JANATA SHIKSHAN MANDAL'S

Smt. Indirabai G. Kulkarni Arts College, J. B. Sawant Science College and
Sau. Janakibai D. Kunte Commerce College Alibag-402201, Raigad (Maharashtra)
(J. S. M. College Alibag-Raigad)

Programme and Course outcomes for all programmes offered by the institution

Academic Year 2023-24

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J. S. M. ALIBAG COLLEGE

PRINCIPAL
Smt. Indirabai G. Kulkarni Arts
J. B. Sawant Science and
Sau. Janakibai Dhondo Kunte Commerce
College, Alibag-402 201, Dist. Raigad

DEPARTMENT OF MARATHI

FYBA COMP. MARATHI

CO 1 Students will understand the literary form of Short-stories and Poetry.
CO 2 Students will understand historical development of literary genres like Short stories and Poetry.
CO 3 Students will master Skills like Essay writing, news writing, application writing, translation etc.

FYBA OPT. MARATHI (I)

CO 1 Students will understand the literary form of drama and travelogue.
CO 2 Students will understand historical development of literary forms like drama and travelogue.
CO 3 Students can compose plays by acquiring drama skills.
CO 4 Travelogues can be written by knowing the nature of this type of literature.

SYBA - MARATHI (II)

CO 1 By studying Narrative literature in Marathi literature, students will be able to analyze narrative literature.
CO 2 Students will gain knowledge of how to read stories and novels.
CO 3 Students will understand the literary forms of dramas and one-act plays.
CO 4 Students will understand historical development of drama literature in Marathi.
CO 5 Students can compose plays by acquiring drama knowledge and skills.

SYBA - MARATHI - (III)

CO 1 Students will understand the nature of Marathi language.
CO 2 Students will have knowledge of various dialects of Marathi.
CO 3 Study of Marathi dialects will get a boost.
CO 4 Students will be able to acquire language writing skills.
CO 5 Students will get Marathi writing skills.
CO 6 Students will gain skills to use Marathi language for computer.
CO 7 This course will be useful for students to pass competitive exams.

SYBA – JOURNALISM

CO 1 This course will be useful for students to write in various journalistic formats effectively.
CO 2 This course will be useful for students to become citizen reporters.
CO 3 This course will be useful for students to develop a career perspective in journalism.

TYBA PAPER – IV - History of medieval Marathi literature

CO 1 Students will know the history of medieval Marathi literature.
CO 2 Students will understand the various forms of poetry composition in medieval Marathi literature.
CO 3 Students will be proud of Marathi language and Marathi literature.
CO 4 Students will be introduced to Shahiri, Bakhar literature.
CO 5 Students will understand the nature Marathi literature created by different devotional sects(Sampraday).
CO 6 Students will get acquainted with the religious literature in Marathi by different religions like Muslim, Christian.
CO 7 Students will be able to understand the nature of medieval Marathi literature.

TYBA PAPER – V - Indian and Western theories of Literature

CO 1 Students will be introduced to Indian and Western literary Thoughts/Theories.
CO 2 Students will understand the process of aesthetic pleasure Indian andWestern literature.
CO 3 Students will be introduced to the Indian and Western literary theories about process of Creationand purpose of literature.

TYBA PAPER – VI - Literature and Society

CO 1 Students will be introduced to the relationship between literature and society.
CO 2 Students will understand the relationship between metropolitan and rural literature and society.
CO 3 Students will be introduced to various literary streams with the help of books based on literary streams.
CO 4 Students will understand that social change has an effect on Marathi literature.
CO 5 Students will understand the process to creation of Dalit literature.
CO 6 Students will get knowledge of feminism, feminist movement and feminist literature.

TYBA PAPER – VII - Linguistics and Marathi grammar

CO 1 Students will be introduced to nature of language.
CO 2 Students will be introduced to modern and scientific methods of language study.
CO 3 Students will be introduced to Marathi grammar.
CO 4 Students will understand problems in Marathi grammar.

TYBA PAPER – VIII - Modern Marathi literature

CO 1 Students will be introduced to the features of modernism.
CO 2 Students will understand various literary streams.
CO 3 Students will understand the features of postmodernism.
CO 4 Understanding the nature of postmodernism will give students a new perspective on literature.

TYBA PAPER – IX -Occupational Marathi

CO 1 Students will have detailed knowledge about translation skills.
CO 2 Students will get translation skills, so they will get employment opportunities.
CO 3 Students will develop writing ability and creativity.
CO 4 Students will be introduced to the types of writing required for various media like T.V., Radio, Blog, Wikipedia etc. and will acquire the necessary skills.
CO 5 Employment opportunities in media will be available to students by acquiring writing skills.

M.A. – IPAPER – I / V -Theory of Literature

CO 1 Students will develop a vision to think from different perspectives on literature and literary creation.
CO 2 students will gain appropriate knowledge of important theories and concepts in Western, Indian and Marathi literature.
CO 3 Students will develop an understanding to literature.
CO 4 By gaining knowledge of different streams of literary thought, the scope of students' literary thought and criticism will increase.

PAPER – II / VI -Applied Criticism

CO 1 Students will develop an understanding to literary criticism and its various methods.
CO2 Considering the complexity of the literary artwork, the ability of students to read, comprehend, anesthetize and evaluate will increase.
CO 3 It will create in-depth knowledge about the necessary life vision, complexities in life, different criticism methods and literary approach.
CO 4 Students will gain systematic training of literary criticism.

PAPER – III / VII -History of Marathi Literature

CO 1 Students will understand the methods, format and concept of writing history of Marathi literature.
CO 2 Students will develop an attitude towards literary history from different perspectives and criticism methods.
CO 3 Students will understand changes in literature due to cultural and social environment.
CO 4 Students will understand the chronology of literary history writing, the nature, inspiration and purpose of literary history writing.
CO 5 By realizing the similarities between neo-literature and post-modern literature, students will be able to study the history of literary.

PAPER – IV / VIII - Linguistic Study of Marathi

CO 1 Students will be introduced to various concepts and approaches in historical, descriptive and socio linguistics.

CO 2 Students will be able to study different forms of the same language, changes in it according to geography, interrelationships of dialects, historicity and changes in language according to local cultural environment.
CO 3 Students' linguistic views will be clear.
CO 4 Students will develop the skill to analyse language on the basis of linguistics.

M.A. – IIPAPER - 9.5 - Dalit literature – दलित साहित्य

CO 1 Students will be able to understand Dalit literature, an important literary stream in modern Marathi literature.
CO 2 Students will be able to understand the literary and social / cultural background of Dalit literature.
CO 3 Students will be able to study the concept and nature of Dalit literature, its awareness of rebellion and its literary invention in various literary genres.
CO 4 Students will be able to make a systematic study of Dalit literature and the literary and social work of the Dalit literary movement.

PAPER – 10.4 – Grameen Sahitya – ग्रामीण मराठी साहित्य

CO 1 Students will be able to understand GrameenSahitya, an important literary stream in modern Marathi literature.
CO 2 Students will be able to understand the background of the rural movement behind the GrameenSahitya.
CO 3 Students will be able to study various stages in Marathi GrameenSahitya.

PAPER - 11.1 – Study of Form of Literature: Drama – साहित्य प्रकाराचा अभ्यास – नाटक

CO 1 Students will understand the literary genre of drama.
CO 2 Students will understand historical development of drama literature in Marathi.
CO 3 Students can compose plays by acquiring drama knowledge and skills.

PAPER - 12.2 – Study of specific Period – कालखंडाचा अभ्यास – शिवकाळ

CO 1 Students will be able to understand how to do Study of an Period.
CO 2 Students can study the literature of Shiv-Kal in terms of social, political, religious, cultural background and literary inspiration of Shiv-Kal.
CO 3The students will be able to get acquainted with the poetry of the poets who wrote in the Warkari and Samarth sects of the Shiv-Kal.

PAPER - 13.1- Mahanagariy Sahitya – महानगरीय साहित्य

CO 1 Students will be able to understand MahanagariySahitya, an important literary stream in modern Marathi literature.

CO 2 Students will be able to study various stages in Marathi metropolitan literature.
CO 3 Students can study specific literature based on metropolis.

PAPER - 14.2 -Feminist Movement and Theorization- स्त्रीवादी चळवळ आणि सिद्धांतन

CO 1 Students will come to know the history of feminist movement and the principles that have been developed in this regard.
CO 2 Students can understand the background of feminist movement behind the stream of feminist literature.
CO 3 Students will be able to study various stages in Marathi feminist literature.
CO 4 Students can study specific literature based on feminism.

PAPER - 15.1 - Mass media and Usage of Marathi Language –
प्रसार माध्यमे व मराठी भाषेचे उपयोजन

CO 1 Students will be able to understand the nature and types of modern age media.
CO 2 According to the media, various skills of language application will be known to the students.
CO 3 Students can acquire various skills of language application and apply accordingly.

PAPER - 16 - Project Writing

CO 1 Students will get knowledge of how to do research on a subject thoroughly.
CO 2 Students can do scholarly research on a subject.

BHASHA And VANGMAY MANDAL

CO 1 Development of linguistic, Literary Critical and Reading skills.
CO 2 Development of social conversational skills and Literary Competence.
CO 3Aesthetic Pleasure, novel thoughts approach and clarity of thoughts.
CO 4 Acquisition, presentation and communication of knowledge and information.

HOD MARATHI

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DEPARTMENT OF HINDI

TY HINDI पाठ्यक्रम का अभिप्राय, उद्देश्य, परिणाम, अध्यापन प्रणालियाँ

PSO 1. विद्यार्थियों को हिन्दी साहित्य के इतिहास, भाषा, विषय–ज्ञान से अवगत कराते हुए भाषा, काव्यशास्त्र एवं व्याकरण के अध्ययन के लिए प्रेरित करना ।

PSO 2. विद्यार्थियों को भाषा के वैज्ञानिक अध्ययन के महत्व से अवगत कराते हुए भाषा विज्ञान की उपयोगिता तथा भाषा विज्ञान के विभिन्न अंगों का व्यावहारिक परिचय कराना ।

PSO 3. विद्यार्थियों को हिन्दी की आधुनिककालीन गद्य–पद्य विधाओं की प्रसिद्ध, प्रचलित रचनाओं एवं परिवेश की जानकारी प्रदान करते हुए दार्शनिक, सामाजिक, राष्ट्रीय, मानवीय और नवीनतम आधुनिक जीवन शैली संबंधी मूल्यों का परिचय कराना।

PSO 4. हिंदी की अद्यतन गद्य–पद्य की विधाओं, प्रवृतियों के विकास से अवगत कराते हुए साहित्य के सामाजिक, मानवीय सरोकारों के साथ पर्यावरण–चेतना को समृद्ध करना।

PSO 5. जनसंचार, सूचना प्रौद्योगिकी, सोशल मीडिया के अधुनातन माध्यमों में हिन्दी के प्रयोग, प्रसार से अवगत कराते हुए हिन्दी के माध्यम से रोज़गार की संभावनाओं को विद्यार्थियों के समक्ष लाना।

PSO 6. सामाजिक परिवर्तन हेतु वैचारिक प्रसार को अवगत कराते हुए विविध सामाजिक वैचारिक आंदोलनों की पृष्ठभूमि को दर्शना तथा साहित्य पर प्रभावों को अवगत कराना।

परिणाम– OUTCOMES:

CO 1. विद्यार्थी भाषा के विविध रूप तथा भाषा परिवर्तन के कारणों का ज्ञान प्राप्त कर सकेंगे। भाषा विज्ञान के विभिन्न अंगों से परिचित होते हुए उसकी उपयोगिता का ज्ञान प्राप्त कर सकेंगे ।

CO 2. विद्यार्थी हिन्दी ध्वनियों के उच्चारण संबंधी तथा देवनागरी लिपि का वैज्ञानिक ज्ञान को प्राप्त कर सकेंगे।

CO 3. विद्यार्थी हिन्दी व्याकरण से परिचित होंगे, विद्यार्थी भाषा विज्ञान एवं व्याकरण के अध्ययन से भाषा का व्यवस्थित प्रयोग कर सकेंगे ।

CO 4. विद्यार्थी जनसंचार, सूचना प्रौद्योगिकी, सोशल मीडिया के अधुनातन माध्यमों, भाषा विज्ञान तथा व्याकरण के अध्ययन से मीडिया, कोश निर्माण आदि क्षेत्रों में रोज़गार के अवसर प्राप्त कर सकेंगे ।

CO 5. विद्यार्थियों में मानवीय संवेदनाओं के विकास के साथ नवीन सामाजिक, सांस्कृतिक बोध और जीवन मूल्यों का विकास होगा।

CO 6. विद्यार्थियों में साहित्य के माध्यम से कलात्मक गुणों की अभिवृद्धि होगी, कला की साहित्यिक विधाओं के प्रति अभिरुचि जागृत होगी तथा रचनात्मक–कौशल को बढ़ावा मिलेगा।

CO 7. विद्यार्थियों में नये वैश्विक–मूल्यों के प्रति सजगता को बढ़ावा मिलेगा एवं पर्यावरणीय चेतना के प्रति दायित्व–बोध उत्पन्न होगा।

1. व्याख्यान तथा विश्लेषण
2. दृश्य/ श्रव्य माध्यमों और संगणक का प्रयोग।
3. राजभाषा अधिकारियों/ जनसंचार माध्यमों से संलग्न व्यक्तियों के अतिथि व्याख्यान।
4. स्वाध्याय/ परियोजना।
5. शैक्षणिक भ्रमण।

SEMESTER – I

NAME OF PROGRAM : B.A.
NAME OF THE COURSE : F.Y.B.A. Ancillary (ऐच्छिक हिन्दी)
COURSECODE : UAHIN 101

PSO 1. विद्यार्थियों को गद्य विधाओं कीप्रचलितरचना कहानी, निबंध आदि के अतिरिक्त आत्मकथा, जीवनी,संस्मरण, यात्रा वृतांत और रेखाचित्र आदि नवीनतम विधाओं से परिचित कराना।
PSO 2. हिंदी कहानी के आरंभ से लेकर अद्यतन कहानी की प्रवृत्तियों एवं कहानी के विकास से अवगत कराना। विद्यार्थियों का नवीन गद्य विधाओं के स्वरूप-विवेचन तथा विशेषताओं से परिचय कराना।

SEMESTER – II

NAME OF PROGRAM : B.A.
NAME OF THE COURSE : F.Y.B.A. Ancillary (ऐच्छिक हिन्दी)
COURSECODE : UAHIN 201

PSO 1. विद्यार्थियों को गद्य विधाओं कीप्रचलित रचना कहानी, निबंध आदि के अतिरिक्त आत्मकथा, जीवनी,संस्मरण, यात्रा वृतांत और रेखाचित्र आदि नवीनतम विधाओं से परिचित कराना।
PSO 2. हिंदी कहानी के आरंभ से लेकर अद्यतन कहानी की प्रवृत्तियों एवं कहानी के विकास से अवगत कराना।विद्यार्थियों का उपन्यास के स्वरूप-विवेचन तथा विशेषताओं से परिचय कराना

PAPER II, SEMESTER – III

NAME OF PROGRAM :B. A. (C.B.C.S)
NAME OF THE COURSE : S. Y. B. A.
COURSECODE : UAHIN301

PSO1.विद्यार्थियों को हिन्दी की मध्यकालीन और आधुनिककालीन पद्य विधाओं की प्रसिद्ध,प्रचलित रचनाओं एवं परिवेश की जानकारी प्रदान करते हुए दार्शनिक, सामाजिक, राष्ट्रीय, मानवीय और नवीनतम आधुनिक जीवन-शैली संबंधी मूल्यों का परिचय कराना।
PSO2.. हिंदी काव्य के मध्यकाल से लेकर अद्यतन काव्य की प्रवृत्तियों एवं कविता के विकास से अवगत कराते हुए काव्य के सामाजिक, मानवीय सरोकारों के साथ पर्यावरण-चेतना को समृद्ध करना।
PSO3. काव्य के अंतर्गत प्रयुक्त विभिन्न शैलियों का परिचय कराते हुए उसकी शिल्पगत बनावट के साथ जीवन के क्षेत्र में काव्य की उपादेयता को दर्शाना।

<u>परिणाम- Outcomes:</u>

CO 1. विद्यार्थियों में मानवीय संवेदनाओं के विकास के साथ नवीन सामाजिक,सांस्कृतिक बोध और जीवन मूल्यों का विकास होगा।
CO 2.विद्यार्थियों में साहित्य के माध्यम से कलात्मक गुणों की अभिवृद्धि होगी, कलाकी साहित्यिक विधाओं के प्रति अभिरुचि जागृत होगी तथा रचनात्मक-कौशल को बढ़ावा मिलेगा।
CO 3. विद्यार्थियों में नयेवैश्विक-मूल्यों के प्रति सजगता को बढ़ावा मिलेगा एवं पर्यावरणीय चेतना के प्रति दायित्व-बोध उत्पन्न होगा।

1. व्याख्यान,विश्लेषणतथा व्याख्यात्मक पद्धति का प्रयोग।
2. दृश्य/श्रव्य माध्यमों और संगणक का प्रयोग।
3. उदाहरण द्वारा पुष्टि एवं लेखकों केअतिथि व्याख्यान।
4. स्वाध्याय / परियोजना।

PAPER II,SEMESTER –IV

NAME OF PROGRAM :B. A. (C.B.C.S)
NAME OF THE COURSE : S. Y. B. A.
COURSECODE : UAHIN401

PSO1. विद्यार्थियों को गद्य की व्यंग्य विधा की प्रसिद्ध,प्रचलित व्यंग्यात्मक रचनाओं एवं समकालीन प वेश की जानकारी प्रदान करते हुए सामाजिक, मानवीय,संस्कृतिक और नवीनतम आधुनिक जीवन शैली संबंधी मूल्यों का परिचय कराना।

PSO 2. हिंदी गद्य के प्रारम्भिक काल में प्रस्फुटित व्यंग्य रचनाओं से लेकर अद्यतन व्यंग्यात्मक रचनाओं, प्रवृत्तियों एवं व्यंग्य के विकास से अवगत कराते हुए काव्य के सामाजिक, मानवीय संतुलन-असंतुलन को दर्शाते हुए सकारात्मक पक्षों को बल देना एवं समूहिक नैतिकता को समृद्ध करना।

