (DESCRIPTIVE STATISTICS – II)

Students will acquire knowledge of;

i. Correlation coefficient and interpret its value.

ii. Regression coefficients, interpret its value and use in regression analysis.

iii. Qualitative data including concept of independence and association between two attributes iv. Vital statistics and concept of mortality and fertility and growth rates.

B. Sc. Part – I Semester – II DSC –8B – STATISTICS – IV (DISCRETE PROBABILITY DISTRIBUTIONS)

Student will be able to acquire knowledge of;

I Bivariate discrete distributions, independence of bivariate r.vs., Mathematical expectation of bivariate discrete random variable.

ii. One point distribution, two point distribution, Bernoulli distribution,

iii. Uniform distribution, Binomial distribution, Hypergeometric distribution, iv. Poisson distribution, Geometric distribution and Negative binomial distribution.

B. Sc. Part – II Semester – III DSC–C7: STATISTICS –V (Probability Distributions – I)

The students will acquire knowledge of

i) Bivariate discrete distributions with real life situations.

ii) Continuous random variable and find the various measures, probabilities using its probability distribution. iii) Transformation of univariate continuous random variable. iv) Some standard continuous probability distributions with real life situations. v) The relations among the different distributions.

B. Sc. Part – II Semester – III DSC–C8: STATISTICS –VI (Statistical Methods–I)

The students will acquire knowledge of

i) Obtaining multiple linear regression equations and their applications.

ii) The concept of multiple correlations, partial correlation and their computations.

iii) Need, construction and utility of various index numbers.

iv) The concepts related to national income and different methods of estimation of national income.

B. Sc. Part – II Semester – IV DSC–D7: STATISTICS –VII (Probability Distributions – II)

The students will acquire knowledge of

i) Some standard continuous probability distributions with real life situations.

ii) Finding the various measures of continuous random variable and probabilities by using its probability distributions. iii) The relationships among different distributions.

iv) Continuous bivariate r.vs. and probability distributions of their transformations.

v) Concept of sampling distribution of a statistic.

vi) Soome sampling distributions of a statistic : Normal, Chi-Square, t and F distributions with their applications and i

B. Sc. Part – II Semester – IV DSC–D8: STATISTICS –VIII (Statistical Methods – II)

The students will acquire knowledge of

i) The concept and use of time series analysis.

ii) The meaning, purpose and use of Statistical Quality Control, construction and working of control charts for variables and attributes. iii) iii) applying the appropriate small sample tests and large sample tests in various situations. nterrelations.

Yashwant Shikshan Sanstha's

Miraj Mahavidyalaya, Miraj

Department of Computer Science

2023-24

Course Outcome of B.Sc. – I (Comp. Sci.) NEP-2020 CBCS

Sem.-I

Course Title: Problem Solving using Computers

➢ ***Upon successful completion of the course students will able to:***

1. Demonstrate a familiarity of computer programming language concepts.
2. Understand to develop C programs on Linux platform.
3. Apply C programming control structures for problem solving.
4. Understand working and implementation of arrays.
5. Describe the basic concepts of DBMS and various databases used in real applications.
6. Demonstrate the principles behind systematic database design approaches.

Sem.-II

Course Title: Database Management System

➢ ***Upon successful completion of the course students will able to:***

1. Understand the concept and importance of pointers in C language.
2. Demonstrate an understanding of functions in problem solving.
3. Understand working of structure and dynamic memory allocation.
4. Apply file handling techniques using C language.
5. Understand the importance and working of database.
6. Demonstrate an understanding of the relational data model.
7. Understand the concept of normalization and apply such knowledge to the normalization of a database.
8. Apply SQL queries for database management.

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Yashwant Shikshan Sanstha's
MIRAJ MAHAVIDYALAYA, MIRAJ
Department Of Commerce B.com
Course Outcomes

B.com - I

➢ **SEMESTER -I**

Sr.no	Course	Outcomes
1	**Financial Accounting**	Students will be able: 1. To get an idea about the basic of accounting, accounting concepts and conventions and accounting process. 2. To acquaint with skill of recording transactions related to amalgamation of partnership firm. 3. To apply skills of accounting for consignment transactions. 4. To make use of knowledge and skill for accounting of professionals
2	**Management Functions and Application**	Students will be able: 1. To get an idea about the basic managerial process and planning works in real life 2. To develop decision making skills to evaluate various alternatives and situations. 3. To acquaint with the knowledge of organizing various resources. 4. To understand the concepts of authority and process of delegation of authority. 5.To understand importance of proper direction and to develop Their communication skill.
3	**Micro Economics**	1. The student should be able to apply tools of consumer behavior and firm theory to business situation.
4	**Principles of Marketing**	1. The students will know various marketing concepts, basics of marketing and he or she will be able to assess consumer behavior. 2. The students will understand rural market, consumers and he or she will also enlighten about various recent trends and development in marketing.
5	**Insurance**	1. To enable the students to know the fundamentals of Insurance. 2. To give exposure to the students about life insurance products, Procedural part and life insurance business in India.

6	**Business Communication**	1. To acquaint students with communication skills. 2. To inculcate human values among the students through poems and prose.
		3. To improve the language and business competence of the students.

➢ **SEMESTER – II**

Sr.no	Course	Outcomes
1	**Financial Accounting**	Students will be able: 1. To acquaint with skill of recording transactions related to sing entry system. 2. To apply skills of accounting for conversion of partnership firm i to limited company. 3. To make use of knowledge and skill for accounting of branche To understand the knowledge about computerized accounting.
2	**Management Functions and Application**	Students will be able: 1. To get an idea about motivation concept and theories. 2. To develop their leadership skill 3. To understand and utilize techniques of coordination and control 4. To understand various emerging issues in management like gree management and to understand concept of Change.
3	**Micro Economics**	1. The student should be able to apply tools of consumer behavior an firm theory to business situation.
4	**Principles of Marketing**	1. The students will be aware with process of new produc development and product life cycle in detail and they will b prepared with various skills about branding, labeling an advertisement. 2. The students will know about management of retailing operation and changing scenario of retail business in India.
5	**Insurance**	1. To enables the students to know the fundamentals of General Insurance. To give exposure to the students about general insurance procedural part, general insurance business and FDI in insuranc in India.

