

**Janata Shikshan Mandal's**  
Smt. Indirabai G. Kulkarni Arts College, J. B. Sawant Science College and  
Sau. Janakibai D. Kunte Commerce College, Alibag – Raigad.

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## Academic Year: 2022-23

### Programme outcome (POS) Programme Specific Outcomes (PSO) and Course Outcomes (COS)

Sr. No.	Name of the Department
1.	English
2.	Marathi
3.	Hindi
4.	Political Science
5.	Economics
6.	Geography
7.	Commerce
8.	Chemistry
9.	Physics
10.	Botany
11.	Computer Science
12.	Information Technology
13.	Business Management Studies

Place :- Alibag



PRINCIPAL

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



# **J.S.M. COLLEGE, ALIBAG-RAIGAD**

Department of English

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

# **J. S. M. COLLEGE, ALIBAG**

## **DEPARTMENT OF ENGLISH**

### **PROGRAMME OUTCOMES**

**2022-23**

#### **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 devices 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.

### **T.Y.B.A. Paper No VII: 19<sup>th</sup> 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**

**Department of English**



# **J.S.M. COLLEGE, ALIBAG-RAIGAD**

Department of Marathi

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

# **J. S. M. COLLEGE, ALIBAG-RAIGAD**

## **Outcomes of the Syllabus - Year: 2022-23**

- **Department - Marathi**
- **Name of HOD: Dr. Nilkanth N. Shere**

### **FYBA**

#### **FYBA COMP. MARATHI**

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

#### **FYBA OPT. MARATHI (I)**

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

### **SYBA**

#### **SYBA - MARATHI (II)**

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

#### **SYBA - MARATHI - (III)**

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

#### **SYBA - JOURNALISM**

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

## **TYBA**

### **TYBA PAPER – IV - History of medieval Marathi literature**

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

### **TYBA PAPER – V - Indian and Western theories of Literature**

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

### **TYBA PAPER – VI - Literature and Society**

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

### **TYBA PAPER – VII - Linguistics and Marathi grammar**

- 1) Students will be introduced to nature of language.

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

#### **TYBA PAPER – VIII - Modern Marathi literature**

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

#### **TYBA PAPER – IX - Occupational Marathi**

- 1) Students will have detailed knowledge about translation skills.
- 2) Students will get translation skills, so they will get employment opportunities.
- 3) Students will develop writing ability and creativity.
- 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.
- 5) Employment opportunities in media will be available to students by acquiring writing skills.

#### **M.A. - I**

##### **PAPER – I / V - Theory of Literature**

- 1) Students will develop a vision to think from different perspectives on literature and literary creation.
- 2) students will gain appropriate knowledge of important theories and concepts in Western, Indian and Marathi literature.
- 3) Students will develop an understanding to literature.
- 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**

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

4) Students will gain systematic training of literary criticism.

### **PAPER – III / VII - History of Marathi Literature**

1) Students will understand the methods, format and concept of writing history of Marathi literature.

2) Students will develop an attitude towards literary history from different perspectives and criticism methods.

3) Students will understand changes in literature due to cultural and social environment.

4) Students will understand the chronology of literary history writing, the nature, inspiration and purpose of literary history writing.

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**

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

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.

3) Students' linguistic views will be clear.

4) Students will develop the skill to analyse language on the basis of linguistics.

### **M.A. – II**

#### **PAPER - 9.5 - Dalit literature - दलित साहित्य**

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

2) Students will be able to understand the literary and social / cultural background of Dalit literature.

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.

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**

1) Students will be able to understand Grameen Sahitya, an important literary stream in modern Marathi literature.

2) Students will be able to understand the background of the rural movement behind the Grameen Sahitya.

3) Students will be able to study various stages in Marathi Grameen Sahitya.

**PAPER - 11.1 – Study of Form of Literature: Drama - साहित्यप्रकाराचा अभ्यास - नाटक**

1) Students will understand the literary genre of drama.

2) Students will understand historical development of drama literature in Marathi.

3) Students can compose plays by acquiring drama knowledge and skills.

**PAPER - 12.2 – BAL-SAHITYA – बालसाहित्य**

1) Students will be able to understand how to do Study theory of BAL-SAHITYA.

2) Students can study the literature of BAL-SAHITYA.

3) The 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.