PSO 3. व्यंग्य के अंतर्गत प्रयुक्त विभिन्न व्यंग्य दृष्टियों कोउजागर कराते हुए उसकी शिल्पगत बनावट के साथ आमजीवन के क्षेत्र में व्यंग्य की उपादेयता को दर्शाते हुए उसके विभिन्न सरोकारों से अवगत कराना।

<u>परिणाम- Outcomes:</u>

CO 1. विद्यार्थियों में मानवीय संवेदनाओं के विकास के साथ नवीन सामाजिक, संस्कृतिक और राजनीतिक मूल्यों का गुणात्मक विकास होगा।

CO 2. विद्यार्थियों में राष्ट्र-निर्माण हेतु नये सामाजिक, राजनीतिक,संस्कृतिक विचारों का प्रसार होगा और दायित्व-बोध निर्वहन का विकास होगा।

CO 3. विद्यार्थियों में नये वैश्विक मूल्यों के प्रति सजगता को बढ़ावा मिलेगा एवं मूल्यवादी दृष्टि के प्रति दायित्व-बोध उत्पन्न होगा।

CO 4. विद्यार्थियों में साहित्य-रसास्वादन के साथ कलात्मक अभिरुचि का निर्माण होगा, रचनात्मक-कौशल को बढ़ावा मिलेगा।

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1. व्याख्यान,विश्लेषणतथाव्याख्यात्मक पद्धति का प्रयोग।
2. दृश्य/श्रव्य माध्यमों और संगणक का प्रयोग।
3. उदाहरण द्वारा पुष्टि एवं लेखकों,अतिथियों के व्याख्यान।
4. स्वाध्याय/परियोजना।

PAPER III, SEMESTER – III

NAME OF PROGRAM :B. A. (C.B.C.S)
NAME OF THE COURSE : S. Y. B. A.
COURSECODE : UAHIN302

PSO 1. विद्यार्थियों को प्रयोजनमूलक भाषा की जानकारी देते हुए कार्यालयीन तथा अन्य व्यवहार क्षेत्रों में हिंदी भाषा के व्यवहार एवं प्रयोग के लिए प्रशिक्षित करते हुए लेखन कौशल का विकास करना।
PSO 2. विद्यार्थियोंको प्रयोजनमूलक हिंदी तथा अंग्रेजी की पारिभाषिक शब्दावली से परिचिय करवाना।
PSO 3. विद्यार्थियोंको व्यावसायिक/कार्यालयीन पत्राचार से अवगत करवाना।
PSO 4. विद्यार्थियोंको अंग्रेजी/मराठी भाषा से हिंदी भाषा में अनुवाद कौशल का विकास करना।
PSO 5. विद्यार्थियोंको जनसंचार माध्यमों में प्रयुक्त हिंदी भाषा की जानकारी से अवगत कराना।
PSO 6. विद्यार्थियोंको जनसंचार माध्यमों के विकास से परिचिय करवाना।

परिणाम- Outcomes:

CO 1. विद्यार्थियों को व्यावहारिक हिन्दी भाषा-दक्षता की प्रवीणता की प्राप्ति होगी।
CO 2. विद्यार्थियोंका व्यावसायिक रूप से आत्मनिर्भरता के योग्य बनाना।
CO 3. विद्यार्थियोंजनसंचार माध्यमों में रोज़गार के अवसर, क्षेत्रों से अवगत होंगे।

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1. व्याख्यान तथा विश्लेषण।
2. दृश्य/श्रव्य माध्यमों और संगणक का प्रयोग।
3. राजभाषा अधिकारियों/जनसंचार माध्यमों से संलग्न व्यक्तियों के अतिथि व्याख्यान।
4. स्वाध्याय/ परियोजना।

PAPER III, SEMESTER – IV

NAME OF PROGRAM :B. A. (C.B.C.S)
NAME OF THE COURSE : S. Y. B. A.
COURSECODE : UAHIN402

PSO 1. विद्यार्थियोंको जनसंचार-भाषा की जानकारी देते हुए व्यवहार क्षेत्रों मेंहिंदी भाषा के व्यवहार एवं प्रयोग के लिए प्रशिक्षित करना।
PSO 2. विद्यार्थियोंको परंपरागत जनसंचार माध्यमों से परिचियकराते हुए नव्य-संचार माध्यमों में प्रयुक्त तकनीक के
आंतरिक और बाह्य पक्षों का सामाजिक सरोकारों को दर्शना।
PSO 3. विद्यार्थियोंको समाचार लेखन, संपादकीय लेखन, साक्षात्कार,फ़ीचर लेखन लेखन से अवगत करवाना।
PSO 4. विद्यार्थियोंको सोशल मीडिया, कंप्यूटर, टेलीविज़न इत्यादि के भाषाई प्रयोगों का परिचय देना।

परिणाम- Outcomes:

CO 1. विद्यार्थियोंको तकनीकी और व्यावहारिक भाषा दक्षता की प्रवीणता प्राप्ति होगी।
CO 2. व्यावसायिक रूप से आत्मनिर्भरता की संभावना बढ़ेगी।

CO 3. जनसंचार माध्यमों में रोज़गार के क्षेत्रों से परिचय होगा।

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1. व्याख्यान तथा विश्लेषण।
2. दृश्य/श्रव्य माध्यमों और संगणक का प्रयोग।
3. राजभाषा अधिकारियों/जनसंचार माध्यमों से संलग्न व्यक्तियों के अतिथि व्याख्यान।
4. स्वाध्याय/ परियोजना।
5. शैक्षणिक भ्रमण।

Capt. Dr. Mohsin Khan
N.C.C. OFFICER
6 MAH.BATTLION N.C.C.
UNIT (SD-ARMY)
J.S.M. College of Arts, Science & Commerce
ALIBAG-402 201, Dist. Raigad (MS)

J. S. M. ALIBAG COLLEGE

PRINCIPAL
Smt. Indirabai G. Kulkarni Arts
J. B. Sawant Science and
Sau. Janakibai Dhondo Kunte Commerce
College, Alibag-402 201, Dist. Raigad

DEPARTMENT OF ENGLISH

F.Y.B.A.

Compulsory English: Communication Skills of English

Course Code: UACS101 & UACS201

1) To enhance language proficiency by providing adequate exposure to reading and writing skills
2) To orient the learners towards the functional aspects of language
3) To increase the range of lexical resource through a variety of exercises

F.Y.B.A.

English (Optional) Paper I: Introduction to Prose and Fiction

Course Codes: UAENG 101 AND UAENG 201

1) To write clearly, coherently and effectively about various genres of literature
2) To recognize the culture and context of the work of literature
3) To develop sensitivity to nature and fellow human beings

S.Y.B.A.

Paper No. II: Introduction to Drama

Course Codes: UAENG301 & UAENG401

1) To introduce learners to the uniqueness of Indian Literature in English
2) To acquaint learners to the pluralistic dimensions of Indian Literature in English
3) To help them understand the different genres of Indian Literature in English
4) To familiarise learners with different perspectives of approaching this literature
5) To make learners aware of prominent Indian Writers in English

S.Y.B.A.

Paper No. III: Introduction to Poetry

Course Codes: UAENG302 & UAENG402

1) Identify the different Genres and forms of poetry
2) Identify Poetic technique, style and devises used in poetry
3) Critically appreciate poems by separating various components – investigating – relationship of the parts to the whole
4) Demonstrate – understanding the range of poems from various historical periods-range and form, style and subject matter
5) Identify major poets of World Literature and their importance

T.Y.B.A.

Paper No IV: 16th to 18th Century English Literature:

Course Codes: UAENG501& UAENG601

1) To understand the distinctive features of English literature of the 16th, 17th and 18th centuries

2) To comprehend how background influences shaped the writer's thinking.

3) To recognize and appreciate the literary masters who dominated the scene.

4) To grasp the different writing styles that each age adopted.

T.Y.B.A.

Paper No V: Literary Criticism

Course Code: UAENG502 & UAENG602

1) Use some important critical terms

2) Become aware the nature and function of literature and criticism

3) Impart the technique of close reading of literary texts

4) Understand the various literary theories and critical approaches

5) Be familiar with the tenets of practical criticism

T.Y.B.A.

Paper No VI: Grammar and the Art of Writing

Course Codes: UAENG503A & UAENG603A

1) Gain a basic understanding of phonetics, morphology and word transformation

2. Have improved speaking skills

3) Have developed adequate knowledge of the rules of grammar, grammatical analysis and sentence transformation

4) Write effectively in various domains

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T.Y.B.A.

Paper No VII: 19th

Century English Literature

Course Codes: UAENG504 &UAENG604

1) To view literary works in their dynamic interface with the background

2) To understand the literature of the 19th century as a complex outcome of artistic, intellectual and socio-political cross-currents

3) To appreciate poetry as mirroring private personality, protest and subsequently, public concerns

4) To view the development of the Victorian Novel as informed by Victorian morality as well as by larger democratic processes

5) To contextualize the impulses behind the significant emergence of women writing in the 19th century

T.Y.B.A.

Paper No VIII: 20th Century British Literature

Course Codes: UAENG505 & UAENG605

1) Students will be equipped with comprehensive understanding of literary genres, trends and movements in 20th Century British Literature; thereby, enabling them to understand the valuable co –relation between the sociocultural, economical and historical contexts; behind the literary production.

2) Students will acquire the discipline to become reflective and imaginative thinkers through a close, critical and analytical reading of the prescribed texts.

T.Y.B.A.

Paper No IX: Drama and Theatre

Course Codes: UAENG506B & UAENG606B

1) Analyse the social and artistic movements that have shaped theatre and drama.

2) Apply discipline-specific skills to the creation of drama.

3) Analyse the difference between the concepts of drama and theatre.

4) Demonstrate knowledge of the history of drama and theatre as a literature and performing art.

Head of Department

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DEPARTMENT OF ECONOMICS

PO 1 The course is designed to provide sound understanding in micro economic theory. Since students have been taught perfect competition, this course focuses on three main pillars of microeconomics such as imperfect competition, welfare economics and information economics.

PO 2 This paper introduces the concepts, theories, process and policies regarding growth and development. The meaning of the development as it has evolved over the years is clarified. The contemporary as well as classical theories of growth, development, and underdevelopment are considered in detail.

PO 3 There has been a paradigm shift in the structure of the Indian industrial sector and the policies governing it ever since the new era of globalization and liberalization

PO 4 This paper contains within the various objectives, such as to understand and make aware as well as inculcate research in Economics amongst the learners, to encourage exchange of ideas and application of results of economic research at the same time to enable students in understanding data collection and presentation for quality research in social sciences.

PO 5 This course introduces the learner to the basic concepts, economic instruments and policy options in managing the environment. The impact of development on environment is suitably addressed under the rubric of sustainable development. Economic implications of environmental policy and valuation of environmental quality

PO 6 The very purpose of this course is to provide information about the biography and contribution of the most influential economists who influenced the economic fraternity and to whom we are obliged to for shaping up the economic thought process.

Course Outcomes

Semester I

Micro Economics- I

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will understand the concepts of micro economics.
CO 2	Learners will able to understand the ten principles of economics.
CO 3	Learners will understand the structure of market, as well as demand and supply.
CO 4	Learners will understand the nature of consumers.

Semester II

Macro Economics- I

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will understand the process of production analysis. CO2 Learners will get with the concepts of cost and Revenue analysis.
CO 2	Learners will understand the details about factor pricing and their rewards.

CO 3	Learners will understand equilibrium of different market structures.
CO 4	Learners will understand the process of production analysis. CO2 Learners will get with the concepts of cost and Revenue analysis.

Semester III

Macro Economics - II

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will learn about various types of income.
CO 2	Learners will study the theories related to consumption.
CO 3	Learners will learn the supply of money and demand for money.
CO 4	Learners will understand the banking structure.

Public Finance - III

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will understand the basic concepts of public finance.
CO 2	Learners will get information about budget and tax structure.
CO 3	Learners will know public expenditure and debt.
CO 4	Learners will know the sources of income and ways to expenditure.

Demography - Applied Economics

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will know the basic concepts of demography.
CO 2	Learners will learn sources of data.
CO 3	Learners will get ideas of Techniques of analysis.
CO 4	Learners will get Idea about the nature of study of demography

Semester IV

Macro Economics - II

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will understand the detail concept of Inflation.

CO 2	Learners will understand fiscal and monetary policies.
CO 3	Learners will understand post Keynesian Economics.
CO 4	Learners will understand external sector and different exchange rates.

Indian Economy -III

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will know the introductory part of the Indian Economy.
CO 2	Learners will understand the nature of agriculture sector of the Indian Economy.
CO 3	Learners will get the details about industrial sector of India.
CO 4	Learners will be able to know service sector of Indian Economy.

Course (Paper) Name and No.: Demography

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will get information about changing trends of fertility, Nuptiality, life Table and Mortality.
CO 2	Learners will aware about migration and urbanization.
CO 3	Learners will get idea how policy frames and work.
CO 4	Learners will get detail information about family planning.

Semester – V

ADVANCED MICROECONOMICS – III

Sr.No	On completing the course, the student will able to:
CO 1	Enables students will get knowledge on new market structure.
CO 2	Enables students will get knowledge on imperfect competition
CO 3	Enables students will get knowledge on the welfare economics
CO 4	Enables students will get knowledge on economics of information.

ECONOMICS OF GROWTH AND DEVELOPMENT- VIII

Sr.No	On completing the course, the student will able to:
CO 1	Enable students to apply and analyse issues in the development process.

CO 2	Students will be able to identify the issues related to Growth and Development
CO 3	Students will be able to understand the policy options
CO 4	analysed the Measures taken for the Development of an economy.

INDUSTRIAL AND LABOUR ECONOMICS-I, P-IX

Sr. No	On completing the course, the student will able to:
CO 1	Learners will study the different contemporary issues of industrial sector.
CO 2	Learners will know the problems of industries.
CO 3	Learners will get the idea about productivity
CO 4	Learners will get with new Policies and its impact on industries.

RESEARCH METHODOLOGY – I, P- X

Sr. No	On completing the course, the student will able to:
CO 1	The learners will understand and inculcate research in Economics
CO 2	The learners will exchange ideas and application of results of economic research.
CO 3	The course will help in formulation of problems in social science research.
CO 4	The students will understand data collection and presentation for quality research in social sciences.

ENVIRONMENTAL ECONOMICS – I, P- XI

Sr. No	On completing the course, the student will able to:
CO 1	the student will have a good understanding of contemporary environmental issues and their relation to economic development.
CO 2	The learner will be equipped to understand the methodologies and tools of valuing the environment
CO 3	In the light of international environmental agreements,
CO 4	the learners will be able to understand the global approaches and policies adopted by India to deal with the environmental issues.

HISTORY OF ECONOMIC THOUGHT - I P—XII

Sr. No	On completing the course, the student will able to:
CO 1	Students will get information about the genesis of Economics and its modern scenario.
CO 2	Establish the co-relation of Economics with other subjects.
CO 3	Students will get information about Keynesian Ideas
CO 4	Students will get information about post-Keynesian Economics

Semester – VI

ADVANCED MACROECONOMICS – III

Sr. No	On completing the course, the student will able to:
CO 1	Enables students will get Post Keynesian Synthesis.
CO 2	Students understand various aspects of Trade Cycles.
CO 3	Students will be able to describe the contemporary Exchange Rate Regimes
CO 4	Students will be able to describe the International Monetary System.

INTERNATIONAL ECONOMICS, P- – XIV

Sr. No	On completing the course, the student will able to:
CO 1	Students will be able to understand the trade theories
CO 2	Students understand determinants of trade which helps them to analyze the international trade policies.
CO 3	Students will be able to understand the role of various international institutions and trade blocks
CO 4	their approaches in framing the policies for trade.

RESEARCH METHODOLOGY - III, P- – XVI

Sr. No	On completing the course, the student will able to:
CO 1	The learners get assimilated to the research culture in Economics through application of statistics.
CO 2	The learners will understand the concept of index number with its use and applications.
CO 3	The course will help in formulation of hypotheses and its testing in social science research
CO 4	The students will understand the writing of social science research reports with its various types, organization and styles.

ENVIRONMENTAL ECONOMICS - II, P—XVII

Sr. No	On completing the course, the student will able to:
CO 1	Students are empowered about the environmental challenges
CO 2	Student learn about Develop understanding on the policy measures to attain SDGs
CO 3	Student learn about need for environmental accounting
CO 4	Student learn about Environmental Policy in India

HISTORY OF ECONOMIC THOUGHT-II- , P- XVIII

Sr. No	On completing the course, the student will able to:
CO 1	Students will get information about the genesis of Economics
CO 2	Student learn about its modern scenario in economics.
CO 3	Students get familiarized with the leading Indian economists who significantly contributed to the stream of Indian economic thought.
CO 4	Student learn about : Nodal Prize Winners in Economics

Business Economics

Program Outcomes

FYBCOM - Business Economics, Sem-I.

Course Outcomes: The study of business economics is essential to students of commerce to equip them to understand the working of a business unit in the economy. It is therefore essential for students of commerce to understand the basic principles of the market economy.

FYBCOM - Business Economics, Sem- II.

Course Outcomes: The study of scientific management has been extended far beyond private business enterprises to public utilities, government and voluntary organization. For the student to understand the basic principles of the market economy.

SYBCOM - Business Economics. Sem-III,

Course Outcomes: This course is an introduction to the basic analytical tools of macroeconomics. To evaluate macroeconomics conditions such as inflation, unemployment and growth. It is designed to make system of overall economy understandable and relevant.

SYBCOM - Business Economics. Sem-IV

Course Outcomes- The primary objectives of this course is to provide students with the tools you understand the underlaying concepts and practical trade-offs entailed in public finance policy alternatives.

TYBCOM - Business Economics. Sem-V

Course Outcomes- The course has given stress to the understanding of New Economics Policy 1991 and its continued impact on the various sectors of the economy. The primary, secondary and services sectors have been discussed in details.