6	**Business Communication**	1. To get acquaint with the types of business correspondence. 2. To understand how to communicate on telephone. 3. To know about the specific purpose of English Language To improve language competence of the students.

B.com – II

- **SEMESTER –III**

Sr.no	Course	Outcomes
1	**Fundamentals of Entrepreneurship**	1. To impart theoretical knowledge of Entrepreneurship 2. To develop Entrepreneurship qualities and skills 3. To acquaint students with Steps involved in the formation of Small Enterprises 4. To enlighten students with Recent Trends and Concepts in Entrepreneurship
2	**Money and Financial System**	1. Students explain the concept of money, its new incarnations and flow in to the economy 2. Students understood the financial system and its operation 3. Students understand the nature of banking business and practices
3	**Macro Economics**	Students will be able to - 1. The macro variables and nature and scope of macro economics. 2. The relevance of national income concepts and their applications. 3. Process of value of money determination. 4. Theory of output and employment generation.
4	**Business Communication**	1. To enable the students to develop communication skills in English 2. To equip the students with the language skills for use in their personal, academic and professional lives 3. To develop students' employability skills 4. To help students to enter the job market with confidence and develop their ability to work effectively 5. To help students to learn and practice language skills and soft skills 6. To facilitate and help the students to acquire communication skills 7. To enable the students to cultivate a broad, humane and cultured outlook

5	**Business Statistics**	Students will be able to - 1.To explain the scope of statistics in business and apply sampling techniques in real life. 2. To summarize data by means of measures of central tendency and dispersion. 3. To explain the merits and demerits of various measures of central tendency and dispersion. 4.To carryout analysis of bivariate data using simple correlation and simple linear regression.
6	**Corporate Accounting**	Students will be able to - 1. Demonstrate accounting for issue of bonus shares, rights shares and sweat equity. 2. Demonstrate accounting for issue of debentures and redemption of debentures. 3. Explain the accounting of profit/loss prior to and after incorporation. 4. Practice the fundamental accounting process on Tally ERP.

➢ **SEMESTER –IV**

Sr.no	Course	Outcomes
1	**Fundamentals of Entrepreneurship**	1. To acquaint students with family business in India 2. To impart conceptual knowledge of Service and Agro Entrepreneurship 3. To aware students about Business Plan and Project Report 4. To inspire the students through successful stories of Entrepreneurs
2	**Money and Financial System**	1. Students understand the changing nature of financial system 2. Students equipped explain and make use of the E- Banking services 3. Students enable to analyse the stance of RBI's monetary policy
3	**Macro Economics**	Students will be able to - 1. Theories of trade cyclein connection with business. 2. Theory of Public finance relating to economy, business and citizens. 3. The trade and business practices through international trade theories. 4. The determination of rate of exchange.

4	**Business Communication**	1. To enable the students to develop communication skills in English 2. To equip the students with the language skills for use in their personal, academic and professional lives 3. To develop students' employability skills To help students to enter the job market with confidence and develop their ability to work effectively 4. To help students to learn and practice language skills and soft skills 5. To facilitate and help the students to acquire communication skills 6. To enable the students to cultivate a broad, human and cultured outlook.
5	**Business Statistics**	Students will be able to - 1. Understand discrete and continuous random variables, their respective probability distributions. 2. Identify the applications of Binomial, Poisson and normal distributions. 3. Measure trend and seasonal variations in time series data. 4. Compute and interpret simple and weighted index numbers.
		5. Construct and apply variable and attribute control charts.
6	**Corporate Accounting**	Students will be able to - 1. Demonstrate accounting for redemption of Preference Shares. 2. Compute the value of shares as per distinct methods and differentiate between them. 3. Simulate practice of preparing financial statements as per the provisions of Indian Companies Act, 2013. 4. Practice the store accounting through Tally ERP.

B.com – III

- **SEMESTER –V & VI**

Sr.no	Course	Outcomes
1	**Modern Management Practice**	1. To impart knowledge of modern management 2. To understand concept of CRM 3. to know the concept of emotional and social intelligence 4. To understand the concept lean and talent management 5. To impart knowledge of total quality management 6. To understand the Japanese and Chinese management practice 7. To know the concept of event and performance management 8. To understand the concept of time and stress management

2	**Co-Operative Development**	1. To study the meaning and principles of Co-Operations 2. To study the agricultural and non-agricultural credit Cooperative Institutions 3. To study the Co-operative credit system 4. To Study the important co-operative organisations 5. To study the co-operative legislations and fund management 6. To understand the institutional arrangement for co-operative education and training 7. To understand the nature ,registration legislation, and audit of housing co-operatives 8.To understand co-operative audit system and provision
3	**Business Environment**	1. Students should able to understand significance and position of Indian Economy at World level 2. Students should Study the scenario of agricultural and industrial sector 3. Students should aware regarding Indian economy is facing some of fundamental economic problem 4. Students should understand the co-relations between economic and social problem 5. Students will understand Indian and global economic environment 6. Students will equip with proper knowledge of Indian economic planning
		7. Students will unable with the knowledge of plans and strategies toward foreign capital and malty national corporation 8. Students will get acquainted with the functions mechanism and performance of international financial trade and regional cooperation institutions
4	• **Advanced Accountancy Paper I And III**	Students will be able to - 1. Practice the preparation of financial statements of banks. 2. Demonstrate accounting for farm and hire purchase system 3. Stimulate accounting situations of insurance claim 4. Explain the accounting process on Tally with GST. 5. Practice the preparation of Cost Sheet 6. Demonstrate with cash flow analysis and ratio analysis.