4) Students will be able to understand what are characteristics of BAL-SAHITYA in relation to the world of experience and language in children's literature.

5) Students will be able to understand how BAL-SAHITYA form differs from adult literature.

**PAPER - 13.1- Mahanagariy Sahitya - महानगरीय साहित्य**

1) Students will be able to understand Mahanagariy Sahitya, an important literary stream in modern Marathi literature.

2) Students will be able to study various stages in Marathi metropolitan literature.

3) Students can study specific literature based on metropolis.

**PAPER - 14.2 - Feminist Movement and Theorization- स्त्रीवादी चळवळ आणि सिद्धांत**

1) Students will come to know the history of feminist movement and the principles that have been developed in this regard.

2) Students can understand the background of feminist movement behind the stream of feminist literature.

3) Students will be able to study various stages in Marathi feminist literature.

4) Students can study specific literature based on feminism.

**PAPER - 15.1 - Mass media and Usage of Marathi Language - प्रसारमाध्यमे व मराठी भाषेचे उपयोजन**

1) Students will be able to understand the nature and types of modern age media.

2) According to the media, various skills of language application will be known to the students.

3) Students can acquire various skills of language application and apply accordingly.

### PAPER - 16 - Project Writing

1) Students will get knowledge of how to do research on a subject thoroughly.

2) Students can do scholarly research on a subject.

### BHASHA And VANGMAY MANDAL

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



Head, Department of Marathi



PRINCIPAL  
Dr. Anil K. Patil  
J. B. Sawant Science and  
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A/Bag-402 201, Dist. Raigarh



# **J.S.M. COLLEGE, ALIBAG-RAIGAD**

## **Department of Hindi**

### **Programme outcome (POS) Programme Specific Outcomes (PSO)and Course Outcomes (COS)**

## SEMESTER – I

NAME OF PROGRAM	: B.A.
NAME OF THE COURSE	: F.Y.B.A. Ancillary (ऐच्छिक हिन्दी)
COURSECODE	: UAHIN 101
TOTAL LECTURES	: 60
CREDITS	: 3

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### ---Aims and Objectives:

1. विद्यार्थियों को गद्य विधाओं की प्रचलित रचना कहानी, निबंध आदि के अतिरिक्त आत्मकथा, जीवनी, संस्मरण, यात्रा वृत्तांत और रेखाचित्र आदि नवीनतम विधाओं से परिचित कराना।
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
TOTAL LECTURES	: 60
CREDITS	: 3

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### ---Aims and Objectives:

1. विद्यार्थियों को गद्य विधाओं की प्रचलित रचना कहानी, निबंध आदि के अतिरिक्त आत्मकथा, जीवनी, संस्मरण, यात्रा वृत्तांत और रेखाचित्र आदि नवीनतम विधाओं से परिचित कराना।
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
TOTAL LECTURES	: 45
CREDITS	: 03

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### अभिप्राय एवं उद्देश्य -Aims and Objectives:

.1 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।

.2 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 पर्यावरणचेतना को समृद्ध करना-।

3. काव्य के अंतर्गत प्रयुक्त विभिन्न शैलियों का परिचय कराते हुए उसकी शिल्पगत बनावट के साथ जीवन के क्षेत्र में

काव्य की उपादेयता को दर्शाना।

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### परिणाम- Outcomes:

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

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।

3. विद्यार्थियों में नये वैश्विक-मूल्यों के प्रति सजगता को बढ़ावा मिलेगा एवं पर्यावरणीय चेतना के प्रति दायित्व-बोध

उत्पन्न होगा।

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### अध्यापन प्रणालियाँ- Teaching Method:

1. व्याख्यान, विश्लेषण तथा व्याख्यात्मक पद्धति का प्रयोग।

2. दृश्य/श्रव्य माध्यमों और संगणक का प्रयोग।

3. उदाहरण द्वारा पुष्टि एवं लेखकों के अतिथि 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
TOTAL LECTURES	: 45
CREDITS	: 03

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### अभिप्राय एवं उद्देश्य -Aims and Objectives:

1. विद्यार्थियों को गद्य की व्यंग्य विधा की प्रसिद्ध, प्रचलित व्यंग्यात्मक रचनाओं एवं समकालीन परिवेश की जानकारी प्रदान करते हुए सामाजिक, मानवीय, संस्कृतिक और नवीनतम आधुनिक जीवन शैली संबंधी मूल्यों का परिचय कराना।
  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।
  3. व्यंग्य के अंतर्गत प्रयुक्त विभिन्न व्यंग्य दृष्टियों को उजागर कराते हुए उसकी शिल्पगत बनावट के साथ आमजीवन के क्षेत्र में व्यंग्य की उपादेयता को दर्शाते हुए उसके विभिन्न सरोकारों से अवगत कराना।
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### परिणाम- Outcomes:

1. विद्यार्थियों में मानवीय संवेदनाओं के विकास के साथ नवीन सामाजिक, संस्कृतिक और राजनीतिक मूल्यों का गुणात्मक विकास होगा।
  2. विद्यार्थियों में राष्ट्र-निर्माण हेतु नये सामाजिक, राजनीतिक, संस्कृतिक विचारों का प्रसार होगा और दायित्व-बोध  
निर्वहन का विकास होगा।
  3. विद्यार्थियों में नये वैश्विक मूल्यों के प्रति सजगता को बढ़ावा मिलेगा एवं मूल्यवादी दृष्टि के प्रति दायित्व-बोध उत्पन्न होगा।
  4. विद्यार्थियों में साहित्य-रसास्वादन के साथ कलात्मक अभिरुचि का निर्माण होगा, रचनात्मक-कौशल को बढ़ावा  
मिलेगा।
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### अध्यापन प्रणालियाँ- Teaching Method:

1. व्याख्यान, विश्लेषण तथा व्याख्यात्मक पद्धति का प्रयोग।
2. दृश्य/श्रव्य माध्यमों और संगणक का प्रयोग।
3. उदाहरण द्वारा पृष्टि 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
TOTAL LECTURES	: 45
CREDITS	: 03

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### अभिप्राय एवं उद्देश्य -Aims and Objectives:

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।
  2. विद्यार्थियोंको प्रयोजनमूलक हिंदी तथा अंग्रेजी की पारिभाषिक शब्दावली से परिचय करवाना।
  3. विद्यार्थियोंको व्यावसायिक/कार्यालयीन पत्राचार से अवगत करवाना।
  4. विद्यार्थियोंको अंग्रेजी/मराठी भाषा से हिंदी भाषा में अनुवाद कौशल का विकास करना।
  5. विद्यार्थियोंको जनसंचार माध्यमों में प्रयुक्त हिंदी भाषा की जानकारी से अवगत कराना।
  6. विद्यार्थियोंको जनसंचार माध्यमों के विकास से परिचय करवाना।
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### परिणाम- Outcomes:

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

### अध्यापन प्रणालियाँ- Teaching Method:

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
TOTAL LECTURES	: 45
CREDITS	: 03

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### अभिप्राय एवं उद्देश्य -Aims and Objectives:

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

### परिणाम- Outcomes:

1. विद्यार्थियोंको तकनीकी और व्यावहारिक भाषा दक्षता की प्रवीणता प्राप्ति होगी।
  2. व्यावसायिक रूप से आत्मनिर्भरता की संभावना बढ़ेगी।
  3. जनसंचार माध्यमों में रोजगार के क्षेत्रों से परिचय होगा।
- 

### अध्यापन प्रणालियाँ- Teaching Method:

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।

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

## **अभिप्राय एवं उद्देश्य –AIMS AND OBJECTIVES:**

1. विद्यार्थियों को हिन्दी साहित्य के इतिहास, भाषा, विषय-ज्ञान से अवगत कराते हुए भाषा, काव्यशास्त्र एवं व्याकरण के अध्ययन के लिए प्रेरित करना।
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।
3. विद्यार्थियों को हिन्दी की आधुनिककालीन गद्यपद्य 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।
4. हिंदी की अद्यतन गद्यपद्य की विधाओं-, प्रवृत्तियों के विकास से अवगत कराते हुए साहित्य के सामाजिक, मानवीय सरोकारों के साथ पर्यावरणचेतना को- समृद्ध करना।
5. जनसंचार, सूचना प्रौद्योगिकी, सोशल मीडिया के अधुनातन माध्यमों में हिन्दी के प्रयोग, प्रसार से अवगत कराते हुए हिन्दी के माध्यम से रोजगार की संभावनाओं को विद्यार्थियों के समक्ष लाना।
6. सामाजिक परिवर्तन हेतु वैचारिक प्रसार को अवगत कराते हुए विविध सामाजिक वैचारिक आंदोलनों की पृष्ठभूमि को दर्शाना तथा साहित्य पर प्रभावों को अवगत कराना।