TYBCOM - Business Economics. Sem-VI

Course Outcomes- The course has been designed to familiarise students with the fundamental concepts and issues of public finance. An understanding of government finance is essentials to a student of economics as it forms the grounding of analysing public policies and studying their impact on social and economic lives of people.

Course Outcomes

FYBCOM - BUSINESS ECONOMICS - SEM 1

Sr. No	On completing the course, the student will able to:
CO1	The study of business economics is essential to students of commerce to equip
CO2	Understand the working of a business unit in the economy
CO3	Understand the basic principles of the market
CO4	Understand the working of Consumers

FYBCOM - BUSINESS ECONOMICS - SEM 2

Sr. No	On completing the course, the student will able to:
CO1	The study of scientific management
CO2	understand the basic principles of the market economy
CO3	Understand private business enterprises to public utilities, government and voluntary organization.
CO4	Understand the scope of business in our area

SYBCOM - BUSINESS ECONOMICS - SEM 3

Sr. No	On completing the course, the student will able to:
CO1	This course is an introduction to the basic analytical tools of macroeconomics.
CO2	To evaluate macroeconomics conditions such as inflation
CO3	Understand unemployment and growth.
CO4	Understand make system of overall economy understandable and relevant.

SYBCOM - BUSINESS ECONOMICS -SEM 4

Sr. No	On completing the course, the student will able to:
CO1	To provide students with the tools to understand the underlaying concepts
CO2	Understand Taxation effect on unemployment and growth.

CO3	Understand public finance policy alternatives.
CO4	Understand the various concept of budget .

TYBCOM - BUSINESS ECONOMICS SEM 5

Sr. No	On completing the course, the student will able to:
CO1	To understanding of New Economics Policy 1991
CO2	To understanding growth of tourism and Industries.
CO3	Understanding of New Economics Policy impact on the various sectors of the economy.
CO4	To understanding the progress of Health Care.

TYBCOM - BUSINESS ECONOMICS SEM 6

Sr. No	On completing the course, the student will able to:
CO1	Understanding fundamental concepts and issues of public finance.
CO2	Understanding of government finance is essentials to a student of economics
CO3	Analysing public policies and private Policies.
CO4	Understanding public policies and studying their impact on social and economic lives of people.

Head, Department of Economics
& Business Economics

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DEPARTMENT OF GEOGRAPHY

On completion of B.A. Geography, students will learn:

PO 1:- Students will acquire an understanding of and appreciation for the relationship between geography and culture.

PO 2:- Students will acquire an understanding of and appreciation for the role that geography can play in community engagement.

PO 3: Students will develop the ethical aptitudes and dispositions necessary to acquire and hold leadership positions in industry, government, and professional organizations.

PO 4: Students will read, interpret, and generate maps and other geographic representations as well as extract, analyze, and present information from a spatial perspective.

PO 5: Students will understand through lectures but also local, regional, and/or international travel the interconnection between people and places and have a general comprehension of how variations in culture and personal experiences may affect our perception and management of places and regions.

PO 6: Students will have a general understanding of physical geographic processes, the global distribution of landforms and ecosystems, and the role of the physical environment on human populations.

PO 7: Students will have a general understanding of cultural geographic processes, the global distribution of cultural mosaics, and the history and types of interaction between people within and among these mosaics.

PO 8: Students will have a general understanding of global human population patterns, factors influencing the distribution and mobility of human populations including settlement and economic activities and networks, and human impacts on the physical environment.

PO 9: Students will be able to think in spatial terms to explain what has occurred in the past as well as using geographic principles to understand the present and plan for the future.

PO 10: Students will have a general understanding of how the physical environment, human societies, and local and global economic systems are integral to the principles of sustainable development.

PO 11: Students will have a general understanding of the various theoretical and methodological approaches in both physical and human geography and be able to develop research questions and critically analyze both qualitative and quantitative data to answer those questions.

PO 12: Students will be able to present completed research, including an explanation of methodology and scholarly discussion, both orally and in written form and, wherever possible, utilize cartographic tools and other visual formats.

Course Outcomes:

F.Y.B.A Sem I		
HUMAN GEOGRAPHY	CO1	Students will develop a solid understanding of the concepts of “space," “place" and “region” and their importance in explaining world affairs.
	CO2	Students will understand general demographic principles and their patterns at regional and global scales.
	CO3	Students will be able to locate on a map major physical features, cultural regions, and individual states and urban centers.
	CO4	Students will understand global and regional patterns of cultural, political and economic institutions, and their effects on the preservation, use and exploitation of natural resources and landscapes.
F.Y.B.A Sem II		
ENVIRONMENTAL GEOGRAPHY SEMESTER II	CO1	Students will be able to analyze human-environment interaction(s) for a specific case and for specified social and/or environmental conditions.
	CO2	Students will be able to identify, collect and process digital spatial data using industry-standard tools.
	CO3	An Environmental Studies major will be able to recognize the physical, chemical, and biological components of the earth's systems and show how they function
	CO4	An Environmental Studies major will be able to apply lessons from various courses through field experiences.
SYBA Sem III		
GEOGRAPHY OF MAHARASHTRA	CO1	To understand the physical and human characteristics of different regions
	CO2	To learn about the different cultures that exist in different parts of the Maharashtra.
	CO3	To understand how different regions interact with each other
	CO4	To find out about the economic, political, and social issues that affect different regions of the Maharashtra
	CO4	learn about the history of different regions of the Maharashtra.
SYBA Sem IV		
GEOGRAPHY OF INDIA	CO1	Students would be understanding geography of our nation
	CO2	Acquire an understanding and relationship of between physiography and drainage, climate, soil
	CO3	Locate resources of the country on map
	CO4	Understand significance of age and discover new technique used in agriculture
	CO5	Develop a solid understanding of the concept of region and its importance in planning and development

	CO6	Elaborate relationship with India and its neighbouring countries.
	CO7	Aware about the resources and its conservations.
TYBA Sem V		
STTLEMENT GEOGRAPHY Paper IV	CO1	A settlement is a neighbourhood with habitation. Settlements can range in size from a solitary cottage in a remote place to a megacity (a city with over 10 million residents). A settlement could be long-term or short-term. A refugee camp is a prime illustration of a transient abode.
	CO2	The study of human land usage, resource use, population density etc.
	CO3	settlement Geography refers to the branch of geography that analyses human settlement, expansion, and the physical, cultural, and socioeconomic variables that are related to them. It is one of the fields of knowledge that has lately been imagined and covers a device subject.
GEOHRAPHICAL TOOLS AND TECHNIQUE PART – I Paper -VI	CO1	Students understand the importance of toposheet and conventional signs and symbols.
	CO2	Differentiate various method of relief representation and draw profiles.
	CO3	Use various statistical techniques used in geography.
	CO4	Prepare maps using computer techniques and software.
GEOSPATIAL TECHNOLOGY Paper -IX	CO1	To provide knowledge to students to compile, analyze, and present geospatial data. Students will learn these basic geospatial concepts while working with Rolta's Geomatica software.
	CO2	To familiarize the students with various dimensions of Geospatial Technology and career opportunities available in these fields.
	CO3	To develop creative thinking among students and make them technology-savvy so that they could be ready to join the Geospatial industry
TYBA SEMESTER—VI		
ENVIRONMENTAL GEOGRAPHY PAPER IV	CO1	An Environmental Studies major will be able to critically examine all sides of environmental issues and apply understanding from disciplines such as history, economics, psychology, law, literature, politics, sociology, philosophy, and religion to create informed opinions about how to interact with the environment on both a personal and a social level.
	CO2	An Environmental Studies major will be able to recognize the physical, chemical, and biological components of the earth's systems and show how they function
	CO3	An Environmental Studies major will be able to do independent research on human interactions with the environment.
GEOHRAPHICAL TOOLS AND	CO1	Students understand the importance of toposheet and conventional signs and symbols.

TECHNIQUE PART – II Paper -VI	CO2	Differentiate various method of relief representation and draw profiles.
	CO3	Use various statistical techniques used in geography.
	CO4	Prepare maps using computer techniques and software.
RESEARCH METHODOLOGY Paper - IX	CO1	understand some basic concepts of research and its methodologies
	CO2	identify appropriate research topics
	CO3	select and define appropriate research problem and parameters
	CO4	prepare a project proposal (to undertake a project)
	CO5	organize and conduct research (advanced project) in a more appropriate manner.
	CO6	write a research report and thesis.
	CO7	write a research proposal (grants)

HOD Geography

J. S. M. ALIBAG COLLEGE

PRINCIPAL
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J. B. Sawant Science and
Sau. Janakibai Dhondo Kunte Commerce
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DEPARTMENT OF POLITICAL SCIENCE

Programme Specific Outcomes (PSOs) for B.A. Political Science

PO 1 Understand the trends in Indian and world Politics; analyse international political and economic issues such as international conflicts and peace, sustainable development and electoral process etc.

PO 2 Understand the basic framework of political theory and ideologies, rights, basic political values and democratic models; study Western and Indian political thinkers, and analyse their political theories in terms of their relevance for various political systems.

PO 3 Understand the basics of Indian Constitution and working of the governmental machinery; critically understand role of ethnicity, caste, and communal politics.

PO 4 Analyse the nuances of public administration, functioning of the government and administrative set up in India; understand the process of recruitment, training and role of civil services in Indian administration; understand the significance of good governance, Right to Information and accountability in the system.

PO 5 Understand the basics of law, particularly civil laws, i.e., laws pertaining to marriage, divorce, adoption and inheritance, contracts, torts and consumer protection; analyse the functioning of judicial institutions including the alternative dispute mechanism; be aware of Indian legal system, and become better and responsible citizens.

PO 6 Be aware of community movements to assert their rights over natural and national resources; understand the rights of the marginalised sections of the society such as women, children, dalits and adivasis.

Semester I

Course Title: Introduction to Politics

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand the basic concepts of politics.
CO 2	Build a foundation for SYBA and TYBA courses.
CO 3	Elaborate upon the changing nature and relationship of state and government.
CO 4	Explain the differences between power, authority and legitimacy
CO 5	Teach select concepts.

Course Title: Political Theory

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand the basic framework of political theories and ideologies.

CO 2	Understand rights and its kinds
CO 3	Have enhanced understanding of basic political ideas.
CO 4	Elaborate upon democracy and its strengths and weaknesses.
CO 5	Learn various ideologies.

Semester III

Course Title: Indian Constitution – Theory and Practice

Sr. No.	On completing the course, the student will be able to:
CO 1	Be fully conversant with India's Constitution.
CO 2	Be familiar with the working of its government machinery
CO 3	Know the philosophy and features of the Indian constitution.
CO 4	Be well versed with the union legislature and the executive.
CO 5	Understand the Indian judicial system

Course Title: Introduction to Public Administration

Sr. No.	On completing the course, the student will be able to:
CO 1	Know the basics of public administration.
CO 2	Understand the relevance of theories of bureaucracy decision making and motivation in the administration
CO 3	Analyse the concept and significance of good governance.
CO 4	Unearth the consequences of implementing liberalisation, privatisation and globalisation on public administration in India
CO 5	Explore the possibilities of filing RTI, and enhance the accountability of administration.

Course Title: General Introduction to Law

Sr. No.	On completing the course, the student will be able to:
CO 1	Develop an orientation towards law and to build a foundation for degree in law.
CO 2	Analyse the role of components like ethical values, liberty and public opinion in shaping law.
CO 3	Examine the nuances of the Indian constitution, a cornerstone in law making.
CO 4	Understand the making and salient features of the Indian constitution.

Course Title: Indian Government and Politics

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand the functioning of the Indian polity
CO 2	Understand the challenges faced by the Indian polity.
CO 3	Understand the political parties and electoral process.

CO 4	Understand the intricacies of society and politics.
CO 5	Know the trends and challenges.

Course Title: Public Administration in India

Sr. No.	On completing the course, the student will be able to:
CO 1	Closely examine the salient features of Indian administration.
CO 2	Analyse the contemporary issues such as lateral entry in the civil services and privatisation of public sector.
CO 3	Understand an overview of personnel administration, recruitment and training.
CO 4	Introspect on the problem of corruption in the Indian administration and remedies for it
CO 5	Understand an overview of financial administration.

Course Title: Basics of Indian Laws

Sr. No.	On completing the course, the student will be able to:
CO 1	Know the basic framework of rights and constitutional safeguards.
CO 2	Understand an overview of personal law such as marriage, divorce, adoption and inheritance.
CO 3	Be aware of the general laws such law of torts, contracts and consumer protection.
CO 4	Closely examine the functioning of judicial institutions.

Course Title: Fundamentals of the Indian Constitution (Cross Faculty Course)

Sr. No.	On completing the course, the student will be able to:
CO 1	Know an individual’s constitutional rights and duties
CO 2	Understand the functioning of the Indian government.
CO 3	Examine the functioning of judicial institutions and significance of PILs
CO 4	Develop a critical understandings and better perspectives in the realm of Indian political system

Course Title: Political Process in Maharashtra – Historical Background

Sr. No.	On completing the course, the student will be able to:
CO 1	Highlight the major historical events taken place in Maharashtra prior to the Independence.
CO 2	Closely examine factors supporting regionalism in India in general, and in Maharashtra in particular.
CO 3	Understand the regional backwardness in Maharashtra.
CO 4	Analyse the relationship between caste and politics in Maharashtra.

Course Title: Western Political Thinkers

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand the political thoughts of some western thinkers.
CO 2	Get an idea of the contribution of thinkers from different countries in the world.
CO 3	Develop analytical thinking regarding different political thought processes and ideologies.
CO 4	Appreciate the role of political thinkers in formation of the modern political thought.

Course Title: Issues in Indian Polity

Sr. No.	On completing the course, the student will be able to:
CO 1	Know the rights of the marginalized sections.
CO 2	Understand the protection and promotion of their rights
CO 3	Be aware of the various provisions, issues and conflicts with regard to rights.
CO 4	Be aware of judicial remedies and implementation problems with regard to rights

Course Title: American Political System – Constitutional Framework

Sr. No.	On completing the course, the student will be able to:
CO 1	Know the basics of American political system
CO 2	Examine the making and salient features of US constitution.
CO 3	Analyse the functioning of political institutions in US.
CO 4	Understand the electoral process, and powers of US president.

Course Title: International Politics – Major Developments

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand the basic nature, principles and practices of international relations.
CO 2	Understand the world system.
CO 3	Know the importance of the role of various international organizations.
CO 4	Understand the importance of foreign policy and diplomacy.

Course Title: Major Issues in Contemporary Politics – International Economic Issues

Sr. No.	On completing the course, the student will be able to:
CO 1	Know major issues in the contemporary politics such as poverty and health.

CO 2	Evaluate the impact of America's hegemony on world politics
CO 3	Understand the international economic issues.
CO 4	Develop an understanding of sustainable development

Semester VI

Course Title: Political Process in Maharashtra – Contemporary Issues

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand ethnicity, religion and politics.
CO 2	Evaluate the functioning of political parties and election.
CO 3	Understand the role of cooperatives and civil society organizations.
CO 4	Understand movements for alternative models of development.

Course Title: Political Thinkers – Indian

Sr. No.	On completing the course, the student will be able to:
CO 1	Know the political thoughts of Indian thinkers.
CO 2	Have an idea about the contribution of various thinkers from all over the country.
CO 3	Develop analytical thinking regarding different political thought processes and ideologies in India.
CO 4	Appreciate the role of political thinkers in formation of the modern political thought.

Course Title: Issues in Indian Polity – Rights of Citizens of India

Sr. No.	On completing the course, the student will be able to:
CO 1	Know the concept of scientific research
CO 2	Have a comprehensive understanding of the process of social research both theoretical and practical.
CO 3	Have hands-on experience in conducting research.
CO 4	Understand the various issues in Indian polity.

Course Title: American Political System – Government and Politics

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand an overview of American democracy.
CO 2	Examine the functioning of political parties and pressure groups in US.
CO 3	Study election and voting patterns in US.

CO 4	Analyse the movement for racial equality and the civil rights movement in US.

Course Title: International Politics – Major Issues

Sr. No.	On completing the course, the student will be able to:
CO 1	Explain the nature and causes of war.
CO 2	Understand various approaches to peace.
CO 3	Explain the various international laws.
CO 4	Discuss the various issues in international politics.

Course Title: Major Issues in Contemporary Politics – International Social Issues

Sr. No.	On completing the course, the student will be able to:
CO 1	Understand human rights in general and the rights of refugees in particular.
CO 2	Introspect on feminist movement and develop sensitivity towards women's rights.
CO 3	Examine peace, and conflict resolutions.
CO 4	Build an understanding on the issue of terrorism.

HOD POLITICAL SCINCE

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DEPARTMENT OF COMMERCE

On completion of B.Com., students will learn:

PO1: This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, Warehousing etc., well trained professionals to meet the requirements.

PO2: After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company.

PO3: Capability of the students to make decisions at personal & professional level will increase after completion of this course.

PO4: Students can independently start up their own Business.

PO5: Students can get thorough knowledge of finance and commerce.

PO6: The knowledge of different specializations in Accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.

PROGRAMME SPECIFIC OUTCOMES FOR COMMERCE

- The students can get the knowledge, skills and attitudes during the end of the B.com degree course.
- By goodness of the preparation they can turn into a Manager, Accountant , Management Accountant, cost Accountant, Bank Manager, Auditor, Company Secretary, Teacher, Professor, Stock Agents, Government employments and so on.,
- Students will prove themselves in different professional exams like C.A. , C S, CMA, MPSC, UPSC. As well as other coerces.
- The students will acquire the knowledge, skill in different areas of communication, decision making, innovations and problem solving in day to day business activities.
- Students will gain thorough systematic and subject skills within various disciplines of finance, auditing and taxation, accounting, management, communication, computer.
- Students can also get the practical skills to work as accountant, audit assistant, tax consultant, and computer operator. As well as other financial supporting services.
- Students will learn relevant Advanced accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
- Students will be able to do their higher education and can make research in the field of finance and commerce.