5	• **Advanced Accountancy Paper II and IV (Auditing & Taxation)**	1. To Understand the concept and types of audit. 2. To Identify the residential status and its implication on Tax liability. 3. To understand The Concept of exemption from income 4. To know the computation of income from various sources as well as total income 5. To Understand the concepts of Income Tax and basis of charge 6. To Know the basic concept about GST
6	• **Advanced Banking Paper No I and III**	1. Learners will be able to explain regulatory framework for banking In India. 2. To understand the important Laws relating to banking sector. 3. Learners will apply the Knowledge of legal provisions for banking business practice. 4. Learners will be able to understand nature and structure of financial market in India 5. Learners will understand Practice in money and capital market. 6. Learners will understand functioning of different intermediaries in financial market
7	• **Advanced Banking Paper No II and IV**	1. Learners will able to explain retail and corporate banking system 2. Learners will understand retail and corporate banking practices 3. Learners will apply knowledge in banking business 4. Learners will be able to understand nature and structure of financial market in India 5. Learners will understand Practice in money and capital market
8	• **Business Regulatory Framework**	1. To Understand The Law of contract 1872,labour Laws 2. To Understand Sale of goods Act 1932 And Indian Partnership act 1932 &2008 3. To Understand Company Act 2013
		4. To Understand Business transactions and cyber Laws & Negotiable Instrument Act 2015

B.C.A. (NEP) 2023-24

Course Outcome - Sem I

1) **Course Code: CC101 – Fundamentals of Computer**

Course Outcomes- a) describe peripheral devices and number systems.

2) **Course Code -CC 102 - Introduction to Programming using 'C'**

Course Outcomes- a) Able to implement the algorithms and draw flow charts for solving Mathematical problem.

3) **Course Code: ACE 103- Principles of Management**

Course Outcomes-a) Understand the influence of historical forceson current practice of

4) **Course Code: ACE104- Business Communication**

Course Outcomes-a) Communicate in English in written as well as oral mode

5) **Course Code: AEC 105- Office Automation**

Course Outcomes-a) Understand the components of office automation

6) **Course Code: Lab Course–I Based on CC102 &CCL106** 7) **Course Code: CCL 107- Lab Course-II Based onAEC105**

Course Outcomes-a) Understand and trace the execution of programs written in C language.

Course Outcomes-a) Use internet and internet tools.

Course Outcome - Sem II

1) **CourseCode:CC201- DBMS**

Course Outcomes- a) Describe the basic concepts of DBMS and various databases used in real applications

2) **CourseCode:CC202- Operating System**

Course Outcomes- a) Possess knowledge of Operating Systems and their types. 3) **Course code:CC203- Web Technology I**

Course Outcomes-a) Understand basics of website and web development life cycle.

4) **Course Code: AEC204- Financial Accounting with Tally**

Course Outcomes- Use basic accounting terminology, procedures and systems of maintaining accounting record.

5) **Course Code: AEC205- Mathematical Foundations For Computer Applications**

Basicknowledgeofsettheory,functions]andrelationsconcepts,matrixneededfordesigningand solving problems.

6) **Course Code: CCL206- LabCourse-IIIBasedonCC201andAEC204**

Course Outcomes-a) Use MS-Access DBMS and design database

7) **Course Code: CCL 207- LabCourse-IVBasedonCC203**

Course Outcomes- a) Understand Web Design Concept

B.C.A. (NEP) 2023-24

Course Outcome - Sem III

1) **Course Code: CC301 – RDBMS**

Course Outcomes- a) Enhance programming skills and techniques using MySQL and PL/SQL

2) Course Code -CC 302- Computer Network and Internet

Course Outcomes- a) understand the concept of computer network.

3) Course Code: CC303- Data Structure using C

Course Outcomes-use & implement appropriate data structure for the required problems using C language.

4) Course Code: AEC304- Elements of Statistics **Course Outcomes**- a) represent the data in pictorial and graphical form.

5) Course Code: AEC305- HRM & MM

Course Outcomes-a) Understand HR Management and planning.

6) Course Code: Lab Course V BasedCC301

Course Outcomes-a) Apply advanced SQL features and Analyze PL/SQL structures.

7) Course Code: Lab Course VI based on CC303

Course Outcomes-a) Applying various searching techniques using data structure

8) Course Code: SECSB308- Skill Development III

Course Outcomes-a) Understand Business Etiquette and Manners

Course Outcome - Sem IV

1) Course Code: CC 401 – OOP USING C++

Course Outcomes- a) Understand object-oriented programming and advanced C++ concept.

2) Course Code - CC 402 - Software Engineering

Course Outcomes- a) Use of analysis and design tools for system development.

3) Course Code: CC403 - PHP

Course Outcomes- Design web forms using HTML and process user input using PHP.

4) Course Code: AEC 404 - Entrepreneurship Development

Course Outcomes-a) Identify Business Opportunities and prepare business plan.

5) Course Code: AEC-405 - Enterprise Resource Planning (ERP)

Course Outcomes-a) Understand concept, need and significance of ERP

6) Course Code: Lab Course-VII Based on CC401

Course Outcomes-a) Apply the concepts of object-oriented programming

7) Course Code: Lab Course-VIII based on CC-403

Course Outcomes-a) Acquire the ability to analyze problems, design algorithms and implement solutions using PHP.

8) Course Code: AEC 408- Mini Project

Course Outcomes- a) Utilize the software development techniques, skills and modern tools.

B.C.A. (CBCS) 2023-24

Course Outcome - Sem V

1) Course Code: CC 501 – Java Programming

Course Outcomes- a) Understand the features of Java Language.

2) Course Code -CC502- Data Warehousing and Data Mining

Course Outcomes- a) Define the Data warehouse architecture and its Implementation.

3) Course Code: CC 503- IT Security

Course Outcomes-a) Understand the concept and need of IT security

4) Course Code: DSE 504 Elective-I- Python Programming **Course Outcomes**-a) Acquire programming skills in core Python

5) Course Code: GE 505 (Elective-II)- Digital Marketing

Course Outcomes-a) Learn the applications of Digital Marketing

6) Course Code: Lab Course IX based on CC501

Course Outcomes-a) Implement the Concept of OOP in Java through simple programs..