## **परिणाम –OUTCOMES:**

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।
2. विद्यार्थी हिन्दी ध्वनियों के उच्चारण संबंधी तथा देवनागरी लिपि का वैज्ञानिक ज्ञान को प्राप्त कर सकेंगे।
3. विद्यार्थी हिन्दी व्याकरण से परिचित होंगे, विद्यार्थी भाषा विज्ञान एवं व्याकरण के अध्ययन से भाषा का व्यवस्थित प्रयोग कर सकेंगे।
4. विद्यार्थी जनसंचार, सूचना प्रौद्योगिकी, सोशल मीडिया के अधुनातन माध्यमों, भाषा विज्ञान तथा व्याकरण के अध्ययन से मीडिया, कोश निर्माण आदि क्षेत्रों में रोजगार के अवसर प्राप्त कर सकेंगे।
5. विद्यार्थियों में मानवीय संवेदनाओं के विकास के साथ नवीन सामाजिक, सांस्कृतिक बोध और जीवन मूल्यों का विकास होगा।
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।
7. विद्यार्थियों में नये वैश्विक-मूल्यों के प्रति सजगता को बढ़ावा मिलेगा एवं पर्यावरणीय चेतना के प्रति दायित्व-बोध उत्पन्न होगा।

## **अध्यापन प्रणालियाँ- TEACHING METHOD**

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।

*Handwritten signature*

**डॉ. मोहसिन खान**  
स्नातकोत्तर हिन्दी विभागाध्यक्ष  
एवं शोध निर्देशक  
जनता शिक्षण मण्डल द्वारा संचालित  
कला, विज्ञान एवं वाणिज्य महाविद्यालय,  
अलिबाग-४०२२०१, जिला-रायगड (महाराष्ट्र)



# **J.S.M. COLLEGE, ALIBAG-RAIGAD**

## **Department of Politics**

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

2022-23

**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 Science, Dep.  
 J.S.M. college, Alibaug



# **J.S.M. COLLEGE, ALIBAG-RAIGAD**

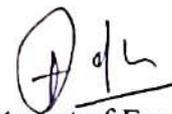
Department of Economics

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

Department of Economics

Programme specific Outcomes (PSOs) for B.A. Economics

SR.NO	
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.

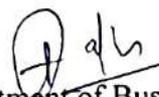


Head, Department of Economics

Department of Business Economics

Programme specific Outcomes (PSOs) for B.COM. Business Economics

SR.NO	
PO 1	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.
PO 2	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.
PO 3	This course is an introduction to the basic analytical tools of macro economics. To evaluate macro economics conditions such as inflation, unemployment and growth. It is designed to make system of overall economy understandable and relevant.
PO 4	The primary objectives of this course is to provide students with the tools to understand the underlying concepts and practical tradeoffs entailed in public finance policy alternatives.
PO 5	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.
PO 6	The course has been designed to familiarise students with the fundamental concepts and issues of public finance. An understanding of government finance is essential to a student of economics as it forms the grounding of analyzing public policies and studying their impact on social and economic lives of people.



Head, Department of Business Economics

## DEPARTMENT OF ECONOMICS

(Course Outcomes From Academic Year 2018-19 to 2020-21)

### Semester I

Course (Paper) Name and No.: 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 consumer's.

### Semester II

Course (Paper) Name and No.: 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

Course (Paper) Name and No.: 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.

**Course (Paper) Name and No.: 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.

**Course (Paper) Name and No.: 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**

**Course (Paper) Name and No.: 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.

**Course (Paper) Name and No.: 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****Course (Paper) Name and No.: Micro Economics -IV**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners understand the monopoly situation.
CO 2	Learners are able to discriminate how the monopoly and oligopoly.
CO 3	Learners are studied the equilibrium concept and social welfare of the people.
CO 4	Learners are studied the Nash equilibrium

**Course (Paper) Name and No.: Economics of Development -V**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will get familiar with concepts of growth and development.
CO 2	Learners will able to understand the role of factors of development.