Course Outcomes:

F.Y.B.COM. Sem I & II		
Accountancy and Financial Management	CO1	The curriculum enriches the students' knowledge on passing journal entries and preparing respective ledger accounts
	CO2	Identify and interpret accounting information to inform users and make decisions.
	CO3	Apply critical thinking skills by identifying and analysing accounting issues using relevant accounting frameworks.
	CO4	Analyse financial and contextual information to make decisions, estimate costs and determine tax implications, audit risk, and engagement procedures.
	CO5	Identify and interpret accounting information to inform users and make decisions.Apply critical thinking skills by identifying and analysing accounting issues using relevant accounting frameworks
	CO6	Identify and interpret accounting information to inform users and make decisions.Apply critical thinking skills by identifying and analysing accounting issues using relevant accounting frameworks
Commerce	CO1	It is expected that the learners become fully conversant with the aspects of business, elements of business environment, entrepreneurship and setting up of business unit.
	CO2	Learners appreciate the importance of business in a developing economy.
	CO3	Learners consider entrepreneurship as a career option.
	CO4	It is expected that the learners acquaint themselves with the opportunities and challenges in the services sector.
	CO5	The learners are expected to develop skills relating to marketing of services.
Business Economics	CO1	Students would know about the market economy and its composition.
	CO2	Students would know about the basic tools and principles used in the market economy with respect to production analysis and economies of scale.
	CO3	Students would learn about various cost concepts and it's behavior in the short and long run.
	CO4	Students would be aware of rational decision making.
	CO5	Students would understand the functioning of the ideal market structures of perfect competition and monopoly.
	CO6	Students would learn the working of Monopolistic Competition and Oligopoly markets.
Business Communication	CO1	Various types of oral, written and digital communication modes
	CO2	Effective business writing & Effective presentations
	CO3	Effective interpersonal communication & Communication that maximizes team effectiveness

	CO4	Soft skills and employability skills & Communication that makes effective personality.
Environmental Studies	CO1	The successful completion of the course will create an environmental awareness among Commerce students.
	CO2	It will make students aware about various environmental factors and their relation to the field of Commerce.
	CO3	The course will highlight functional and spatial links between environment, economy and society.
	CO4	The course will create an insight into various environmental issues
Foundation Course	CO1	The successful completion of course will enable the learner to understand factual aspects of Indian society.
	CO2	It will help create awareness and empathy among learners about various issues faced by youth.
	CO3	It will help ingrain sense of social responsibility and participatory approval towards society.
Mathematical and Statistical Techniques	CO1	The students would get to know about the usage of permutations and combinations in different arrangements and selections
	CO2	The students would be able to understand the concepts of Linear Programming, technique to formulate LPP and geometrical concepts to solve LPP
	CO3	The students would be able to understand different measures of Central Tendencies, their merits, demerits and acquire the skill of calculating different measures of Central Tendencies and Dispersion
	CO4	The students would be able to understand the concepts of Probability, Events, Algebra of Events, Theorems on Probability and calculation of Probability, Calculation of Expectation and Variance of a random variable.
S.Y.B.COM. Sem III & IV		
Accountancy and Financial Management III	CO1	Learners are acquainted with theoretical as well as practical aspects of accounting of the Partnership Firms with respect to admission, retirement, death of Partner/s.
	CO2	Learners are acquainted with the process of payment of liabilities of the Partnership Firm upon its dissolution.
	CO3	Learners are acquainted with the accounting of conversion of Partnership Firm into a Limited Liability Partnership.
	CO4	Learners are acquainted with the accounting of conversion of Partnership Firm into a Limited Company.
Business Economics	CO1	Demonstrate an understanding of the nature of key macroeconomic variables.·
	CO2	Understand the tenets of Keynesian Economics and apply the tenets through the aggregate demand and supply model .
	CO3	Understand the key elements of, and problems created by, macroeconomic shocks.
	CO4	Define and Analyse the determinants of business cycles, long run economic growth, unemployment, inflation.

Business Law	CO1	Learner will understand the Indian contract act and importance of Contract act.
	CO2	Learners should able to file RTI forms and E-Contract Forms.
	CO3	This can help students to learn banking regulation and IRDA.
	CO4	Students will have a complete understanding of The Negotiable Instruments Act
Commerce	CO1	Learners are expected to know the meaning of management, evolution of management thoughts and be able to compare ancient and modern management approach.
	CO2	Learners are expected to apply the process of Planning in day-to-day activities. They should be able to use Decision Making Techniques while making decisions.
	CO3	Learners are expected to understand the bases of departmentation in various companies.
	CO4	They should also understand the importance of motivation and leadership with proper controls.
Foundation Course	CO1	The successful completion of course will enable the learner to understand the remedial measures taken to address human right issues.
	CO2	It will help create awareness and empathy among learners about various issues faced by marginalized sections of society.
	CO3	It will help ingrain social responsibility and participatory approval towards society.
Financial Accounting and Auditing- Introduction to Management Accounting I	CO1	Learners are acquainted with the various methods and their importance in analyzing the financial statements of an entity
	CO2	Learners are acquainted with the various ratios used in financial statements analysis by a stakeholder in a decision making process about an entity.
	CO3	Learners are acquainted with the knowledge and ability to use various capital budgeting techniques in a decision making process.
	CO4	Learners are acquainted with the knowledge and ability to understand and estimate the working capital requirements of different types of entities.
Advertising	CO1	Students are expected to know the meaning of advertising and its importance to brand building.
	CO2	They are also expected to get empowered as consumers and learn how to bring accountability to advertising.
	CO3	Students learn about the emergence of media as well as study about the technological advancements/ growth of media industry in India.
	CO4	To explain the different forms of advertising and stimulate interest among students on the new trends in advertising.

Company Secretarial Practice	CO1	The learners need to know the growing need for Governance professionals in India
	CO2	The learners discuss and form opinion about corporate governance practices in India.
	CO3	The learners emerge as able service providers by recognizing the requirements of various stakeholder.
	CO4	The learners become conversant with the process of liaising, arbitration and conciliation.
Co-Operation	CO1	Students are expected to know the meaning of Cooperation and its importance, Role of Cooperation in Economic Development
	CO2	Students are expected to know structure and organization of cooperation
	CO3	The learners should have a complete understanding about problems of co-operative banking in India.
	CO4	Student should be able to understand challenges of co-operative sector.
T.Y.B.COM. Sem V & VI		
Business Economics	CO1	· Students would understand the impact of the New Economic Policy and the different policy measures for Sustainable Development and Foreign Investment.
	CO2	Students would understand the role of agriculture and the problems associated with the sector.
	CO3	Students would be aware of the recent trends, role and growth of the Secondary and Tertiary sector.
	CO4	Students would learn about the Structure, Growth and Reforms in Financial Markets.
Commerce-Marketing	CO1	Students would get knowledge about marketing concepts and latest marketing strategies.
	CO2	Students would get knowledge of CRM, consumer behavior and bases of market segmentation.
	CO3	Students would get knowledge about how to develop and launch a product.
	CO4	Students would get knowledge about green marketing, rural marketing, social marketing and other trends in marketing.
Financial Accounting and Auditing - Financial Accounting	CO1	The students will be able to prepare financial statements of a corporate entity.
	CO2	The students will be able to account for internal restructuring of a corporate entity.
	CO3	The students will be able to prepare Investment account for an investor.

	CO4	The students will be able to account for buy back of shares by a corporate entity.
Financial Accounting and Auditing - Cost Accounting	CO1	Students would be able to understand objectives and scope of Cost Accounting.
	CO2	Students should be able to prepare stock ledger and understand various aspects of inventory control.
	CO3	Students should be able to prepare labour cost statement, remuneration and incentive systems.
	CO4	Students should be able to account for overheads apportionment, absorption and computation of overhead rates.
	CO5	Students should be able to classify costs and prepare cost sheet & reconcile cost and financial statements.
Export Marketing	CO1	The students would understand the basics of exports and its contribution to economic development.
	CO2	The students would be acquainted with the various Trading Blocks in operation.
	CO3	The students would be able to explore the various incentives offered for promoting exports
Purchasing and Store Keeping	CO1	Students would get knowledge about Material Management, Material Requirement Planning, scientific purchasing methods.
	CO2	The students would be able to explore developing areas.
	CO3	Students would get knowledge about various inventory stock level, Economic Order Quantity, Store accounting

Head of Department
Department of Commerce
J.S.M. College Alibag,
Raigad-402 201

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DEPARTMENT OF CHEMISTRY

DEPARTMENT OF CHEMISTRY

Programme Outcome: On completion of B.Sc. Chemistry, students will acquire:

PO1: Core competency: Students will acquire core competency in the subject Chemistry, and in allied subject areas.

PO2: A systematic and coherent understanding of the fundamental concepts in Physical, Organic, inorganic and Analytical Chemistry and all other related allied chemistry subjects.

PO3: Students will be able to characterize, identify and separate components of organic or inorganic origin and will also be able to analyze them by making use of the modern instrumental methods learned.

PO4: Students will be able to use the evidence-based comparative chemistry approach to explain chemical synthesis and analysis.

PO5: Students will be able to understand the basic principle of equipment and instruments used in the chemistry laboratory.

PO6: Students will be able to demonstrate the experimental techniques and methods of their area of specialization in Chemistry.

PO7: The course curriculum also includes components that can be helpful to graduate students to develop critical thinking ability by way of solving problems/numerical using basic chemistry knowledge and concepts.

PO8: Appreciate the central role of chemistry in our society and use this as a basis for ethical behaviour in issues facing chemists including an understanding of safe handling of chemicals, environmental issues, and key issues facing our society in terms of energy, health and medicine.

PO9: Lifelong Learner: The course curriculum is designed to inculcate a habit of learning continuously through use of advanced ICT techniques and other available techniques/books/journals for personal academic growth as well as for increasing employability opportunity.

PROGRAMME SPECIFIC OUTCOMES

- Students acquire knowledge about Basics of Drugs and Dyes
- Students will gain knowledge of synthesis of many drugs.
- They understand therapeutic actions of many drugs and their use in day to day life.
- Demonstrate knowledge and understanding in Current applications of different Dyes.
- Practically students will prepare Dyes and its use for colouring cloth through projects.
- They also understand the analysis of many drugs through practicals.

Course Outcomes:

F.Y.B.Sc. Sem I & II		
Paper I	CO1	To understand reaction kinetics, rate constant, order of reaction.
	CO2	To identify stereochemistry of various chemicals. To provide best practices of semi-micro qualitative analysis
	CO3	To define specific terms of states of matter, oxidation and reduction.
Paper II	CO1	To understand purification method for solid compounds
	CO2	To solve numericals on Molarity, Normality and Molality
	CO3	To understand basics of Inorganic chemistry
	CO4	To identify unknown organic compound
S.Y.B.Sc. SEM III & IV		
Paper I	CO1	To become proficient in analysing the various observations and chemical phenomena presented to student during the course.
	CO2	To understand & solve problems related to thermodynamics and kinetics.
	CO3	To understand the preparation and reactions of alcohol, phenols
	CO4	To understand the preparation and reactions of carboxylic acid, diazonium compounds, sulphonic acids, amines and carbonyl compounds.
Paper II	CO1	To know specific principles of Inorganic chemistry.
	CO2	To know specific facts about instrumental methods of analysis
	CO3	To know specific trends of transition metals, catalysis and electrochemistry
	CO4	To understand the concepts of Gravimetry and Volumetry
Paper III	CO1	To find basics calculations of mean, mode, median
	CO2	To understand basic analytical chemistry
	CO3	To solve numericals based on analytical methods for understanding concepts in detail.
T.Y.B.Sc. SEM V & VI		
Paper I	CO1	To understand details about spectroscopic techniques, stereochemistry.
	CO2	To know specific terms involved in organic and inorganic reaction mechanisms.
	CO3	To understand concepts of molecular spectroscopy
Paper II	CO1	To know specific terms of symmetry, molecular orbital theory, solid state chemistry, inner transition metals.
	CO2	To know the various types of methods for analysis of compounds.
	CO3	To know various methods of preparation of Inorganic compounds
	CO4	To solve numericals
Paper III	CO1	To know about various chemotherapeutic agents, dyes and dye-stuff intermediates.
	CO2	To understand concept of stereochemistry
	CO3	To solve numericals on spectroscopy

	CO4	To know about natural products, heterocycles, photochemistry, pericyclic reactions.
	CO5	To identify unknown organic compound
Paper IV	CO1	To understand concepts of Atomic absorption and emission spectroscopy
	CO2	To find details of various types of titrations
	CO3	To solve numericals based on various topics of analytical chemistry
M.Sc. SEM I, II, III & IV		
Paper I	CO1	To know specific techniques: disconnection of molecules, synthesis of target molecules..
	CO2	To know new name reactions, reagents and rearrangements.
	CO3	To know in detail about natural products, group theory and solid state chemistry.
Paper II	CO1	To know more specific terms involved in asymmetric synthesis, pericyclic reactions and photochemistry.
	CO2	To solve critical problems spectroscopy and two-dimensional spectroscopy
	CO3	To know new name reactions, reagents and rearrangements.
Paper III	CO1	To know about drug discovery, green chemistry, biomolecules.
	CO2	To study the behaviour of inorganic solids, their bonding, preparation and reactions including mechanisms.
	CO3	To understand thermal and magnetic properties of inorganic materials.
Paper IV	CO1	To understand ternary mixture separation and identification
	CO2	To perform organic synthesis

HOD CHEMISTRY

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MSC CHEMISTRY PART 1

PROGRAMME SPECIFIC OUTCOME (PSOs)

PSO 1. Gain knowledge of the advanced concepts in the branch of chemistry, scrutinize and accomplish a solution to problems encountered in the field of research and analysis.

PSO 2. Apply the basic knowledge of chemistry to perform various tasks assigned to them at the workplace in industry and academia to meet the global standards.

PSO 3. Deduce qualitative and quantitative information of chemical compounds using advanced spectroscopic methods which can further be analysed using practical skills inculcated in them during the course.

PSO 4. Imbibe the attitude as well as aptitude of a scientific approach along with analytical reasoning with respect to the novel techniques actually implemented in the Industry.

PSO 5. Use the subject knowledge, communication and ICT skills to become an effective team leader/team member in the interdisciplinary fields.

PSO 6. Understand, Manage and contribute to solve basic societal issues and environmental concerns ethically based on principles of scientific knowledge gained.

PSO 7. Exhibit professional work ethics and norms of scientific development.

SEM-1 PAPER-1 INORGANIC CHEMISTRY 1

PO 1. To develop the ability to correlate fundamental theories of spatial orientations of molecules based on wave mechanics with advanced concepts in chemical bonding ,symmetry of molecular systems and Structural aspects of inorganic solids.

PO 2. To gain theoretical knowledge of cutting edge topics such as solid state lasers and contemporary Methods of preparation of nanomaterial's.

PO 3. To learn about diverse tools available for characterization of coordination compounds in order to enhance competency while applying for practical purpose.

CO 1. The learner will know the important fundamental concept of Group Theory, which helps them in understanding the properties and bonding in polyatomic molecules.

CO 2. The learner get the knowledge about the various techniques used for Characterization coordination compounds.

CO 3. The learners develops the skill in interpretation of the spectra.

CO 4. The learners will get comprehensive idea about established instrumental techniques and Significant characterization tools available to study inorganic complexes having wide applications in industries.

SEM-1 PAPER-2 ORGANIC CHEMISTRY 1

PO 1. To enable learners to have comprehensive knowledge and understanding of the advanced concepts in reaction Mechanism, stereochemistry, different reactions and reagents.

PO 2. To apply the basic knowledge of Organic chemistry to perform various tasks assigned to them at the workplace in industry and academia to meet the job requirements as per global standards.

PO 3. Accomplish a solution to problems encountered in the field of research.

CO1. Predict the reactivity of organic compound from its structure.

CO 2. Understand different methods used for determination of Organic Reaction Mechanism

CO 3. Understand the fundamental concept in stereochemistry by applying various symmetry elements of organic molecule.

CO 4. Acquire the knowledge of chirality by taking examples of symmetrical and unsymmetrical molecule.

CO 5. Develop interest in stereochemistry by studying stereochemical features of different classes of organic compounds

CO 6. Identify the nomenclature of various stereochemical phenomena

CO 7. Organize the techniques of aromatic nucleophilic substitution reactions for synthesizing/transforming molecules.

CO 8. Understand the concept of aromaticity and to know the nature of bonds, electronic effects and other properties of molecules.

CO 9. Understand the preparation of important oxidizing reagent and predict the selectivity of the reagents in organic reactions.

CO 10. Explain the preparation and uses of important reducing reagents in various organic transformation reaction.

SEM-1 PAPER-3 ANALYTICAL CHEMISTRY 1

PO 1. To enable learners to have comprehensive knowledge, understanding of the types of instruments with operations and automated methods of analysis.

PO 2. To apply the basic knowledge of quality systems, quality audit and quality managements,.

PO 3. To enable learners to perform various tasks assigned to them at the workplace in industry and academia to meet the job requirements as per global standards.

PO 4. To provide solutions to problems encountered in the field of analysis and research.

CO 1. Understand various terms used in analytical chemistry.

CO 2. Identify the different types of errors in analysis.

CO 3. Sketch out the role and importance of total quality management, safety, accreditations and GLP in industries.

CO 4. Understand the efficacy of automation in chemical analysis.

CO 5. Design and specify applications of advanced analytical techniques in various fields.

CO 6. Explore the applications of IR spectroscopy and thermal methods.

CO 7. Perform basic calculations required in chemical analysis

CO 8. Interpret the experimental results of analytical techniques. transformation reaction.

SEM-1 CHEMISTRY PRACTICAL-1 ORGANIC AND ANALYTICAL CHEMISTRY

PO 1. Planning of synthesis, effect of reaction parameters including stoichiometry, and safety aspects including MSDS should be learnt.

PO 2. Purify the product by crystallization. Formation and purity of the product should be checked by TLC

PO 3. Report mass and melting point of the purified product.

PO 4. To gain knowledge and hands on experience in instrumental and non-instrumental analysis.

PO 5. To introduce the concept of non-aqueous titrations.

PO 6. To study technique of ion exchange and efficiency of the ion exchanger.

PO 7. To develop scientific temper and research-based skills.