7) Course Code: Lab Course-X Based on DSE504

Course Outcomes-a) Demonstrate and use different types of XML files.

Course Outcome - Sem VI

1) Course Code: CC 601– Cloud Computing

Course Outcomes- a) Understand the fundamental principles of Cloud Computing.

2) Course Code -Elective I DSE 602- R Programming

Course Outcomes- a) Understand the fundamental syntax of R through practice exercises.

3) Course Code: Elective-II GE 603- M - Commerce **Course Outcomes**-a) Understand the concepts and scope of E- Commerce.

4) Course Code: AEC 604- Soft Skills & Personality Development **Course Outcomes**-a) Reflect on the importance of Professional behavior

5) Course Code: AEC 605 - Industrial Visit

Course Outcomes-a) Linking existing knowledge with learning experience

6) Course Code: Lab Course XI based on DSE602

Course Outcomes-a) Apply syntax of R through practice exercises.

7) Course Code: CCL 607- Major Project

Yashwant Shikshan Sanstha's

MIRAJ MAHAVIDYALAYA, MIRAJ

Department of Physics

Programme Outcomes (POs) M. Sc.

PO 1- Students are able to apply, and disseminate knowledge of physics in theoretical and experimental domains under different specializations.

PO 2 - Develop the ability to identify, formulate, analyze and solve problems in theoretical and experimental domains of physics at both curricular and research level through critical thinking.

PO 3- Use ICT based skills and making scientific software literate to apply in academics.

PO 4- Inculcate research culture, providing research ambience and develop related technical proficiency.

PO 5- Develop attitude to pursue further research and finding placement avenues through it.

PO 6- Inculcate academic and social ethical values among the students.

Programme Specific Outcomes (PSOs) M. Sc.

PSO 1- Student are able to apply the knowledge of core concepts of physics in semester exams, in the NET, SET and GATE, national level exams as well as in the research level projects work which is suitable to Communicate
/present further in workshops and conferences

PSO 2 - Through assignments, NET-SET coaching workshops and research based project work in both theoretical and experimental domains, students are able to revel analytical skills and critical thinking

PSO 3- In day to day access to study material, through presentations, students are capable enough to make use ofPowerPoint presentations, Moodle (LMS), Web-based academic links and can also get hands on experience of using proprietary software like Matlab, Mathematica under experiential learning. **PSO 4-** Through the research culture of the department and skills acquired therein, students are capable of sustaining subsequent academic progression inside the country and overseas as well.

PSO 5 - Regular practice of Self-declaration of the authenticity, uniqueness of project work, plagiarism check, and departmental scrutiny etc. inculcates the ethics in the research publication.

M.Sc. Part-I Semester-I Mathematical Physics

CO1. Students are able to understand the basics of vector spaces and are able to solve special type of matrices that are relevant in physics.

CO2. Students are able to understand the different ways of solving first and second order differential equations.

CO 3. Students are able to understand and solve the problems based on special functions like Hermite, Bessel, Laguerre and Legendre functions.

CO 4. Students are able to understand fundamentals and applications of Fourier series, Fourier and Laplace transforms, their inverse transforms etc.

CO5. Students are able to apply Cauchy's theorem, Taylor's theorem and Laurent's theorem for complex analysis.

Classical Mechanics

CO 1. Students are able to understand and solve central force problems and understands the conservation of energy, linear momentum and angular Momentum in system.

CO 2. Students are able to understand how to impose constraints on a system in order to simplify the methods used in solving physics problems.

CO3. Students are able to understand the concept of Poisson brackets and canonical transformations and are able to solve problems on Poisson brackets and canonical transformations.

CO4. Students are able to understand the concept of special theory of relativity.

Research Methodology

CO1. Students are able to understand meaning, types, approaches and significance of research .

CO2. Students are able to understand the research designs and methods of data collection.

CO3. Students are able to search the research articles and carry on literature survey.

CO4. Students are able to understand how to write and submit the research paper, research project and thesis.

CO5. Students are able to understand applications of various pums and gauges for formation of vacuum and methods of leak detection.

CO6. Students are able to understand low temperature techniques and microscopic techniques.

Semiconductor Physics

CO1. Student will be able to create, apply, and disseminate the basic properties of semiconductors materials and Physics behind them through solving problems.

CO 2. Student will be able to create the ability to identify, formulate, analyze and solve problems in semiconductors physics.

CO3. Student will be able to create the quantitative and qualitative understanding of semiconductors.

CO 4. Student will be able to apply quantitative and qualitative studies for designing the electronic devices under various fields.

Stellar Evolution: Birth, Evolution and Death of the Stars

CO1. Students are able to understand the Formation of the Stars

CO2. Students are able to understand the Stellar Evolution

CO3. Students are able to get more insight about Death of the Stars

CO4. Students are capable of correlating Neutron Stars andBlack Holes

Fundamentals of Plasma Physics

CO1. Students are able to understand Introduction, Uniform Eand B Fields, Non-uniform B Field, Non-uniform E Field

CO2. Students are able to understand Introduction, Relation of Plasma Physics to Ordinary Electromagnetics, The Fluid Equation of Motion, Fluid Drifts Perpendicular to B

CO3. Students are able to get more insight about The Meaning of f(v), Equations of Kinetic Theory, Derivation of the Fluid Equations, Plasma Oscillationsand Landau Damping, The Meaning of Landau Damping

CO4. Students are capable of correlating Introduction, Sheaths, Ion Acoustic Shock Waves, The Ponderomotive Force, Parametric Instabilities, PlasmaEchoes **Laser**

Physics

CO1. Students are able to create, apply, and disseminate theoretical knowledge of laser systems

CO2. Students developed the critical thinking ability to identify and analyze laser behavior

CO3. Students are encouraged to do research in field of lasers. 4. Students develop related skill through practicals based on laser applications.