CO 3	Learners will study effects of poverty, inequality on development.
CO 4	Learners will think about sustainable development

**Course (Paper) Name and No.: Industrial & Labour Economics -VI**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will get with the nature of industries in India.
CO 2	Learners will know factors affecting location of industries and regional imbalance.
CO 3	Learners will aware about factors affecting of industrial productivity and sickness.
CO 4	Learners will get with history of developmental of industries in India.

**Course (Paper) Name and No.: Economics of Agriculture and cooperation -VI**

Sr. No.	On completing the course, the student will be able to:
CO 1	To get the role of agriculture in economic development.
CO 2	To know the institutional and non-institutional sources of credit and micro finance.
CO 3	To recognize the importance of marketing in agriculture.
CO 4	To understand various agriculture price and policy

**Course (Paper) Name and No.: Research Methodology - VII**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will study the concepts of research.
CO 2	Learners will study the elements of research methodology.
CO 3	Learners will study the different sources of data for research.
CO 4	Learners will study the process and analysis of data

**Course (Paper) Name and No.: Environmental Economics - VIII**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will study the environment and its importance in development.
CO 2	Learners will study the various environmental policies for sustainable development.
CO 3	Learners will study about environmental improvement.
CO 4	Learners will study the environmental problems.

**Course (Paper) Name and No.: History of Economic Thought - IX**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners are studied the classical thought of economist.
CO 2	Learners are understand the Marshall and Schumpeter's historical thought
CO 3	Learners are studied the Keynesian views.
CO 4	Learners are able to discriminate the Keynesian and post Keynesian views.

**Semester VI****Course (Paper) Name and No.: Macro Economics – IV**

Sr. No.	On completing the course, the student will be able to:
CO 1	To study the goods market and the open economy.
CO 2	To study the financial market.
CO 3	To study the exchange rate crisis.
CO 4	To study the international monetary situation

**Course (Paper) Name and No.: International Economics - V**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners are studied the importance of international economics.

CO 2	Learners are studied the various modern theories of international trade.
CO 3	Learners are learned how trade is an engine of economic growth.
CO 4	Learners understand the trade policy and regionalism

**Course (Paper) Name and No.: Industrial & Labour Economics - VI**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will study the nature of labour market.
CO 2	Learners will get with past, present and future of trade unions.
CO 3	Learners will be aware about industrial relations and its measures.
CO 4	Learners will get ways of labour welfare and social security

**Course (Paper) Name and No.: Research Methodology - VII**

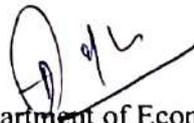
Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will study statistical applications in research.
CO 2	Learners will study index numbers.
CO 3	Learners will study hypothesis formulation and testing.
CO 4	Learners will study research report writing

**Course (Paper) Name and No.: Development Theory and Experience -VIII**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will study statistical applications in research.
CO 2	Learners will study index numbers.
CO 3	Learners will study hypothesis formulation and testing.
CO 4	Learners will study research report writing CO1 Learners will study the relation between demography and development

**Course (Paper) Name and No.: International trade policy and practice –IX**

Sr. No.	On completing the course, the student will be able to:
CO 1	Learners will understand the difference between interregional and international trade.
CO 2	Learners will understand the GATT, WTO and Doha round.
CO 3	Learners will understand the international financial institutions and debt problem.
CO 4	Learners will study the foreign capital flow in economy

  
Head, Department of Economics

## Course Outcomes

### FYBCOM - BUSINESS ECONOMICS - SEM 1

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

### FYBCOM - BUSINESS ECONOMICS - SEM 2

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

### SYBCOM - BUSINESS ECONOMICS - SEM 3

Sr.No	On completing the course, the student will able to:
<b>CO1</b>	This course is an introduction to the basic analytical tools of macro economics.
<b>CO2</b>	To evaluate macro economics conditions such as inflation
<b>CO3</b>	Understand unemployment and growth .
<b>CO4</b>	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:
<b>CO1</b>	To provide students with the tools yo understand the underlying concepts
<b>CO2</b>	Understand Taxation effect on unemployment and growth .
<b>CO3</b>	Understand public finance policy alternatives .
<b>CO4</b>	Understand the various concept of budget .