CO 1. Carry out one step preparation in laboratory with basic understanding of stoichiometry

CO 2. Evaluate the process and outcomes of an experiment quantitatively and qualitatively

CO 3. Check purity of product using thin layer chromatography

CO 4. handle and get familiar with SOP's of instruments like potentiometer, conductivity meter, colorimeter and spectrophotometer.

CO 5. understand the concept of non-aqueous titrations and apply it in analysis of samples.

CO 6. apply the theory of redox reactions to experimental systems.

CO 7. separate the component of interest from the matrix.

CO 8. develop scientific temperament and research-based skills accomplish to encountered in the field of research

SEM-1 CHEMISTRY PRACTICAL-1 PHYSICAL AND INORGANIC CHEMISTRY

Physical Chemistry

PO 1. To Gain knowledge of the advanced concepts

PO 2. To understand advance concept of thermodynamics and chemical kinetics in the chemical reactions.

PO 3. To develop scientific temper and research based skills accomplish to encounter in the field of research.

PO 4. To usage of subject fundamentals-principles with practical knowledge to design experiments, analyze and interpret data so as to reach to proper conclusions.

PO 5. Learner will train the handling of equipments like potentiometer, conductivity meter, colorimeter and spectrophotometer.

PO 6. Learner will develop scientific temper and research based skills accomplish to encountered in the field of research.

Inorganic Chemistry

PO 1. To apply basic concepts of separation and estimation of metals ions from constituent ores/alloys effectively using chemical analysis

PO 2. To gain knowledge of employing instrumental techniques for quantitative analysis.

PO 3. The learner can able to analyze structure, reactivity and reaction mechanisms of coordination compounds.

PO 4. It explains various methods, concepts, highlights on effect of environment on human beings.

PO 5. Will able to understand Commercial applications of novel materials in synthesis of compounds.

SEM 1 ELECTIVE-2 PHYSICAL CHEMISTRY-2

PO 1. To enable learners to have comprehensive knowledge and understanding of the advanced concepts in reaction kinetics, molecular dynamics and chemical thermodynamics.

PO 2. To apply the basic knowledge of Physical chemistry to perform various tasks assigned to them at the workplace in industry and academia to meet the job requirements as per global standards.

PO 3. Accomplish a solution to problems encountered in the field of research.

CO 1. The learners evaluate the different theories of chemical kinetics and effect of temperature on reaction rates.

CO 2. The learners will understand the applications of chain reactions in the field of Polymer Chemistry.

CO 3. The learners will evaluate the resting membrane potential by using the concept of bio electrochemistry.

CO 4. The learners will try to accomplish a solution to problems encountered in the field of research

SEM-1 RESEARCH METHODOLOGY

PO 1. To create awareness and understanding the terms like intellectual property, patents, copyright, Industrial designs, trademarks, geographical indications etc.

PO 2. To know trade secrets, IP infringement issues, economic value of intellectual property and study of various related international agreements.

PO 3. To explore cheminformatics to facilitate molecular modeling and structure elucidations.

PO 4. To apply the knowledge gained about various chemistry principles, techniques and tools in drug designing, target identification and validation, lead finding and optimization..

CO 1. To enable the student to be able to extract information from journals and digital resources.

CO 2. Understanding tools to analyse the data, writing and presenting scientific papers.

CO 3. Safe working procedure And ethical handling of chemicals.

CO 4. Describe research, identification of research problems, and preparation of proposals.

CO 5. Practice ethics in all the domains of research.

CO 6. Analyze the results using mathematical and statistical tools.

SEM-2 PAPER 1 INORGANIC CHEMISTRY 2

PO 1. The course aims at the detailed mechanistic study of various inorganic complexes.

PO 2. The course aims at the detailed interception of bonding concepts in organometallic and bioinorganic chemistry.

PO 3. The course also aims at a detailed understanding of bio inorganic chemistry of metals.

PO 4. The course also aims to study the preparation of different inorganic complexes.

CO 1. The learners will be able to learn ligand substitution reactions of Octahedral and Square planar complexes, Trans effect and factors affecting these substitution reactions.

CO 2. The learners will be able to understand the 18 eand 16 eelectron square planar complexes by studying different examples. They will also learn the preparation and properties of a few selected compounds including sandwich compounds of Fe, Cr

CO 3. The learners will understand the structure and bonding of a few inorganic compounds like Ziese's salt, ferrocene and bis(arene)chromium(0)

CO 4. The learners will understand the occurrence and effect of toxic metals like Pb, As, Cu, Cd, and Hg on the environment, the different diseases caused by poisoning of metals and the impact these metals have on the living organism.

CO 5. The learners will be familiar with the role of Inorganic chemistry in Biological systems, understand the structure of various biological oxygen carriers and molecules involved in electron storage and transport.

SEM 2 PAPER 2 ORGANIC CHEMISTRY 2

PO 1. To enable learners to have comprehensive knowledge and understanding of the advanced concepts in reaction Mechanism, molecular orbital theory, different rearrangement reactions and spectroscopic techniques.

PO 2. To apply the basic knowledge of Organic chemistry to perform various tasks assigned to them at the workplace in industry and academia to meet the job requirements as per global standards.

PO 3. Accomplish a solution to problems encountered in the field of research.

CO 1. Recognise the type of mechanism & intermediates involved in the given organic reaction and to prove mechanism for the reaction.

CO 2. Identify the ways to modify aliphatic and aromatic compounds via Nucleophilc substitution reactions.

CO 3. Predict the mechanism and stereochemistry of important organic reactions.

CO 4. Understand and write the mechanism of rearrangement reactions with stereochemistry and its applications.

CO 5. Understand the HOMO-LUMO concept and it significance in organic chemistry.

CO 6. Understand the basic principle and concepts in UV and IR spectroscopy

CO 7. Understand the basic concepts of 1H, 13C NMR, and mass spectroscopy.

CO 8. Understand how 1H, 13C NMR and Mass spectroscopy are important for the structure determination of organic compounds.

SEM-2 PAPER 3 ANALYTICAL CHEMISTRY 2

PO 1. To gain knowledge of the chromatography techniques and its applications.

PO 2. To understand application of X-ray spectroscopy for qualitative and quantitative analysis.

PO 3. To introduce radio analytical techniques.

PO 4. To apply the surface analytical techniques for system.

PO 5. To study advantages and applications of electroanalytical methods.

CO 1. able to compare the advantages/disadvantages of SEM, STM and TEM.

CO 2. able to develop different techniques to separate the components of mixture.

CO 3. conversant with basic principles and theories of mass spectrometry.

CO 4. able to apply the electroanalytical methods to sample under consideration.

CO 5. able to elaborate on electrogravimetry and coulometry techniques.

SEM 2 CHEMISTRY PRACTICAL 1 ORGANIC & ANALYTICAL CHEMISTRY

PO 1. To learn Organic mixture separations, purification methods and characterisation steps of organic compounds.

PO 2. To gain knowledge and hands on experience in instrumental and non-instrumental analysis.

PO 3. To introduce the concept of simultaneous determination in spectrophotometry.

PO 4. To study technique of ion exchange and breakthrough capacity.

PO 5. To develop scientific temper and research-based skills.

CO 1. learn determination of chemical types of different organic binary mixture

CO 2. learn to separate solid organic binary mixtures on the basis of solubility.

CO 3. learn to purify the separated organic compound by recrystallization technique

CO 4. learn charachterization steps of organic compounds

CO 5. handle and get familiar with SOP's of instruments like potentiometer, conductivity meter, colorimeter and spectrophotometer.

CO 6. understand the concept of complexometric titrations and factors enhancing selectivity of EDTA as a titrant.

CO 7. apply the theory of FES to fertilizers analysis.

CO 8. develop scientific temperament and research-based skills accomplish to encountered in the field of research

SEM 2 ELECTIVE PRACTICAL 2 –PHYSICAL AND INORGANIC CHEMISTRY

PHYSICAL CHEMISTRY

PO 1. To gainknowledge of the advanced concepts in pH metry, quantum mechanics, potentiometry and conductometry experiments.

PO 2. To develop scientific temper and research based skills accomplish to encountered in the field of research.

CO 1. To use the concept of quantum chemistry to interprete the shape and information about the orbitals like 1s, 2pz and 3dz2.

CO 2. To apply the subject fundamentals-principles with practical knowledge to design experiments, analyze and interpret data so as to reach to proper conclusions

CO 3. Learner will train to handle the sophisticated instrument like digital potentiometer, conductivity meter, spectrophotometer.

Inorganic Chemistry

PO 1. The learners will be able to synthesize and characterize different inorganic coordination complexes.

PO 2. The learners will be trained in calculating the equilibrium constant for Fe3-/SCN1- by slope intercept method and in determining the electrolytic nature of some inorganic compounds by conductance measurements.

CO 1. The learners will characterize different coordination compounds with the help of conductivity measurements, electronic and magnetic measurements and spectroscopic measurements.

CO 2. Able to calculating the equilibrium constant for Fe3-/SCN1- by slope intercept method

CO 3. Able to determine the electrolytic nature of some inorganic compounds by conductance measurements.

SEM 2 ELECTIVE 2 PHYSICAL CHEMISTRY 2

PO 1. To gain knowledge of the advanced concepts in quantum mechanics, applications of HMO theory, chemical kinetics and molecular dynamics.

PO 2. To understand the advanced concepts in chemical thermodynamics and photochemistry.

PO 3. To develop the skill to solve the problems encountered in the field of quantum and electrochemistry.

CO 1. To develop the skill to solve the problems based on molecular dynamics and quantum Chemistry.

CO 2. Learners will able to distinguish between competitive, Noncompetitive and Uncompetitive Inhibition in enzyme-catalysed reactions.

CO 3. Learners will get knowledge of advanced chemical kinetics and molecular dynamics.

CO 4. Leathers will able to use advanced concepts of chemical thermodynamics in chemical reactions.

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DEPARTMENT OF PHYSICS

Overall Learning outcomes for the physics undergraduate program:

1. Students will demonstrate an understanding of core knowledge in physics, including the major premises of Mathematical Physics, Thermal Physics, Statistical Physics, Solid state Physics, Electrodynamics, Atomic and Nuclear Physics, classical mechanics and Modern Physics.
2. Students will develop written and oral communication skills in communicating physics related topics.
3. Students will design and conduct an experiments and demonstrating their understanding of the scientific method and processes.
4. Students will demonstrate proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.
5. Students will utilize a wide range of reference books, eBooks, electronic resources and information technologies for understanding of physical phenomena.
6. Students will develop skill while performing experiments and will use numerical techniques.
7. Students will demonstrate an understanding of the impact of physics and science on society.

Subject wise Learning Outcomes: On completion of this, it is expected that:

F.Y. B.Sc. (Semester I)

Classical Physics (USPH101)

1. Understand Newton's laws and apply them in calculations of the motion of simple systems.
2. Use the free body diagrams to analyse the forces on the object.
3. Understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them.
4. Understand the concepts of lens system and interference.
5. Apply the laws of thermodynamics to formulate the relations necessary to analyse a thermodynamic process.
6. Demonstrate quantitative problem-solving skills in all the topics covered

Modern Physics (USPH102)

1. Understand nuclear properties and nuclear behaviour.
2. Understand the type isotopes and their applications.
3. Demonstrate and understand the quantum mechanical concepts.
4. Demonstrate quantitative problem solving skills in all the topics covered.

Practical I (USPHP1)

1. To demonstrate their practical skills.
2. To understand and practice the skills while doing physics practical.
3. To understand the use of apparatus and their use without fear.
4. To correlate their physics theory concepts through practical.
5. Understand the concepts of errors and their estimation.

F.Y. B.Sc. (Semester II)

Mathematical Physics (USPH201)

1. Understand the basic mathematical concepts and applications of them in physical situations.
2. Demonstrate quantitative problem solving skills in all the topics covered.

Electricity and Electronics (USPH202)

1. Understand the basic theory of A.C. response of circuits and analyse different circuits consisting of basic components.
2. Understand different theorem and apply them to simplify complicated circuits which includes number of resistors and supply.
3. Students able to learn how to build power supply.
4. Understand the basics of digital electronics.

Practical II (USPHP2)

1. To understand and practice the skills while doing physics practical.
2. To understand the use of apparatus and their use without fear.
3. To correlate their physics theory concepts through practical.
4. Understand the concepts of errors and their estimation.

S.Y. B.Sc. (Semester III)

Mechanics and thermodynamics (USPH301)

1. Understand the concepts of mechanics & properties of matter & to apply them to problems.
2. Comprehend the basic concepts of thermodynamics & its applications in physical situation.
3. Learn about situations in low temperature.
4. Demonstrate tentative problem solving skills in all above areas.

Vector calculus, Analog Electronics (USPH302)

1. Understand the basic concepts of mathematical physics and their applications in physical situations.
2. Understand the basic laws of electrodynamics and be able to perform calculations using

them.

3. Understand the basics of transistor biasing, operational amplifiers, their applications.

4. Understand the basic concepts of oscillators and be able to perform calculations using them.

5. Demonstrate quantitative problem solving skill in all the topics covered.

Applied Physics - I (USPH303)

1. Students will be exposed to contextual real life situations.

2. Students will appreciate the role of Physics in 'interdisciplinary areas related to materials and Acoustics etc.

3. The learner will understand the scope of the subject in Industry & Research.

4. Experimental learning opportunities will faster creative thinking & a spirit of inquiry.

Practical course -3 (USPHP3)

1. Understand &practice the skills while performing experiments.

2. Understand the use of apparatus and their use without fear& hesitation.

3. Correlate the physics theory concepts to practical application.

4. Understand the concept of errors and their estimation.

S.Y. B.Sc. (Semester IV)

Optics and Digital Electronics (USPH401)

1. Understand the diffraction and polarization processes and applications of them in physical situations.

2. Understand the applications of interference in design and working of interferometers.

3. Understand the resolving power of different optical instruments.

4. Understand the working of digital circuits.

5. Use IC 555 time for various timing applications.

6. Demonstrate quantitative problem solving skills in all the topics covered.

Quantum Physics (USPH402)

1. Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.

2. Demonstrate quantitative problem solving skills in all the topics covered.

Applied Physics II (USPH403)

1. Understand the basic concepts of geology and geophysics and their applications.

2. Comprehend the basic concepts of microprocessor 8085.

3. Learn about basics of communication system, modulation and demodulation.

Practical course-4 (USPHP4)

1. Understand &practise the skills while performing experiments.
2. Understand the use of apparatus and their use without fear & hesitation.
3. Correlate their physics theory concepts to practical application.
4. Understand the concept of errors and their estimation.

T.Y. B.Sc. (Semester V)

Mathematical, Thermal and Statistical Physics (USPH501)

1. Mathematical techniques required to understand the physical phenomena at the undergraduate level and get exposure to important ideas of statistical mechanics.
2. The students are expected to be able to solve simple problems in probability, understand the concept of independent events and work with standard continuous distributions.
3. The students will have idea of the functions of complex variables; solve nonhomogeneous differential equations and partial differential equations using simple methods.
4. The units on statistical mechanics would introduce the students to the concept of microstates, Boltzmann distribution and statistical origins of entropy.
5. It is also expected that the student will understand the difference between different statistics, classical as well as quantum.

Solid State Physics (USPH502)

1. Understand the basics of crystallography, Electrical properties of metals, Band Theory of solids, demarcation among the types of materials, Semiconductor Physics and Superconductivity.
2. Understand the basic concepts of Fermi probability distribution function, Density of states, conduction in semiconductors and BCS theory of superconductivity.
3. Demonstrate quantitative problem solving skills in all the topics covered.

Atomic and Molecular Physics USPH503

1. The application of quantum mechanics in atomic physics
2. The importance of electron spin, symmetric and antisymmetric wave functions and vector atom model.
3. Effect of magnetic field on atoms and its application.
4. Learn Molecular physics and its applications.

Electrodynamics (USPH504)

1. Understand the laws of electrodynamics and be able to perform calculations using them.
2. Understand Maxwell’s electrodynamics and its relation to relativity
3. Understand how optical laws can be derived from electromagnetic principles.

4. Develop quantitative problem solving skills.

Practical Courses (USPHP05, USPHP06 and skill experiment)

1. Understanding relevant concepts.
2. Planning of the experiments.
3. Layout and adjustments of the equipment's.
4. Understanding designing of the experiments.
5. Attempts to make the experiments open ended.
6. Recording of observations and plotting of graphs.
7. Calculation of results and estimation of possible errors in the observation of result.

T.Y. B.Sc. (Semester V)

Classical Mechanics (USPH601)

1. This course will introduce the students to different aspects of classical mechanics.
2. They would understand the kinds of motions that can occur under a central potential and their applications to planetary orbits.
3. The students should also appreciate the effect of moving coordinate system, rectilinear as well as rotating.
4. The students are expected to learn the concepts needed for the important formalism of Lagrange's equations and derive the equations using D'Alembert's principle. They should also be able to solve simple examples using this formalism.
5. The introduction to simple concepts from fluid mechanics and understanding of the dynamics of rigid bodies is also expected.
6. They should appreciate the drastic effect of adding nonlinear corrections to usual problems of mechanics and nonlinear mechanics can help understand the irregularity we observe around us in nature

Electronics (USPH602)

1. Understand the basics of semiconductor devices and their applications.
2. Understand the basic concepts of operational amplifier: its prototype and applications as instrumentation amplifier, active filters, comparators and waveform generation.
3. Understand the basic concepts of timing pulse generation and regulated power supplies
4. Understand the basic electronic circuits for universal logic building blocks and basic concepts of digital communication.
5. Develop quantitative problem solving skills in all the topics covered.

Nuclear Physics (USPH603)

1. Upon successful completion of this course, the student will be able to understand the fundamental principles and concepts governing classical nuclear and particle physics and have a knowledge of their applications interactions of ionizing radiation with matter the key techniques for particle accelerators the physical processes involved in nuclear power generation.
2. Knowledge on elementary particles will help students to understand the fundamental constituents of matter and lay foundation for the understanding of unsolved questions about dark matter, antimatter and other research oriented topics.