Physics Lab -1

CO 1. Students are able to understand and calculate crystal structure of materials, and identify the different modes lattice dynamics

CO 2. Students are able to understand theory behind B-H curve and apply for different materials.

CO3. Students are able to understand and able to calculate heat capacity of material, and calculate thermal and electrical conductivity of copper.

CO4. Students are able to understand concept of interference from fabry-parrot etalon experiment

CO5. Students are able to understand Hall effect and solve problems related to it.

CO6. Students are able to analyses critically statistical data using software.

CO 7. Students are able to understand fundamental of mathematica and are able to solve various problems using it.

CO8. Students are able to understand and design circuits of astable and monostable multivibrators, amplifiers etc.

Physics Lab –II

CO1. Students are able to write and submit certified seminar reports.

CO 2. Students are able to present their practical seminar work.

CO3. Students are able to understand the physics behind the experiment.

CO4. Students are able to write the tutorial based on practicals.

M.Sc. Part-I Semester-II Quantum Mechanics

CO1. Students are able to understand different types of operators used in quantum mechanics and are able to use them to solve different problems.

CO2. Students are able to understand and solve problems related to Variational Method and WKB Approximation.

CO3. Students are able to understand Perturbation Theory, semi-classical theory of radiation.

CO4. Students are able to understand and calculate Timedependent potentials and are also able to understand time independent potentials

CO5. Students are able to understand scattering theory.

Condensed Matter Physics

CO1. Students are able to understand different crystal structures, interaction with X-ray and also understands various properties about crystals

2. Students are able to understand different types of crystal defects.

CO3. Students are able to understand different properties of semiconducting and superconducting properties

CO4. Students are able to understand theoretical background of dielectric and magnetic properties of material

Field Project

CO1. Student will be able to apply, and disseminate the basic Physics to solve the problems.

CO2. Student will be able to create the ability to identify, formulate, analyze and solve problems in industry.
CO3. Student will be able to create the quantitative and qualitative understanding of properties of materials and physics behind them.
CO4. Student will be able to apply quantitative and qualitative studies for designing the materials and materials based devices.

M. Sc. I -Physics

Semiconductor Devices

CO1. Student will be able to apply and disseminate the basic properties of semiconductors materials and Physics behind them through solving problems.
CO 2. Student will be able to understand the basics of fabrication of Transistors and microwave devices, Photonic devices and memory devices.
CO3. Student will be able to understand Magneto-optic and acousto-optic effects, Material's properties related to get these effects.
CO4. Student will be able to understand Piezoelectric, Electrostrictive and Magnetostrictive effects, Sensors, and actuator devices.

Magnetospheric Plasma Dynamics

CO1. To understand the earth's magnetic field and magnetosphere
CO 2. To understand reconnection at magnetopause
CO3. To understand magnetospheric configuration
CO4. To understand geomagnetic storms

Interaction of electromagnetic waves with electron beams and plasmas

CO 1. Students are able to understand and apply fundamental Maxwell`s equations in context of dispersions phenomenon
CO2. Students are able to understand coupled mode equations and the phenomenon of mode conversion very critically.
CO3. Students are able to understand basic phenomenon of self- focusing of laser beams in plasmas and successfully completed project work on it.
CO4. Students are able to understand fundamental of NLS, concept of soliton.

Molecular Spectroscopy

CO1. Students are able to create, apply, and disseminate theoretical knowledge of spectroscopic techniques
CO2. Students developed the critical thinking ability to identify and analyse properties of Material
CO3. Students are encouraged to do research in field of Spectroscopy.
CO4. Students develop related skill through practicals based on spectroscopy.

Practical Lab - III

CO1. Students are able to understand deep knowledge of fourier analysis, passive filters and solar cell.
CO 2. Students are able to understand thermal diffusivity of brass, mutual inductance of coil and series and parallel resonant circuits.

CO3. Students are able to understand numerical solutions of and plotting of simple functions using python.
CO4. Students are able to understand fundamental and programming of mathematica includes 2D and 3D plots.
CO5. Students are able to understand crystal structure.
CO6. Students are able to understand plank's constant.
CO7. Students are able to understand deep knowledge of fourier analysis, passive filters and solar cell.
CO8. Students are able to understand thermal diffusivity of brass, mutual inductance of coil and series and parallel resonant circuits.
CO 9. Students are able to understand numerical solutions of and plotting of simple functions using python.
CO10. Students are able to understand fundamental and programming of mathematica includes 2D and 3D plots.

Practical Lab - IV

CO1. Students are able to write and submit certified seminar reports.
CO2. Students are able to present their practical seminar work.
CO3. Students are able to understand the physics behind the experiment.
CO4. Students are able to write the tutorial based on practicals.

M.Sc. Part-II Semester-III

Statistical Mechanics

CO1. Students are able to understand and think critically Basic concepts, Statistical Equilibrium and thermodynamic Laws and Functions
CO2. Students are able to understand and solve numerical Statistical Ensembles Theory.
CO3. Students are able to understand and apply Quantum distribution functions.
CO4. Students are able to understand Phase Transitions and Critical Phenomenon.
C5. Students are able to understand Entropy and specific heat of a perfect gas, Entropy and probability distribution.

Atomic and Molecular Physics

CO1. Students are able to understand and distinguish Atom Model for Two Valence Electrons i. e. l-s coupling, j-j coupling and the Pauli exclusion principle.
CO2. Students are able to understand and differentiate various Zeeman Effect, PaschenBack Effect and Stark basic effect
CO3. Students are able to understand basic phenomenon of microwave spectroscopy and Classification of molecules.
CO4. Students are able to understand fundamental the simple harmonic oscillator, the anharmonic oscillator instrumentation and chemical analysis by infra-red spectroscopy.

Thin solid films: Deposition and properties

CO1. Students are able to understand the various physical deposition technique for thin film preparation

CO2. Students are able to understand the different chemical methods mechanism and preparation of compound thin film.