### TYBCOM - BUSINESS ECONOMICS SEM 5

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

<b>CO4</b>	To understanding the progress of Health Care .
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TYBCOM - BUSINESS ECONOMICS SEM 6

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

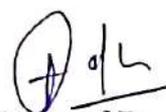


Head, Department of Business Economics

Department of Economics

Programme specific Outcomes (PSOs) for B.A. Economics

SR.NO	
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.

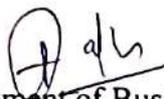


Head, Department of Economics

Department of Business Economics

Programme specific Outcomes (PSOs) for B.COM. Business Economics

SR.NO	
PO 1	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.
PO 2	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.
PO 3	This course is an introduction to the basic analytical tools of macro economics. To evaluate macro economics conditions such as inflation, unemployment and growth. It is designed to make system of overall economy understandable and relevant.
PO 4	The primary objectives of this course is to provide students with the tools to understand the underlying concepts and practical tradeoffs entailed in public finance policy alternatives.
PO 5	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.
PO 6	The course has been designed to familiarise students with the fundamental concepts and issues of public finance. An understanding of government finance is essential to a student of economics as it forms the grounding of analyzing public policies and studying their impact on social and economic lives of people.

  
Head, Department of Business Economics

**DEPARTMENT OF ECONOMICS**

**(Course Outcomes From Academic Year 2021-22 to 2022-23)  
Semester I**

**Course (Paper) Name and No.: 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 consumer's.

**Semester II**

**Course (Paper) Name and No.: 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**

**Course (Paper) Name and No.: 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.
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**Course (Paper) Name and No.: 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.

**Course (Paper) Name and No.: 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**

**Course (Paper) Name and No.: 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.

**Course (Paper) Name and No.: 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****Course (paper) Name and No.: 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.

**Course (paper) Name and No.: 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	analyzed the Measures taken for the Development of an economy.

**Course (paper) Name and No.: 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.

**Course (paper) Name and No.: 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.

**Course (paper) Name and No.: 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.

**Course (paper) Name and No.: 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**

**Course (paper) Name and No.: 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.

**Course (paper) Name and No.: 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.

**Course (paper) Name and No.: RESEARCH METHODOLOGY - III, P- – XVI**

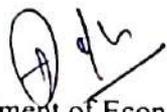
Sr.No	On completing the course, the student will able to:
CO 1	The learners get assimilated to the research culture in Economics through application of statistics.
CO 2	The learners will understand the concept of index number with its use and applications.
CO 3	The course will help in formulation of 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.

**Course (paper) Name and No.: 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

**Course (paper) Name and No.: 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 : Nodel Prize Winners in Economics

  
Head, Department of Economics

## 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 volountry 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 macro economics.
CO2	To evaluate macro economics 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 yo 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

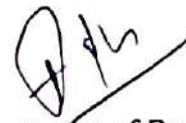
Sr.No	On completing the course, the student will able to:
CO1	To understanding of New Economics Policy 1991
CO2	To understanding growth of tourism and Industries.
CO3	Understanding of New Economics Policy impact on the various sectors of the economy..

**C04**

To understanding the progress of Health Care .

## TYBCOM - BUSINESS ECONOMICS SEM 6

Sr.No	On completing the course, the student will able to:
<b>C01</b>	Understanding fundamental concepts and issues of public finance.
<b>C02</b>	Understanding of government finance is essentials to a student of economics
<b>C03</b>	Analyzing public policies and private Policeies.
<b>C04</b>	Undering public policies and studying their impact on social and economic lives of people.



Head, Department of Business Economics



# **J.S.M. COLLEGE, ALIBAG- RAIGAD**

Department of Geography

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

## **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:**

<b>F.Y.B.Sc. Sem I &amp; II</b>		
<b>Paper I Plant Diversity I</b>	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.