Special Theory of Relativity (USPH604)

1. Understand the significance of Michelson Morley experiment and failure of the existing theories to explain the null result
2. Understand the importance of postulates of special relativity, Lorentz transformation equations and how it changed the way we look at space and time, Absolutism and relativity, Common sense versus Einstein concept of Space and time.
3. Understand the transformation equations for: Space and time, velocity, frequency, mass, momentum, force, Energy, Charge and current density, electric and magnetic fields.
4. Solve problems based on length contraction, time dilation, velocity addition, Doppler effect, mass energy relation and resolve paradoxes in relativity like twin paradox etc.

Practical courses (USPHP07, USPHP08 and Demonstration experiments)

1. Planning of the experiments.
2. Layout and adjustments of the equipment's.
3. Understanding designing of the experiments.
4. Attempts to make the experiments open ended.
5. Recording of observations and plotting of graphs.
6. Calculation of results and estimation of possible errors in the observation of results.

HOD PHYSCICS

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DEPARTMENT OF BOTANY

Programme Outcome: On completion of B.Sc. Botany, students will learn:

PO1 Specific core discipline knowledge: Students can recall details and information about the evolution, anatomy, morphology, systematics, genetics, physiology, ecology, and conservation of plants and all other forms of life.Students can recall details of the unique ecological and evolutionary features of the local and Indian flora.

PO2 Communication skills: Students can communicate effectively using oral and written communication skills

PO3: Problem solving and research skills: Students can generate and test hypotheses, make observations, collect data, analyze and interpret results, derive conclusions, and evaluate their significance within a broad scientific context

PROGRAMME SPECIFIC OUTCOMES FOR B.Sc. BOTANY

- To recognize and identify major groups of non-vascular and vascular plants and their phylogenetic relationships.
- To understand the phylogeny of plants and study various systems of classification.
- To explore the morphological, anatomical, embryological details as well as economic importance of algae, fungi, bryophytes, pteridophytes, gymnosperms and angiosperms.
- To understand physiological processes and adaptations of plants.
- To provide knowledge about environmental factors and natural resources and their importance in sustainable development.
- To be able to carry out phytochemical analysis of plant extracts and application of the isolated compounds for treatment of diseases.
- To be able to deal with all microbes and the technologies for their effective uses in industry and mitigation of environmental concerns.
- To explain how current medicinal practices are often based on indigenous plant knowledge and to get introduced to different perspectives on treating ailments according to ethnomedicinal principles.
- To understand patterns of heredity and variation among individuals, species and populations and apply principles for improvement of quality and yield.
- To be able to apply statistical tools to gain insights into significantly different data from different sources.
- To acquire recently published knowledge in molecular biology, such as rDNA technology; PTC and bioinformatics and their applications.
- Students acquire knowledge about Basic horticultural science terminology.
- Students will gain knowledge on post harvesting techniques which will explore the possibility of entrepreneurship in this field.
- Focus of the Horticulture program is the development of a well-rounded Horticulturist.

- Demonstrate knowledge and understanding in Current applications of horticultural principles and practices: propagation, pest management, production, maintenance, and business practices.

PROGRAMME SPECIFIC OUTCOMES FOR M.Sc. BOTANY

- Students will be able to identify the major groups of organisms amongst plants and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of Cryptogams and Phanerogams that differentiate them from each other and from other forms of life.
- Students will be able to explain how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and behaviour of different forms of life.
- Students will be able to explicate the ecological interconnectedness of life on earth by studying ecological principles 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.
- Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped plant morphology, physiology, and life history.
- Students will be able to carry out a thorough study of the active constituents of medicinal plants with an emphasis on the use of plant based food as medicine.
- Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for understanding the above.

Course Outcomes:

F.Y.B.Sc. Sem I & II		
Paper I **Plant Diversity I**	CO1	The students will learn about the diversity, identification, classification and economic importance of some specific algae, fungi, bryophytes and gymnosperm.
	CO2	Students will also become familiar with various taxonomic aspects like how to identify the plants on the basis of morphological characters like root, stem, leaves and flowers.
	CO3	Students will also become familiar with specific plant families with study of economic important plants.

Paper II Form and Function I	CO1	The students will acquire knowledge about some important cell organelles like chloroplast and endoplasmic reticulum and their function under broad topic of cell biology.
	CO2	Students will also learn about basic concepts of ecology like energy pyramids, how energy flows in an ecosystem and various types of biotic and abiotic factors in different ecosystems.
	CO3	Students will also learn about basic concepts of Mendelism and how genes interact under topic genetics.
	CO4	Students will also solve basic biostatistics problems based on mean mode and median, standard deviation and frequency distribution.
	CO5	Students will go through basic plant physiological processes like photosynthesis and its importance.
	CO6	Students will learn about grandma's pouch containing various medicinally important plants and their uses.
S.Y.B.Sc. SEM III & IV		
Paper I Plant Diversity II	CO1	The syllabus is designed to train the students in all areas of the plant sciences with some applied areas of the subject.
	CO2	The students will learn about the diversity, identification, classification and economic importance of lower plants like algae, fungi, bryophytes and gymnosperm.
	CO3	Students will also become familiar with various taxonomic aspects like how to identify the plants on the basis of morphological characters and will also become familiar with various plant families with study of economic important plants.
	CO4	The students will learn about some important instrumentation techniques. • The students will also acquire knowledge about palaeobotany and various plants fossils.
Paper II Form and Function II	CO1	Students will also learn about basic concepts of cytogenetics like how sex is determined in different organisms, variation in chromosome number and concept of extra nuclear genetics.

	CO2	Students will be able to learn about the central dogma of life basis of molecular biology. • Students will go through basic plant physiological processes like respiration, Photoperiodism, photorespiration and its importance.
	CO3	Students will acquire knowledge about various biogeochemical cycles of nature and how soil formation occurs.
	CO4	The students will acquire knowledge about some important cell organelles and their function under broad topic of cytology.
Paper III Current Trends in Plant Sciences I	CO1	Students will also get exposed to various hands on practical of various tissue culture techniques and biotechnology based techniques and horticulture based practices like bonsai, dish garden, terrarium making.
	CO2	The students will also gain knowledge about the latest molecular biology techniques for isolation and characterization of genes.
	CO3	Students will learn about important bioinformatics-based practicals.
T.Y.B.Sc. SEM V & VI		
Paper I Plant Diversity III	CO1	The syllabus is designed to train the students in all areas of the plant sciences with some applied areas of the subject.
	CO2	The students will learn about the diversity, identification, classification and economic importance of lower organisms and plants like viruses, bacteria, algae, bryophytes, fungi and gymnosperms.
	CO3	The students will also develop understanding in different diseases caused by viruses,bacteria and fungi.
Paper II Plant Diversity IV	CO1	The students will also acquire knowledge about palaeobotany and various plants fossils.
	CO2	Students will also become familiar with various taxonomic aspects like how to identify the plants on the basis of morphological characters and will also become familiar with various plant families with study of economic important plants.

	CO3	Students will also develop understanding in plant anatomy.
	CO4	Students will also learn how biodiversity is important, what threats are there to biodiversity and how to conserve biodiversity.
	CO5	The students will understand the growth, development and reproduction in plants
Paper III Form and Function III	CO1	The students will acquire knowledge about few cell organelles and their function under broad topic of cytology.
	CO2	They will be understand some important physiological processes like osmosis, imbibition etc.
	CO3	Students will also get exposed to various hands on practical of various tissue culture techniques and biotechnology based techniques.
	CO4	The students would be able learn the technique of mushroom cultivation and explore the possibility of entrepreneurship in the same.
	CO5	Students will able to understand how nitrogen cycle occurs in nature and why nitrogen is so important for plants and how it is assimilated in nature.
	CO6	The students will be able to draw genetic chromosome maps on the basis of three point test cross and will also learn about mutations, its sources.
	CO7	Students will be able to solve biostatistics-based problems based on students t test, regression analysis and ANOVA.
Paper IV Current Trends in Plant Sciences II	CO1	Students will gain knowledge on post harvesting techniques which will explore the possibility of entrepreneurship in this field.
	CO2	The students will also gain knowledge about the latest molecular biology techniques for isolation and characterization of genes.
	CO3	Students will learn about important bioinformatics-based practicals.
M.Sc. SEM I, II, III & IV		
Plant Diversity-	CO1	Classify algae into various groups, understand the importance in various fields and will be able to collect and identify them

Cryptogams I (Algae and Fungi)	CO2	Classify fungi into various groups, understand the role of fungi in various fields and will be able to collect and identify fungi, fungal pathogens and culture them.
Plant Diversity- Cryptogams I (Algae and Fungi)	CO1	The students will be able to differentiate between gymnosperms and angiosperms , study their origin and nomenclature, understand evolutionary theories for origin of Angiosperms, understand characteristics of selected Angiosperm families and learn the rules governing the code of botanical nomenclature, also learn the recent developments as in molecular systematics.
Plant Physiology	CO1	Students should be able to understand how to apply the basic concepts of Plant Physiology in other fields and also to know and discuss the concept of physiological processes of plants.
Cytogenetics, Molecular Biology and Biotechnology	CO1	Students will be able to understand the control points in a cell cycle, Study and apply principles of microbial genetics, understand recombinant DNA technology and study applications of the same for the improvement of crops.
Plant Diversity- Cryptogams II (Bryophyta and Pteridophyta)	CO1	Classify Bryophytes into various groups, study their importance
	CO2	Classify Pteridophytes into various groups, study their importance and multiplication of important ferns
Plant Diversity: Spermatophyta II	CO1	Students will be able to understand the development of pollen, spore, fertilization and to apply palynological information to plant systematics

Plant Physiology and Environmental Botany	CO1	Distinguish key physiological processes underlying the seed germination • Identify the physiological factors that regulate growth and developmental processes of plants • Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield • Integrate and apply their knowledge of crop physiology for analytical thinking and solving practical problems experienced in agricultural systems
	CO2	To understand and apply ecological principles and understand legislation and measures to solve environmental problems.
Medical Botany And Dietetics	CO1	Students will be able to identify medicinal plants and understand the effects of plant chemical constituents on humans and the use of plants in Dietetics and as nutraceuticals.

HOD BOTANY

J. S. M. ALIBAG COLLEGE

PRINCIPAL
Smt. Indirabai G. Kulkarni Arts
J. B. Sawant Science and
Sau. Janakibai Dhondo Kunte Commerce
College, Alibag-402 201, Dist. Raigad

PROGRAMME SPECIFIC OUTCOMES FOR M.Sc. BOTANY

PSO 1: Students will be able to identify the major groups of organisms amongst plants and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of Cryptogams and Phanerogams that differentiate them from each other and from other forms of life.

PSO 2: Students will be able to explain how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and behaviour of different forms of life.

PSO 3: Students will be able to explicate the ecological interconnectedness of life on earth by studying ecological principles 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 4: Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped plant morphology, physiology, and life history.

PSO 5: Students will be able to carry out a thorough study of the active constituents of medicinal plants with an emphasis on the use of plant based food as medicine.

PSO 6: Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for understanding the above.

PROGRAMME OUTCOMES:

Plant Diversity I

The students will be able to:

PO1: Classify algae into various groups, understand the importance in various fields and will be able to collect and identify them.

PO2: Classify fungi into various groups, understand the role of fungi in various fields and will be able to collect and identify fungi, fungal pathogens and culture them.

PO3: Differentiate between gymnosperms and angiosperms, study their origin and nomenclature, understand evolutionary theories for origin of Angiosperms, understand characteristics of selected Angiosperm families and learn the rules governing the code of botanical nomenclature, also learn the recent developments as in molecular systematics.

Plant Physiology and Cytogenetics

PO1: Students should be able to understand how to apply the basic concepts of Plant Physiology in other fields and also to know and discuss the concept of physiological processes of plants.

PO2: Students will be able to understand the control points in a cell cycle.

Molecular Biology and Recombinant DNA Technology

PO1: Students will be able to understand and apply principles of microbial genetics,

PO2: Understand Recombinant DNA technology and study applications of the same for the improvement of crops.

Plant Diversity- II

The student will be able to:

PO1: Classify Bryophytes into various groups, study their importance.

PO2: Classify Pteridophytes into various groups, study their importance and multiplication of important ferns.

PO3: Understand the development of pollen, spore, fertilization and to apply palynological information to plant systematics.

Plant Physiology and Environmental Botany

The students should be able to:

PO1: Distinguish key physiological processes underlying the seed germination.

PO2: Identify the physiological factors that regulate growth and developmental processes of plants.

PO3: Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield.

PO4: Integrate and apply their knowledge of crop physiology for analytical thinking and solving practical problems experienced in agricultural systems.

PO5: To understand and apply ecological principles and understand legislation and measures to solve environmental problems.

Medicinal Botany

Students will be able to

PO1: Identify medicinal plants and understand the effects of plant chemical constituents on humans.

COURSE OUTCOMES:

PAPER NAME	M.Sc. SEMESTER I
Plant Diversity- I	**CO1:** Classify algae into various groups, understand the importance in various fields and will be able to collect and identify them. **CO2:** Classify fungi into various groups, understand the role of fungi in various fields and will be able to collect and identify fungi, fungal pathogens and culture them. **CO3:** Differentiate between gymnosperms and angiosperms, study their origin and nomenclature, understand evolutionary theories for origin of Angiosperms. **CO4:** Understand characteristics of selected Angiosperm families and learn the rules governing the code of botanical nomenclature, also learn the recent developments as in molecular systematics.

Plant Physiology and Cytogenetics	**CO1:** How to apply the basic concepts of Plant Physiology in other fields and also to know and discuss the concept of physiological processes of plants. **CO2:** The control points in a cell cycle, Study and apply principles of microbial genetics, understand recombinant DNA technology and study applications of the same for the improvement of crops.
Molecular Biology and Recombinant DNA Technology	**CO1:** Students will be able to understand and apply principles of microbial genetics, **CO2:** Understand recombinant DNA technology **CO3:** Study applications of the same for the improvement of crops.
Biotechnology	**CO1:** Understand the concept and applications of Genetic engineering. **CO2:** Develop skills and gain knowledge of Tissue culture techniques. **CO3:** Demonstrate clear understanding of Green synthesis of Nano technology. **CO4:** Comprehend Biosafety and Bioethics in Biotechnology.
Research Methodology	**CO1:** Understand the concept of research and its types. **CO2:** Develop skills of data collection and scientific documentation. **CO3:** Comprehend the importance of ethics involved in research. **CO4:** Familiarize the methods of scientific writing and reporting.
PAPER NAME	**M.Sc. SEMESTER II**
Plant Diversity- II	**CO1:** Classify Bryophytes into various groups, study their importance **CO2:** Classify Pteridophytes into various groups, study their importance and multiplication of important ferns. **CO3:** The development of pollen, spore, fertilization and to apply palynological information to plant systematics.
Plant Physiology and Environmental Botany	**CO1:** Distinguish key physiological processes underlying the seed germination. **CO2:** Identify the physiological factors that regulate growth and developmental processes of plants. **CO3:** Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield. **CO4:** Integrate and apply their knowledge of crop physiology for analytical thinking and solving practical problems experienced in agricultural systems. **CO5:** To understand and apply ecological principles and understand legislation and measures to solve environmental problems.
Medicinal Botany	**CO1:** Identify medicinal plants. **CO2:** Understand the effects of plant chemical constituents on human.
Environmental Botany	**CO1:** Understand the concept of different natural resources and their utilization. **CO2:** Evaluate the management strategies of different natural resources. **CO3:** Critically analyze the coastal zone management.

	CO4: Reflect upon the role of society in environmental protection and its conservation.

HOD Botany

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DEPARTMENT OF BMS

Program Outcome: On completion of B.M.S Botany, students will learn:

PSO1: Acquire knowledge about management practices that facilitate them to become effective professionals.

PSO2: Be capable to pursue higher studies in diverse fields of Management such as Business Administration, Human Resource Management, Marketing and Finance.

PSO3: Be adequately trained to be entrepreneurs and communicate effectively.

PSO4: Develop a positive attitude towards lifelong learning and research.

PSO5: Acquire the required skills to develop business models and be responsible global citizens with cross-cultural competent behaviour and ethical values.

PROGRAMME-SPECIFIC OUTCOMES FOR:

- Ability to gain and apply knowledge of management principles, concepts, and theories.
- Ability to analyse problems and provide effective and meaningful solutions. To increase awareness of the factors influencing decisions & the risks involved.
- . To encourage enterprise culture through innovative & creative thinking & develop an attitude to provide solutions to the problems in the business world as well as address the needs of the society.
- To apply managerial skills by working effectively as an individual, as a member of a team or as a leader on multidisciplinary management projects.
- to understand and commit to personal and professional ethics, responsibilities and norms and code of conduct of management practices.
- To understand and be sensitive to the impact of management decisions from a sustainability and environmental context and take suitable measures to mitigate the emerging risks.
- An ability to recognize the need for and engage in independent and life-long learning
- To acquaint learners with practical approaches to motivation and leadership & its application in the Indian context.

Course Outcomes:		
F.Y.B.M.S (SEMESTER-I)		
Introduction To Financial Accounts	CO1	Understand & interpret the preparation of basic financial data such as trading Profit & loss accounts & balance sheet
	CO2	Have a basic knowledge of Indian accounting standards.
Business Law	CO1	Identify the fundamental legal principles behind contractual agreements.
	CO2	Understand the legal and economic structure of different forms of business organizations and their responsibilities as an employer.
Business Statistics	CO1	To familiarize the students with fundamental statistical tools which can help them in analyzing the business data.
	CO2	To Annalise and contrast techniques and biases of quantitative methods within the context they are to be applied
Business Communication I	CO1	Understand the theory of communication, its concepts, channels and objectives
	CO2	Master in language and writing skills
	CO3	Draft business correspondence like mails, letters
Foundation Of Human Skills	CO1	Understand the basic behaviour pattern of human, which is the most important resource of a business, and deal with them in an apt manner.
	CO2	Deal & negotiate with different kinds of human nature with greater awareness of human behaviour.
Business Economics I	CO1	Evaluate the effects of government interventions in individual markets and in the macroeconomy.
	CO2	Exhibit competency in demonstrating both reasoning and analytical skills in determining optimal outcomes in contemporary economic situations.
Foundation Course I	CO1	To make students capable of understanding and studying the vibrant Indian culture classify the general characteristic of Indians
	CO2	To understand the general characteristics on the Indian constitution and local self-government and its implication on every Indian citizen.
Semester-II		
Principles Of Marketing	CO1	Critically Analyse the marketing theories & concepts and understand the relevance in perspective to the current business scenario in India
	CO2	To develop basic marketing skills among students in order to cater to the marketing industries.
Industrial Law	CO1	Understand the laws related to working conditions in different settings.
	CO2	Learn the laws relating to Industrial Relations, Social Security and Working conditions.
Business Mathematics	CO1	Demonstrate understanding of basic mathematics concepts.