CO3. Students are able to get more insight about mechanism of nature, structure, and growth of the crystallographic films.

CO4. Students are capable of correlating electric, magnetic and optical properties of the thin film with crystalline structure

Ionospheric Physics and Space Weather

CO1. To understand the Physical and Chemical process in Atmosphere CO

2. To understand Ionosphere

CO3. To understand Implications of Space weather effects

CO4. To understand Global Navigation Satellite System (GNSS)

Introduction to General Relativity

CO1. Students get acquainted with the geometric approachto special relativity.

CO2. Students learned vectors and tensors and its importance in general relativity

CO3. Students learned elements of fluid dynamics

CO4. Students learned the concept of non-Euclidean geomentry

CO5. Students learned to construct field equations for a given matter distribution. 6. Students learned to solve Einstein's field equations forspherical mass distribution.

Nonlinear Optics and Fiber Optics

CO1. To create, apply, and disseminate theoretical knowledge of Nonlinear Effects

CO2. To develop the critical thinking ability to identify and analyse nonlinear phenomena

CO3. To encourage research in field of Non-linear optics

CO4. To develop related skill through practicals based on nonlinear phenomena

Research Project I

CO1. Students are able to do literature survey based on thrust area.

CO 2. Students are able to design research problem and develop hypothesis.

CO3. Students are able to synthesis the different materials.

CO4. Students are able to characterize the materials for different applications.

COI5. Students are able to make conclusions based on results of characterizations.

(SSP- V &VI) SOLID STATE PHYSICS LAB – V & VI

CO1. Students are able to understand all the thin film deposition techniques.

CO2. Students are able to understand different synthesis techniques the thin film.

CO3. Students are able to study the physical properties of thin film by XRD, FTIR and analyses them.

CO4. Students are able to study the structural properties of thin film by SEM, FESEM and analyses them

Modern Optics LAB –V & VI

CO1. Students are able to understand Michelson Interferometer experiment and apply theory behind it.

CO2. Students are able to understand optical absorption, theory behind it and application about it. 3. Students are able to calibrate optical instrument such as the spectrograph, Constant Deviation spectrograph etc. 4. Students are able to understand basics of different spectra and hologram as well as recording the same. **Space Physics LAB –V & VI**

CO 1. Students are able to understand and apply programming language such as Python and MatLab

CO2. Students are able to understand and apply Proton precession magnetometer.

CO3. Students are able to understand and apply Amplitude Modulation.

CO4. Students are able to understand and able to compute NavIC-IRNSS: Data Mining and analysis using MatLab.

CO5. Students are able to understand and apply Total electron content by NavIC-IRNSS.

CO6. Students are able to analyses critically

M.Sc. Part-II Semester-IV Electrodynamics

CO1. Students are able to understand and solve E.M. wave equations in waveguide of the arbitrary cross section: TE and TM modes.

CO2. Students are able to understand and analyze Reflection and refraction, polarization, Fresnel's law, interference, coherence, and diffraction.

CO3. Students are able to understand the applications to linear and circular motions: cyclotron and synchrotron radiations.

CO4. Students are able to understand the Cerenkov radiation and Bremsstrahlung.

CO5. Students are able to understand the Structure of Space time, Relativistic Mechanics.

CO6. Students are able to understand and solve numerical on Relativistic Energy and Momentum, Relativistic Kinematics, Relativistic Dynamics, Relativistic Electrodynamics, Magnetism as a Relativistic Phenomenon.

Nuclear and Particle Physics

CO1. Students are able to understand the nuclear forces and their potentials to apply for experiments

CO2. Students are able to analyze the single particle nuclear shell model and related phenomena

CO3. Students are able to understand and apply selectionrule of elementary particles and fission, fusion reactions.

CO4. Students are able to understand and apply the Gellmann Nishijima formula to solve numerical problems.

Research Project II

CO1. Students are able to pursue further research in the subject related to project work.

CO 2. Students are able to submit satisfactory prototype and thesis/ Dissertation.

CO3. Students are able think critically to analyse the given problem for getting its solution.

Physical Properties of solids

CO1. Students are able to understand electrical conductivity of metals

CO2. Students are able to understand transport properties of metals

CO3. Students are able to understand concepts of Phonons, Plasmons, Polaritons, and Polarons

CO4. Students are able to understand concepts of Point defects and Luminescence

Astrophysics of the Sun

CO1. Students are able to understand the basic structure ofsun and get briefly accounted with Helioseismology.

CO2. Students are able to understand the various data analysis techniques to drag the information.

CO3. Students are able understand real environment of thesun with various field at its surface.

CO4. Students are able to understand the surface structure of sun and various models regarding its theories.

Introduction to Quantum Field Theory

CO1. Students will learn the classical field theory

CO2. Students will learn the canonical quantization of classical fields for spin-0, spin-1 and spin-½ particles

CO3. Students will learn to use Feynman diagram tool to solve scattering problems in particle physics

CO4. Students will learn to quantize the electromagnetic field with path integral approach

CO5. Students will learn to do the tree-level computation of cross- sections and decay processes 6. Students will learn radiative corrections in QFT, namely vacuum polarization, vert ex correction and self-energy.

Holography and Its applications

CO1. To create, apply, and disseminate theoretical knowledge of Holography

CO2. To develop the critical thinking ability to apply holographic techniques in various fields

CO3. To encourage research in field of Holography

CO4. To develop related skill through practicals based on holography

SOLID STATE PHYSICS LAB – VII

CO1. Students are able to do synthesis different metal oxides using different techniques.

CO2. Students are able to do characterization of thin films.

CO3. Students are able to analysis results of thin films.

CO4. Students are expertise in the preparation and characterization of thin film.

SPACE PHYSICS LAB – VII

CO1. Students are able to know about radar system.

CO2. Students are able to understand and to handle IRNSS.

CO3. Students are able understand the constellations.

CO4. Students are able to understand structure of ionosphere & magnetoshpere.