	CO2	Apply graphs, equations, ratio and proportion, percentage, and measurement systems to solve typical business problems viz calculation of budget, cash discounts, taxes etc.
Business Environment	CO1	Critically assess the business environment of an organization using selected strategic tools.
	CO2	Construct and present scenarios that synthesize business environment information.
Principles Of Management	CO1	Analyze the business decisions made by organisations using various tools and techniques to remain competitive.
	CO2	Offer diverse learning opportunities to develop analytical and soft skills.
Business Communication Ii	CO1	Have clear understanding of effective principles of effective presentation tools
	CO2	Get exposure to Group discussions and various types of mock interviews.
Foundation Course - Value Education And Soft Skill Ii	CO1	Aware about the Indian society, human rights & the environment
	CO2	Understand the meaning of stress & conflict, its effects on humans & how can we manage & overcome them
S.Y.BMS (Semester-III)		
Introduction To Cost Accounting(Finance Elective)	CO1	This course exposes the students to the basic concepts and the tools used in Cost Accounting
	CO2	To enable the students to understand the principles and procedure of cost accounting and to apply them to different practical situations
Corporate Finance (Finance Elective)	CO1	The objectives of develop a conceptual frame work of finance function and to acquaint the participants with the tools techniques and process of financial management in the realm of financial decision making
	CO2	The course aims at explaining the core concepts of corporate finance and its importance in managing a busines
Consumer Behaviour (Marketing Elective)	CO1	To develop an understanding about the consumer decision making process and its applications in marketing function of firms
	CO2	To equip undergraduate students with basic knowledge about issues and dimensions of Consumer Behaviour.
Advertising (Marketing Elective)	CO1	To understand and examine the growing importance of advertisin
	CO2	To understand the future and career in advertising
Recruitment & Selection (Human Resource Management)	CO1	To familiarize the students with concepts and principles, procedure of Recruitment and Selection in an organization.
	CO2	To give an in depth insight into various aspects of Human Resource management and make them acquainted with practical aspect of the subject
Employees Relations & Welfare (Human Resource Management)	CO1	To understand the nature and importance of employee relations in an organization
	CO2	To understand the causes and effects of employee grievances as well as the procedure to solve the same

Business Planning & Entrepreneurship	CO1	To introduces Entrepreneurship to budding managers.
	CO2	To develop entrepreneurs &to prepare students to take the responsibility of full line of management function of a company with special reference to SME sector.
Information Technology In Business Management I	CO1	To learn basic concepts of Information Technology, its support and role in Management, for managers
	CO2	To recognize security aspects of IT in business, highlighting electronic transactions, advanced security features
Accounting For Managerial Decisions	CO1	To acquaint management learners with basic accounting fundamentals.
	CO2	To develop financial analysis skills among learners.
Strategic Management	CO1	Know, understand, and apply the strategic management process to analyze and improve organizational performance
	CO2	Critically examine the management of the entire enterprise from the top management viewpoints.
Foundation Course Iii-Environmental Management	CO1	Develop an activity using various strategies to control, reduce and monitor all environmental problems that might arise as a result.
	CO2	Be conversant with basic environmental legislation.
Semester-IV		
Auditing (Finance Elective)	CO1	To examine the system of internal check
	CO2	To confirm the existence of assets & liability.
Strategic Cost Management (Finance Elective)	CO1	Learners should develop skills of analysis, evaluation and synthesis in cost and management accounting
	CO2	The subject covers the complex modern industrial organizations within which the various facets of decision-making and controlling operations take place.
Integrated Marketing Communication (Marketing)	CO1	To equip the students with knowledge about the nature, purpose and complex construction in the planning and execution of an effective Integrated Marketing Communication (IMC) program.
	CO2	To understand the various tools of IMC and the importance of co-ordinating them for an effective marketing communication program.
Rural Marketing (Marketing)	CO1	To explore the students to the Agriculture and Rural Marketing environment so that they can understand consumer's and marketing characteristics of the same for understanding and contributing to the emerging challenges in the upcoming global economic scenario.
Human Resource Planning & Information System (Human Resource Management)	CO1	To Understand the Concept and Process of HRP
	CO2	To Understand Ways of matching Job Requirements and Human Resource Availability
Training & Development In HRM (Human Resource Management)	CO1	To make the students acquainted with working of the two powerful media; i.e. radio and television
	CO2	The content is useful for both advertising and journalism students in order to further their careers in their respective fields
Information Technology In Business Management-II	CO1	To understand managerial decision-making and to develop perceptive of major functional area of MIS

	CO2	To learn outsourcing concepts. BPO/KPO industries, their structures , Cloud computing
Business Economics II	CO1	Understanding, through application of microeconomics, of the interaction of individuals and organizations in markets; and of the role of public policy in shaping those interactions
Business Research Methods	CO1	The course is designed to inculcate the analytical abilities and research skills among the students
	CO2	The course intends to give hands on experience and learning in Business Research
Foundation Course IV - Ethics & Governance	CO1	To understand the emerging need and growing importance of good governance and CSR by organisations
	CO2	To study the ethical business practices, CSR and Corporate Governance practiced by various organisations
Production & Total Quality Management	CO1	Implement the basic principles of TQM in manufacturing and service-based organization.
	CO2	To enable the learners to apply what they have learned theoretically.
T.Y.BMS (SEMESTER-V)		
Investment Analysis & Portfolio Management (Finance)	CO1	To acquaint the learners with various concepts of finance
	CO2	To understand various models and techniques of security and portfolio analysis
Wealth Management (Finance)	CO1	To study the relevance and importance of Insurance in wealth management
	CO2	To acquaint the learners with issues related to taxation in wealth management
Risk Management (Finance)	CO1	To familiarize the student with the fundamental aspects of risk management and control
	CO2	To give a comprehensive overview of risk governance and assurance with special reference to the insurance sector
Financial Accounting (Finance)	CO1	To acquaint the learners in preparation of final accounts of companies
	CO2	To study the accounting of foreign currency and investment
Services Marketing (Marketing)	CO1	To understand distinctive features of services and key elements in services marketing
	CO2	To provide insight into ways to improve service quality and productivity
E-Commerce & Digital Marketing (Marketing)	CO1	To understand the increasing significance of E-Commerce and its applications in Business and Various Sectors
	CO2	to understand Latest Trends and Practices in E-Commerce and Digital Marketing, along with its Challenges and Opportunities for an Organisation
Sales & Distribution Management (Marketing)	CO1	To develop understanding of the sales & distribution processes in organizations
	CO2	To get familiarized with concepts, approaches and the practical aspects of the key decision making variables in sales management and distribution channel management

Customer Relationship Mgmt. (Marketing)	CO1	To understand concept of Customer Relationship Management (CRM) and implementation of Customer Relationship Management
	CO2	To understand new trends in CRM, challenges and opportunities for organizations
Finance For Hr Professionals & Compensation Management (Human Resource Management)	CO1	To orient HR professionals with financial concepts to enable them to make prudent HR decisions
	CO2	To understand the various compensation plans
Strategic Human Resource Management & Hr Policies (Human Resource Management)	CO1	To understand the various compensation plans
	CO2	To understand the relationship between strategic human resource management and organizational performance
Performance Management & Career Planning (Human Resource Management)	CO1	To understand the concept of performance management in organizations
	CO2	To review performance appraisal systems
Stress Management(Human Resource Management)	CO1	To understand the nature and causes of stress in organizations
	CO2	To enable learners to adopt effective strategies, plans, and techniques to deal with stress
Logistics And Supply Chain Management	CO1	To provide students with basic understanding of concepts of logistics and supply chain management
	CO2	To provide an insight in to the nature of supply chain, its functions and supply chain systems
Corporate Communication & Public Relations	CO1	To provide the students with basic understanding of the concepts of corporate communication and public relations
	CO2	To introduce the various elements of corporate communication and consider their roles in managing organizations
SEMESTER-VI		
International Finance(Elective Finance)	CO1	The objective of this course is to familiarize the student with the fundamental aspects of various issues associated with International Finance
	CO2	The course aims to give a comprehensive overview of International Finance as a separate area in International Business
Innovative Financial Services(Elective Finance)	CO1	To familiarize the learners with the fundamental aspects of various issues associated with various Financial Services
	CO2	To introduce the basic concepts, functions, process, techniques and create an awareness of the role, functions and functioning of financial services
Project Management (Elective Finance)	CO1	The objective of this course is to familiarize the learners with the fundamental aspects of various issues associated with Project Management
	CO2	To give a comprehensive overview of Project Management as a separate area of Management
Strategic Financial Management (Elective Finance)	CO1	To match the needs of current market scenario and upgrade the learner's skills and knowledge for long term sustainability
	CO2	Changing scenario in Banking Sector and the inclination of learners towards choosing banking as a career option has made study of financial management in banking sector inevitable

Brand Management (Elective Marketing)	CO1	To understand the meaning and significance of Brand Management
	CO2	To Know how to build, sustain and grow brands
Retail Management (Elective Marketing)	CO1	To provide understanding of retail management and types of retailers
	CO2	To develop an understanding of retail management terminology including merchandize management, store management and retail strategy.
International Marketing (Elective Marketing)	CO1	To understand International Marketing, its Advantages and Challenges.
	CO2	To understand the relevance of International Marketing Mix decisions and recent developments in the Global Market
Media Planning And Management	CO1	To understand Media Planning, Strategy, and Management with reference to the current business scenario.
	CO2	To know the basic characteristics of all media to ensure the most effective use of the advertising budget.
HRM In Global Perspective (ELECTIVE HUMAN RESOURCE)	CO1	To understand the concepts, theoretical framework, and issues of HRM from a Global Perspective
	CO2	To get insights of the concepts of Expatriates and Repatriates
Organisational Development (Elective Human Resource)	CO1	To understand the concept of Organisational Development and its Relevance in the organisation
	CO2	To Study the Issues and Challenges of OD while undergoing Changes
HRM In Service Sector Management (Elective Human Resource)	CO1	To understand how to manage human resources in service sector
	CO2	To understand the significance of human element in creating customer satisfaction through service quality
Human Resource Accounting & Audit (Elective Human Resource)	CO1	To familiarize with the Human Resource Accounting Practices in India
	CO2	To familiarize the learners with the process and approaches of Human Resources Accounting and Audit
Operation Research	CO1	To help students to understand operations research methodologies
		To help students to solve various problems practically
Project Work	CO1	to inculcate the element of research analyse and scientific temperament challenging the potential of learner as regards to his/ her eager to enquire and ability to interpret a particular aspects of the study.

HOD BMS

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DEPARTMENT OF COMPUTER SCIENCE

At the end of three year Bachelor of Computer Science, the students will be able:

PSO 1: To formulate, to model, to design solutions, procedure and to use software tools to solve real world problems.

PSO 2: To design and develop computer programs/computer -based systems in the areas such as networking, web design, security, cloud computing, IoT, data science and other emerging technologies.

PSO 3: To familiarize with the modern-day trends in industry and research based settings and thereby innovate novel solutions to existing problems.

PSO 4: To apply concepts, principles, and theories relating to computer science to new situations.

PSO 5: To use current techniques, skills, and tools necessary for computing practice

PSO 6: To apply standard Software Engineering practices and strategies in real-time software project development

PSO 7: To pursue higher studies of specialization and to take up technical employment.

PSO 8: To work independently or collaboratively as an effective tame member on a substantial software project.

PSO 9: To communicate and present their work effectively and coherently.

PSO 10: To display ethical code of conduct in usage of Internet and Cyber systems.

PSO 11: To engage in independent and life-long learning in the background of rapid changing IT industry.

Course Outcomes:

F.Y.B.Sc. C.S. Semester I		
Course Name	**Course Number**	**Course Outcomes**
Digital Systems & Architecture	CO1	To learn about how computer systems work and underlying principles To understand the basics of digital electronics needed for computers
	CO2	To understand the basics of instruction set architecture for reduced and complex instruction sets To understand the basics of processor structure and operation
	CO3	To understand how data is transferred between the processor and I/O devices
Introduction to Programming with Python	CO1	Ability to store, manipulate and access data in Python Ability to implement basic Input / Output operations in Python
	CO2	Ability to define the structure and components of a Python program. Ability to learn how to write loops and decision statements in Python.
	CO3	Ability to learn how to write functions and pass arguments in Python. Ability to create and use Compound data types in Python
LINUX Operating System	CO1	Work with Linux file system structure, Linux Environment Handle shell commands for scripting, with features of regular expressions, redirections
	CO2	Implement file security permissions Work with vi, sed and awk editors for shell scripting using various control structures
	CO3	Install software like compilers and develop programs in C and Python programming languages on Linux Platform

Open Source Technologies	CO1	Differentiate between Open Source and Proprietary software and Licensing.
	CO2	Recognize the applications, benefits and features of Open-Source Technologies
	CO3	Gain knowledge to start, manage open-source projects.
Discrete Mathematics	CO1	Define mathematical structures (relations, functions, graphs) and use them to model real life situations. Understand, construct and solve simple mathematical problems.
	CO2	Solve puzzles based on counting principles. Provide basic knowledge about models of automata theory and the corresponding formal languages.
	CO3	Develop an attitude to solve problems based on graphs and trees, which are widely used in software.
Descriptive Statistics	CO1	Organize, manage and present data.
	CO2	Analyze Statistical data using measures of central tendency and dispersion. Analyze Statistical data using basics techniques of R.
	CO3	4. Study the relationship between variables using techniques of correlation and regression.
Soft Skills	CO1	Learners will be able to understand the importance and types soft skills
	CO2	Learners will develop skills for Academic and Professional Presentations. Learners will able to understand Leadership Qualities and Ethics.
	CO3	Ability to understand the importance of stress management in their academic & professional life.
F.Y.B.Sc. C.S. Semester II		
Design & Analysis of Algorithms	CO1	Students should be able to understand and evaluate efficiency of the programs that they write based on performance of the algorithms used.
	CO2	Students should be able to appreciate the use of various data structures as per need
	CO3	To select, decide and apply appropriate design principle by understanding the requirements of any real life problems
Advanced Python Programming	CO1	Ability to implement OOP concepts in Python including Inheritance and Polymorphism Ability to work with files and perform operations on it using Python.
	CO2	Ability to implement regular expression and concept of threads for developing efficient program Ability to implement exception handling in Python applications for error handling.
	CO3	Knowledge of working with databases, designing GUI in Python and implement networking in Python
Introduction to OOPs using C++	CO1	Work with numeric, character and textual data and arrays.
	CO2	Understand the importance of OOP approach over procedural language. Understand how to model classes and relationships using UML.
	CO3	Apply the concepts of OOPS like encapsulation, inheritance and polymorphism.

		Handle basic file operations.
Database Systems	CO1	To appreciate the importance of database design. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
	CO2	Write simple queries to MySQL related to String, Maths and Date Functions. Create tables and insert/update/delete data, and query data in a relational DBMS using MySQL commands
	CO3	Understand the normalization and its role in the database design process. Handle data permissions. Create indexes and understands the role of Indexes in optimization search.
Calculus	CO1	Develop mathematical skills and enhance thinking power of learners.
	CO2	Understand mathematical concepts like limit, continuity, derivative, integration of functions, partial derivatives. Appreciate real world applications which uses the learned concepts.
	CO3	Skill to formulate a problem through Mathematical modelling and simulation.
Statistical Methods	CO1	Calculate probability, conditional probability and independence. Apply the given discrete and continuous distributions whenever necessary.
	CO2	Define null hypothesis, alternative hypothesis, level of significance, test statistic and p value. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases.
	CO3	Apply non-parametric test whenever necessary. Conduct and interpret one-way and two-way ANOVA.
E-Commerce & Digital Marketing	CO1	Understand the core concepts of E-Commerce. Understand the various online payment techniques
	CO2	Understand the core concepts of digital marketing and the role of digital marketing in business. Apply digital marketing strategies to increase sales and growth of business
	CO3	Apply digital marketing through different channels and platforms Understand the significance of Web Analytics and Google Analytics and apply the same.

S.Y.B.Sc. C.S. Semester III		
Theory of Computation	CO1	Understand Grammar and Languages
	CO2	Learn about Automata theory and its application in Language Design
	CO3	Learn about Turing Machines and Pushdown Automata Understand Linear Bound Automata and its applications
Core Java	CO1	Object oriented programming concepts using Java.
	CO2	Knowledge of input, its processing and getting suitable output.
	CO3	Understand, design, implement and evaluate classes and applets. Knowledge and implementation of AWT package.
Operating System	CO1	To provide a understanding of operating system, its structures and functioning
	CO2	Develop and master understanding of algorithms used by operating systems for various purposes.
	CO3	Understanding of algorithms used by operating systems for various purposes.
Database Management Systems	CO1	Master concepts of stored procedure and triggers and its use.
	CO2	Learn about using PL/SQL for data management
	CO3	Understand concepts and implementations of transaction management and crash recovery
Combinatorics and Graph Theory	CO1	Appreciate beauty of combinatorics and how combinatorial problems naturally arise in many settings.
	CO2	Understand the combinatorial features in real world situations and Computer Science applications.
	CO3	Apply combinatorial and graph theoretical concepts to understand Computer Science concepts and apply them to solve problems
Physical Computing and IoT Programming	CO1	Enable learners to understand System On Chip Architectures.
	CO2	Introduction and preparing Raspberry Pi with hardware and installation.

	CO3	Learn physical interfaces and electronics of Raspberry Pi and program them using practical's Learn how to make consumer grade IoT safe and secure with proper use of protocols.
Web Programming	CO1	To design valid, well-formed, scalable, and meaningful pages using emerging technologies.
	CO2	Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites To develop and implement client-side and server-side scripting language programs.
	CO3	To develop and implement Database Driven Websites. Design and apply XML to create a markup language for data and document centric applications.
S.Y.B.Sc. C.S. Semester IV		
Fundamentals of Algorithms	CO1	Understand the concepts of algorithms for designing good program
	CO2	Implement algorithms using Python
	CO3	To develop application
Advanced Java	CO1	Understand the concepts related to Java Technology
	CO2	Explore and understand use of Java Server Programming
	CO3	To learn and developed Java based application
Computer Networks	CO1	Learner will be able to understand the concepts of networking, which are important for them to be known as a 'networking professionals'.
	CO2	Useful to proceed with industrial requirements and International vendor certifications.
	CO3	To learn network topologies
Software Engineering	CO1	Plan a software engineering process life cycle, including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements
	CO2	Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.

	CO3	Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice Able to use modern engineering tools necessary for software project management, time management and software reuse.
Linear Algebra using Python	CO1	Appreciate the relevance of linear algebra in the field of computer science.
	CO2	Understand the concepts through program implementation
	CO3	Install a computational thinking while learning linear algebra.
.Net Technologies	CO1	Understand the .NET framework
	CO2	Develop a proficiency in the C# programming language
	CO3	Proficiently develop ASP.NET web applications using C#. Use ADO.NET for data persistence in a web application
Android Developer Fundamentals	CO1	Understand the requirements of Mobile programming environment.
	CO2	Learn about basic methods, tools and techniques for developing Apps Explore and practice App development on Android Platform
	CO3	Develop working prototypes of working systems for various uses in daily lives.

T.Y.B.Sc. CS Sem V		
USCS501 Artificial Intelligence	CO1	After completion of this course, learner should get a clear understanding of AI and different search algorithms used for solving problems.
	CO2	The learner should also get acquainted with different learning algorithms and models used in machine learning.
	CO3	Artificial Intelligence (AI) and accompanying tools and techniques bring transformational changes in the world. Machines capability to match, and sometimes even surpass human capability, make AI a hot topic in Computer Science. This course aims to introduce the learner to this interesting area.
USCS502 Linux Server Administration	CO1	Learner will be able to develop Linux based systems and maintain
	CO2	Learner will be able to install appropriate service on Linux server as per requirement.
	CO3	Learner will have proficiency in Linux server administration.
USCS503 Software Testing and Quality Assurance	CO1	Understand various software testing methods and strategies.
	CO2	Understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software.
	CO3	Design SQA activities, SQA strategy, formal technical review report for software quality control and assurance
USCS504 Information and Network Security	CO1	Understand the principles and practices of cryptographic techniques.
	CO2	Understand a variety of generic security threats and vulnerabilities, and identify & analyze particular security problems for a given application.
	CO3	Understand various protocols for network security to protect against the threats in a network
USCS505 Architecting of IoT	CO1	Learners are able to design & develop IoT Devices.
	CO2	They should also be aware of the evolving world of M2M Communications and IoT analytics.
USCS506 Web Services	CO1	Emphasis on SOAP based web services and associated standards such as WSDL

	CO2	Design SOAP based / RESTful / WCF services Deal with Security and QoS issues of Web Services
	CO3	To understand WCF service. To design secure web services and QoS of Web Services
USCS507 Game Programming	CO1	Learner should study Graphics and gamming concepts with present working style of developers where everything remains on internet and they need to review it, understand it, be a part of community and learn.
	CO2	Along with the VR and AR they should also aware of GPU, newer technologies and programming using most important API for windows.
	CO3	Learner should get the understanding computer Graphics programming using Directx or Opengl.
T.Y.B.Sc. C.S. Semester VI		
USCS601 Wireless Sensor Networks and Mobile Communication	CO1	After completion of this course, learner should be able to list various applications of wireless sensor networks.
	CO2	Describe the concepts, protocols, design, implementation and use of wireless sensor networks.
	CO3	Implement and evaluate new ideas for solving wireless sensor network design issues.
USCS602 Cloud Computing	CO1	After successfully completion of this course, learner should be able to articulate the main concepts, key technologies, strengths, and limitations of cloud computing and the possible applications for state-of-the-art cloud computing using open source technology.
	CO2	Learner should be able to identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc.
	CO3	They should explain the core issues of cloud computing such as security, privacy, and interoperability.
USCS603 Cyber Forensics	CO1	To understand the procedures for identification, preservation, and extraction of electronic evidence, auditing and investigation of network and host system intrusions, analysis and documentation of information gathered
	CO2	The student will be able to plan and prepare for all stages of an investigation - detection, initial response and management interaction, investigate various media to collect evidence, report them in a way that would be acceptable in the court of law.

USCS604 Information Retrieval	CO1	After completion of this course, learner should get an understanding of the field of information retrieval and its relationship to search engines.
	CO2	It will give the learner an understanding to apply information retrieval models.
	CO3	To provide an overview of the important issues in classical and web information retrieval.
USCS605 Digital Image Processing	CO1	Learner should review the fundamental concepts of a digital image processing system.
	CO2	Analyze the images in the frequency domain using various transforms.
	CO3	Evaluate the techniques for image enhancement and image segmentation.
	CO4	Apply various compression techniques. They will be familiar with basic image processing techniques for solving real problems.
USCS606 Data Science	CO1	Understanding basic data science concepts. Learning to detect and diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.
	CO2	Making aware of how to address advanced statistical situations, Modeling and Machine Learning.
	CO3	After completion of this course, the students should be able to understand & comprehend the problem. To define suitable statistical method to be adopted.
USCS607 Ethical Hacking	CO1	To understand the ethics, legality, methodologies and techniques of hacking.
	CO2	Learner will know to identify security vulnerabilities and weaknesses in the target applications
	CO3	To test and exploit systems using various tools and understand the impact of hacking in real time machines.

HOD COMPUTER SCIENCE

J. S. M. ALIBAG COLLEGE

PRINCIPAL
Smt. Indirabai G. Kulkarni Arts
J. B. Sawant Science and
Sau. Janakibai Dhondo Kunte Commerce
College, Alibag-402 201, Dist. Raigad

DEPARTMENT OF INFORMATION TECHNOLOGY

PROGRAM OUTCOME

B.Sc. Information Technology programs make the students employable and impart industry oriented training. The students will learn:

PO1: To think analytically, creatively and critically in developing robust, extensible and highly maintainable technological solutions to simple and complex problems.

PO2: To apply their knowledge and skills to be employed and excel in IT professional careers and/or to continue their education in IT and/or related post graduate programmes.

PO3: To be capable of managing complex IT projects with consideration of the human, financial and environmental factors.

PO4: To work effectively as a part of a team to achieve a common stated goal.

PO5: To adhere to the highest standards of ethics, including relevant industry and organizational codes of conduct.

PO6: To communicate effectively with a range of audiences both technical and non-technical.

PO7: To develop an aptitude to engage in continuing professional development.

PROGRAMME SPECIFIC OUTCOMES

This program covers industry relevant courses. The students will be ready for the jobs available in different fields like:

- Software Development (Programming)
- Website Development
- Mobile app development
- Internet of Things
- Software Testing
- Networking
- Database Administration
- System Administration
- Cyber Law Consultant
- GIS (Geographic Information Systems)
- IT Service Desk
- Security
- Technical communication skills
- Green IT and many others

COURSE OUTCOMES:

F.Y.B.Sc. IT (SEM I)		
Course name	**Number**	**Outcome**
Paper 1 – Imperative Programming	CO1	Learn the basic principles of programming.
	CO2	Develop logic using algorithms and flowchart.
	CO3	Acquire the information about data types.
	CO4	Understanding of input and output functions.
	CO5	Enhance advanced concepts using programs.
Paper 2 – Digital Electronics	CO1	Apply number conversion techniques in real digital systems
	CO2	Solve boolean algebra expressions
	CO3	Derive and design logic circuits by applying minimization in SOP and POS forms
	CO4	Design and develop Combinational and Sequential circuits
	CO5	Understand and develop digital applications
Paper 3 – Operating System	CO1	Understand operating system and its types.
	CO2	Learn about memory management.
	CO3	Learn input output hardware and software and deadlock.
	CO4	Understand virtualization & multiprocessors
	CO5	Case studies on linux, android & widows
Paper 4 – Discrete Mathematics	CO1	Use logical notation and Perform logical proofs
	CO2	Apply recursive functions and solve recurrence relations

	CO3	Use graphs and trees
	CO4	Apply basic and advanced principles of counting
	CO5	Define sets and Relations
	CO6	Calculate discrete probabilities.
Paper 5 – Communication Skills	CO1	Analyze, synthesize and utilize the process and strategies from delivery to solving communication problems.
	CO2	Learn the communication methodologies at the workplace and learn about the importance of team collaboration.
	CO3	Learn about different technical communication such as presentations and interviews.
	CO4	Understand and apply the art of written communication in writing reports, proposals.
	CO5	Ground rules of ethical communication and MIS.
	CO6	Understand the functions of graphs, maps, charts.

F.Y.B.Sc. IT (SEM II)		
Course name	**Number**	**Outcome**
Paper 1 – Object oriented Programming	CO1	Understand the concept of OOPs, features of C++ language.
	CO2	Understand and apply various types of Datatypes, Operators, Conversions while designing the program.
	CO3	Understand and apply the concepts of Classes & Objects, friend function, constructors & destructors in program design.
	CO4	Design & implement various forms of inheritance, String class, calling base class constructors.
	CO5	Apply & Analyze operator overloading, runtime polymorphism, Generic Programming.
	CO6	Analyze and explore various Stream classes, I/O operations and exception handling.
Paper 2 – Microprocessor Architecture	CO1	Understand the basic concepts of Micro Computer Systems
	CO2	Understand the architecture and hardware aspects of 8085
	CO3	Write assembly language programs in 8085
	CO4	Design elementary aspects of Micro Controller based systems
	CO5	Interfacing peripherals using Microcontroller
Paper 3 – Web Programming	CO1	Analyze the working of the Internet.
	CO2	Gain an insight into designing web pages.
	CO3	Use different ways of styling web pages using CSS.
	CO4	Implement basic and complex functionalities of JavaScript in a web page.

	CO5	Employ PHP Scripts to execute dynamic tasks in a web page.
	CO6	Perform various database tasks using PHP.
Paper 4 – Numerical and Statistical Methods	CO1	Understand numerical techniques to find the roots of nonlinear equations and solution of systems of linear equations.
	CO2	Understand the difference operators and the use of interpolation.
	CO3	Understand numerical differentiation and integration and numerical solutions of ordinary and partial differential equations.
	CO4	Find fast and accurate solutions to simple and complex numerical problems using different techniques.
Paper 5 – Green Computing	CO1	Understand the concept of Green IT and problems related to it.
	CO2	Know different standards for Green IT.
	CO3	Understand how power usage can be minimized in Technology.
	CO4	Learn about how the way of work is changing.
	CO5	Understand the concept of recycling.
	CO6	Know how information systems can stay Green Information systems.

S.Y.B.Sc. IT (SEM III)		
Course name	**Number**	**Outcome**
Paper 1 – Python Programming	CO1	Learn about python programming and its structure.
	CO2	Learn implementation of function
	CO3	Understand different datatypes in python
	CO4	Implementation of OOP concepts in python
	CO5	Learn about GUI using python language
	CO6	Learn how to make database connectivity in python
Paper 2 – Data Structures	CO1	Learn about Data structures, its types and significance in computing
	CO2	Explore about Abstract Data types
	CO3	Abstract Data types implementation
	CO4	Ability to program various applications using different data structure
	CO5	Ability to various applications
Paper 3 – Computer Networks	CO1	Learn basics of computer network and its OSI model. Study Physical layer and its services.
	CO2	How does transmission occur? Its medium ad switching.
	CO3	Working of Data link layer, MAC & Virtual LAN
	CO4	Learn various services of network layer with routing/ router.
	CO5	Study transport and application layer through FTP, Email, Telnet, DNS.
Paper 4 – Database Management Systems	CO1	Define and describe the fundamental elements of relational database management systems.
	CO2	To relate the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.

	CO3	Design ER-models to represent simple database application scenarios.
	CO4	Transform the ER-model to relational tables, populate relational databases and formulate SQL queries on data.
	CO5	Improve the database design by normalization
	CO6	Understand basic database storage structures and access techniques: file and page organizations, indexing methods and hashing.
Paper 5 – Applied Mathematics	CO1	Solve Matrices and Complex Numbers
	CO2	Calculate Equation of the first order and of the first degree
	CO3	Understand The Laplace Transform and Inverse Laplace Transform
	CO4	Calculate Multiple Integrals and Applications of integration
	CO5	Understand Beta and Gamma Functions and DUIS

S.Y.B.Sc. IT (SEM IV)		
Course name	**Number**	**Outcome**
Paper 1 – Core Java	CO1	Understand about its history and structure of core java and its datatypes.
	CO2	How to implement control flow statement and iteration in core java
	CO3	Implementation of OOP concepts in core java
	CO4	GUI implements using core java
Paper 2 – Introduction to Embedded Systems	CO1	Understand the concept of embedded systems. Study hardware and software attributes of ES.
	CO2	Examples of Embedded systems. Improve knowledge about memory units used in any Embedded system.
	CO3	Study architecture of 8051 and programming in Embedded C.
	CO4	Understand the structure of Embedded programs and find the factors to be considered for selecting a controller.
	CO5	Learn about RTOS. Develop the knowledge about designing and development process of ES.
Paper 3 – Computer Oriented Statistical Techniques	CO1	Calculate The Mean, Median, Mode, and Other Measures of Central Tendency
	CO2	Perform The Standard Deviation and Other Measures of Dispersion
	CO3	Learn about Elementary Probability Theory
	CO4	Learn about Statistical Decision Theory
	CO5	Learn about The Chi-Square Test and Small Sampling Theory
	CO6	Understand about Curve Fitting and the Method of Least Squares

Paper 4 – Software Engineering	CO1	Plan a software engineering process life cycle, including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements
	CO2	Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.
	CO3	Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice
	CO4	Able to use modern engineering tools necessary for software project management, time management and software reuse.
	CO5	Able to develop software
Paper 5 – Computer Graphics and Animation	CO1	Understand computer graphics and scan conversion techniques.
	CO2	Learn 2D and 3D transformations.
	CO3	Understand viewing in 3D , Colour and Light
	CO4	Learn techniques for visible surface determination.
	CO5	Understand computer animation.

T.Y.B.Sc. IT (SEM V)		
Course name	**Number**	**Outcome**
Paper 1 – Software Project Management	CO1	To learn and understand the Concepts of Software Project Management, Understand the project evaluation and programme management
	CO2	To learn and understand selection of an Appropriate Project Approach and choosing right methodology
	CO3	To apply the project management and analysis principles to software project development
	CO4	To learn and understand the Concepts of monitoring and controlling project
	CO5	Understand the concepts of project teams and quality
Paper 2 – Internet of Things	CO1	Take an overview of IoT. Understand the principles of connected devices and basics of internet system.
	CO2	Visualize the prototype making process of IoT product and the Embedded system
	CO3	Get started with prototyping online components for IoT.
	CO4	Study different software for writing embedded coding. Understand the business model in manufacturing and producing an IoT product
	CO5	Movement from conceptualization to production. Understand the ethics during the business process of an IoT product.
Paper 3 – Advanced Web Programming	CO1	Introduction to .NET and learn C# language.
	CO2	Understanding web form fundamentals.
	CO3	Learn Error handling and tracing , how to create master pages , skins and themes.
	CO4	Understanding ADO.NET fundamentals and data controls.
	CO5	Understand XML and AJAX.

Paper 4 – Linux System Administration	CO1	Learn about linux based operating system and its architecture
	CO2	To configure different network server in linux
	CO3	To configure different file sharing server in linux
	CO4	Understand how to manage users in linux operating system
Paper 5 – Enterprise Java	CO1	Understand the concepts related to Java Technology
	CO2	Explore and understand use of Java Server Programming
	CO3	Knowledge of input, its processing and getting suitable output.
	CO4	To develop JPA application
	CO5	To develop Hybernate application

T.Y.B.Sc. IT (SEM VI)		
Course name	**Number**	**Outcome**
Paper 1 – Software Quality Assurance	CO1	Understand Historical Perspective of Quality
	CO2	To learn and understand the concepts of testing
	CO3	To learn unit testing and table based testing
	CO4	To learn and understand software verification and validation model
	CO5	To learn special tesitng and level of testing
Paper 2 – Security in Computing	CO1	Identify required security Methodology in any organization and risk analysis
	CO2	Understand the concepts of authentication and authorization, encryption in storing of data and its access
	CO3	Introduction to Secure Network Design, and study of hardware and software components used in it
	CO4	Learn about Intrusion Detection and Prevention Systems, VoIP and PBX.
	CO5	Understand Virtual Machines and Cloud Computing. Identify Secure Application Design and physical security.
Paper 3 – Business Intelligence	CO1	Understand the core concept of Business intelligence and Decision support systems
	CO2	Decide about the mathematical model used for decision making. Learn about data mining and data preparation
	CO3	Classify and cluster the methods for problem solving
	CO4	Understand different business intelligence applications.

	CO5	Study knowledge management in BI. Understand the benefits of using Artificial Intelligence in business.
Paper 4 – Enterprise Networking	CO1	Learn General network design and network design models.
	CO2	Learn Enterprise LAN design and data center design.
	CO3	Understand WAN design & WAN Technologies.
	CO4	Learn IPV4 and IPV6 design
	CO5	Understand how to manage security and related protocols.
Paper 5 – Cyber Laws	CO1	Study of power of arrest without warrant under the IT act 2000.
	CO2	To learn contracts in the infotech world.
	CO3	To study copyright protection in the cyber world.
	CO4	Understand e-commerce, digital signature, E-governance.
	CO5	Study the Indian Evidence Act of 1872 vs. Information Technology Act 2000.

HOD IT

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College, Alibag-402 201, Dist. Raigad