THEORETICAL PHYSICS LAB – VII

CO1. Students are able to set experiential learning of Theoretical aspects.

CO 2. Students are able to modify and design the setup the experiments.

CO 3. Students are able to interpret the experimental findings using existing Theoretical framework.

MODERN OPTICS LAB – VII

CO1. Students are able to calculate vibrational parameters of CN, AlO, C2

CO 2. Students are able to understand the theory of molecular transitions and apply it to analyze mixtures.

CO 3. Students are able to measure Brewster angle and apply it to measure optical behavior of materials like glass.

CO 4. Students are able to demonstrate optical phenomenon to determine the wavelength of light by grating

Head,
Department of Physics,
Miraj Mahavidyalaya, Miraj

Yashwant Shikshan Sanstha's
MIRAJ MAHAVIDYALAYA, MIRAJ

DEPARTMENT OF MICROBIOLOGY

(Affiliated to Shivaji University, Kolhapur, Maharashtra)

Programme Specific Outcomes (PSOs)

M. Sc. I

- This is a two year M. Sc. program covering all general aspects of Microbiology.
- It helps in developing competent Microbiologists who can progress to diverse fields of microbiological interests in various fields of industries, research, teaching, medicalscience and entrepreneurship.
- The course is aimed at adding to the knowledge base of Microbiology graduates throughsignificant inputs of latest information on the subject.
- It also envisages that the students read original research publications and develop the ability of critical evaluation of the study.
- Development of communication skills as well as laboratory work and team work, creativity, planning and execution are also a major objective of this program.
- In the core courses, the students study the basics of Microbiology along with the basics of subjects allied to and useful in Microbiology (Techniques, Biostatistics, Computer handling and Bioinformatics,

Biosafety, Scientific writing and Agricultural and Clinical Microbiology).

- The specializations include topics on various fields of Industrial Microbiology, Fermentation Technology, Quality assurance, Recombinant DNA Technology and
  Pharmaceutical Microbiology.
- During this program students undertake a On job training, Research Project, field projects which the student is expected to study research methodology through experimental work, literature survey and report writing.
- In On job training, the student is to take training in the Industry for a period of at least two weeks which will help student to study Microbiological aspects in the Industry.
- Educational tour to various institutes and or industries provides actual microbiologicalapplications in various fields of Microbiology.

Semester I

MIC-101:MICROBIAL SYSTEMATICS

Course outcome:

1. To gain knowledge of systematics of bacteria
2. To understand new trends in systematics of bacteria
3. To learn different approaches bacterial systematics

MIC102: IMMUNOLOGY

Course Outcomes:

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

1. Understand classes of immunoglobulin, organization and expression of immunoglobulin genes.
2. Know details of major histocompatibility complex and disease susceptibility.
3. Understand cytokines and their medical significance.
4. Understand hypersensitivity reactions.
5. Know immunodeficiencies and auto immunity.
6. Understand details of transplantation immunology and immunity to cancer.

MIC 103 A: BIOCHEMISTRY

Course Outcomes:

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

1. Understand basic concepts in biochemistry.
2. Understand structural features and chemistry of macromolecules.
3. Know membrane transport mechanism in bacteria.

MIC-103 B MICROBIAL METABOLISM

Course Outcomes:

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

1. Understand basic concepts of metabolism.
2. Understand bioenergetics, aerobic respiration and anaerobic respiration.
3. Know metabolism of carbohydrates, lipids and nucleic acids

MIC 103-C : ENVIRONMENTAL MICROBIOLOGY

Course Outcomes:

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

1. Understand concept of aeromicrobiology, biosafety and waste water management.
2. Understand bioremediation and biodegradation processes.
3. Know environmental laws.

RM-MIC-106 Research Methodology

Course Outcomes:

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

4. Understand concept of aeromicrobiology, biosafety and waste water management.
5. Understand bioremediation and biodegradation processes.
6. Know environmental laws.

P-MIC 104 PRACTICAL COURSE-1

Course Outcomes:

At the end of the practical course, students will learn,

1. Operating of high end laboratory instruments
2. Basic practical skills in Biochemistry
3. Basic practical skills in Immunology

P-MIC 105 PRACTICAL COURSE-II

Course Outcomes:

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

1. Use basic softwares for bacterial systematics
2. Cultivate extremophiles.

Yashwant Shikshan Sanstha's

Miraj Mahavidyalaya, Miraj.

PG Department of Geography

Outcomes

❖ **Semester I** (NEP 2020)

M.A./ M.Sc. Geography I, Sem. I, Course No. MT-101 Geomorphology

- To understand the nature and scope of geomorphology and establish the relationship between the tectonism and geomorphology with the knowledge of interior of the Earth.
- Look into the evolution of continents and ocean basins with continental drift theory.

M.A./ M.Sc. Geography I, Sem. I, Course No. MT-102 Principles of Climatology

- Understand the variations of weather systems in terms of Stability and Instability of atmosphere.
- To get complete information about Atmospheric Disturbances in terms of cyclones and anti-cyclones.

M.A./ M.Sc. Geography I, Sem. I, Course No. MT-103 Economic Geography

- To understand the concepts and basis of economic processes.
- Acquire detailed knowledge of economic power determinants of country and able to analyze the economic development of country.

M.A./ M.Sc. Geography I, Sem. I, Course No. MT-103 Settlement Geography

- Understand the approaches to rural settlement geography; rural services; hierarchy; morphology etc.
- Understand the theories and models of settlement geography to understand the structure of settlements.

M.A./ M.Sc. Geography I, Sem. I, Course No. MP-101: Research Methodology in Geography

- To identify the objectives and significance of research in geography.
- Tabulate data, formulate research design and represent data by using most appropriate methods.

M.A./ M.Sc. Geography I, Sem. I, Course No. MP-102: Computer Applications in Geography

- To learn the representation of geographic data using various computational methods.
- Prepare and design maps and graphs with the help of computer software.

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❖ **Semester II**

M.A./ M.Sc. Geography I, Sem. II, Course No. MT-201 Advanced Cartography and Surveying

- To understand basic principles of cartography and surveying.
- To get familiar with the basic aspects of linear, vertical and angular measurements of surveying

M.A./ M.Sc. Geography I, Sem. II, Course No. MT-202 Climate Change and Disaster Management

- Recognize the importance of climate on human life.
- To understand causes, consequences and vulnerabilities of various natural and man-made disasters.

M.A./ M.Sc. Geography I, Sem. II, Course No. ET-202 Fundamentals of Soil Geography

- Understand the concepts and principles of soil formation.
- To know the significance of soil conservation and methods of Soil reclamation.

M.A./ M.Sc. Geography I, Sem. II, Course No. EP-201: Introduction to GIS Software and GPS

- To familiarize with QGIS software and tools.
- Learn various functions of GPS for surveying and mapping.

M.A./ M.Sc. Geography I, Sem. II, Course No. EP-202 Soil and Water Analysis

- Know about the soil sample collection during the soil survey/ field work.
- Determine the physical and chemical properties of water samples.

M.A./ M.Sc. Geography I, Sem. II, Course No. MP-203 Advanced Surveying

- To develop practical skills as well as organizational and interpersonal abilities.
- To perform survey using advanced surveying instruments like theodolite, total station, DGPS and drone.

M.A./ M.Sc. Geography I, Sem. II, Course No. FP-201 Field Project

- Students carry out field project on their own.
- Effective writing and dissemination of project output having scientific and/or social relevance.

M.A./ M.Sc. Geography I, Sem. II, Course No. OJT-201 On Job Training

- Students improve their professional skills related to their employability.
- Learn new concept and improve their knowledgebase.

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M.A./ M.Sc. Geography I, Sem. II, Course No. CCPr-205.3, Quantitative Techniques in Geography

- To understand correlation and regression among spatio-temporal data.
- To become expert in techniques for analysis of data in research.

❖ **Semester III**

M.A./ M.Sc. Geography II, Sem. III, Course No. CC-301, Applied Climatology and Climatic Change

- To identify and categorize climate types and climatic regions of the world.
- Get comprehensive knowledge about causes and impacts of atmospheric pollution, GHGs emission, ozone layer depletion, acid rain and el-nino.

M.A./ M.Sc. Geography II, Sem. III, Course No. CC-302, Fundamentals of Remote Sensing & DIP

- Understand the principles and concepts of remote sensing and its role in capturing and analyzing Earth's data.
- Interpret and analyze aerial photographs and satellite images using visual interpretation techniques.

M.A./ M.Sc. Geography II, Sem. III, Course No. DSE-304, Settlement Geography

- Understand the approaches to rural settlement geography; rural services; hierarchy; morphology etc.
- Get comprehensive knowledge about the theories and models of settlement geography to understand the structure of settlements.

M.A./ M.Sc. Geography II, Sem. III, Course No. CCPr-305.1, Research Methodology & Geographical excursion

- Identify the objectives and significance of research in geography.
- Organize and carry out geographical excursion and field visits.

M.A./ M.Sc. Geography II, Sem. III, Course No. CCPr-305.2, Dissertation & Project

- Recognize the objectives and significance of research work.
- Effective writing, maintaining research ethics and academic integrity.

❖ **Semester IV**

M.A./ M.Sc. Geography II, Sem. IV, Course No. CC-401, Applied Geomorphology

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- Establish the relationship between the tectonism and geomorphology with the knowledge of interior of the Earth.
- Understand the cycle of erosion with different views with special reference to hill slope development.

M.A./ M.Sc. Geography II, Sem. IV, Course No. CC-402, Regional Planning & Development

- Understand the basic concepts in regional planning.
- Get a specialized knowledge of policies and experiences of regional planning in India.

M.A./ M.Sc. Geography II, Sem. IV, Course No. DSE-403, Fundamentals of Soil Geography

- To understand the concepts and principles of soil formation.
- Know the significance of soil conservation and methods of Soil reclamation.

M.A./ M.Sc. Geography II, Sem. IV, Course No. DSE-404, Agricultural Geography

- Understand the fundamental concept, crop combination, diversification, agricultural productivity and study the determinants of agricultural patterns.
- To get knowledge about agricultural systems of the world.

M.A./ M.Sc. Geography II, Sem. IV, Course No. CCPr-405.1, Photogrammetry, RS & DIP

- Understand the fundamental principles and concepts of photogrammetry, remote sensing, and digital image processing.
- Apply photogrammetric techniques to extract three-dimensional information from aerial photographs and digital images.

M.A./ M.Sc. Geography II, Sem. IV, Course No. CCPr-405.2, Soil and Water Analysis

- To know about the soil sample collection during the soil survey/ field work.
- Determine the physical and chemical properties of water samples.

Prof. (Dr.) S. B. Gaikwad
Professor & Head (UG & PG)
Research Guide
Department of Geography
Miraj Mahavidyalaya, Miraj.

YASHAWANT SHIKSHAN SANSTHA'S

MIRAJ MAHAVIDYALAYA MIRAJ

Department of English

M.A. Part I (English|)

Academic year 2023-2024 NEP New Syllabus Course Outcomes

1) The students remember and recall various aspects of major literary works and linguistic concepts.
2) The students understand various theoretical approaches to literature and language.
3) The students analyse literary works and linguistic issues by applying various theoretical approaches.
4) The students evaluate and compare literary works.
5) Students develop creative competence with the help of research projects.
6) Students understand and criticise the major trends, movement, schools of literature in English across the glove like Indian, British, American, European, Australian, and Canadian, African, and Caribbean literatures.
7) Students distinguish among various schools of linguistics and applied linguistics.
8) Students understand research practices in language and literature.
9) Students apply, analyse and evaluate society and culture with the help of various critical and cultural theories.
10. Students distinguish between various registers and styles.
11. Students practise peer/Micro teaching.

Head

Department of English