<b>Paper II Form and Function I</b>	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.
<b>S.Y.B.Sc. SEM III &amp; IV</b>		
<b>Paper I Plant Diversity II</b>	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.
<b>Paper II Form and Function II</b>	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.
<b>Paper III Current Trends</b>	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

<b>in Plant Sciences I</b>		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.
<b>T.Y.B.Sc. SEM V &amp; VI</b>		
<b>Paper I Plant Diversity III</b>	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.
<b>Paper II Plant Diversity IV</b>	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
<b>Paper III Form and Function III</b>	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.
<b>Paper IV Current</b>	CO1	Students will gain knowledge on post harvesting techniques which will explore the possibility of entrepreneurship in this

<b>Trends in Plant Sciences II</b>		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.
<b>M.Sc. SEM I, II, III &amp; IV</b>		
<b>Plant Diversity- Cryptogams I (Algae and Fungi)</b>	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.
<b>Plant Diversity- Cryptogams I (Algae and Fungi)</b>	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.
<b>Plant Physiology</b>	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.
<b>Cytogenetics, Molecular Biology and Biotechnology</b>	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.
<b>Plant Diversity- Cryptogams II (Bryophyta and Pteridophyta)</b>	CO1	Classify Bryophytes into various groups, study their importance
	CO2	Classify Pteridophytes into various groups, study their importance and multiplication of important ferns
<b>Plant Diversity: Spermatophyta II</b>	CO1	Students will be able to understand the development of pollen, spore, fertilization and to apply palynological information to plant systematics
<b>Plant Physiology and Environmental Botany</b>	CO1	Distinguish key physiological processes underlying the seed germination <ul style="list-style-type: none"> <li>• Identify the physiological factors that regulate growth and developmental processes of plants</li> <li>• Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield</li> <li>• Integrate and apply their knowledge of crop physiology for analytical thinking and solving practical problems experienced in agricultural systems</li> </ul>

	CO2	To understand and apply ecological principles and understand legislation and measures to solve environmental problems.
<b>Medical Botany And Dietetics</b>	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.

## **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:**

<b>F.Y.B.Sc. Sem I &amp; II</b>		
<b>Paper I</b>	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.
<b>Paper II</b>	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
<b>S.Y.B.Sc. SEM III &amp; IV</b>		
<b>Paper I</b>	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.
<b>Paper II</b>	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
<b>Paper III</b>	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.
<b>T.Y.B.Sc. SEM V &amp; VI</b>		
<b>Paper I</b>	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
<b>Paper II</b>	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
<b>Paper III</b>	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
<b>Paper IV</b>	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
<b>M.Sc. SEM I, II, III &amp; IV</b>		
<b>Paper I</b>	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.
<b>Paper II</b>	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.
<b>Paper III</b>	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.
<b>Paper IV</b>	CO1	To understand ternary mixture separation and identification
	CO2	To perform organic synthesis

## DEPARTMENT OF MATHEMATICS

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

PO1 The knowledge with facts and figures related to Mathematics, Physics and Chemistry, Computer Science.

PO2 To understand the basic concepts, fundamental principles and scientific theories related to various scientific phenomena and their relevance in the day-to-day life.

PO 3 To understand application mathematics in different fields like Mechanics ,Astronomy, Astrology , Information technology etc

PO 4 To analyze given data and draw the conclusion.

PO 5 To think creatively to propose novel ideas in explaining facts and figures or providing new solutions to the problems

PO 6 To pursue higher studies in Mathematics and Computer Application

PO 7 To work in different Scientific Institution

### PROGRAMME SPECIFIC OUTCOMES

- Understand the limit of functions, use to prove properties of continuous functions and derivative of functions
- Understand the concept of Riemann integrability , improper integrals , application of integration like area Volume, Surface area
- Demonstrate when a binary algebraic structure forms Group and Group properties
- Treat special types of Rings such as Euclidean domain and Principal ideal domain
- Solve System linear and nonlinear equations and their application in Chemistry and physics to balance chemical reactions and circuits respectively
- Calculate definite integral using an appropriate numerical method
- Derive methods for various mathematical operations and tasks such as interpolation, differentiation and integration.
- Solution of first order differential equations system by using Numerical methods.
- Be able to use the facility with mathematical and computational modeling of real decision making Use the methods to design experiments, analysis and interpretation of data and synthesize the information to provide valid conclusion.

### Course Outcomes:

F.Y.B.Sc. Sem I & II		
<b>Paper I CALCULUS I</b>	CO1	To understand Real Number System and properties of real numbers
	CO2	To understand Sequences in IR and convergence ,divergence of sequences
	CO3	To understand how to solve first order first degree differential equations and different types
<b>CALCULUS II</b>	CO 4	To Understand the concept of limits and continuity of functions
	CO 5	To understand differentiability of functions
	CO 6	To Understand application of derivatives

<b>Paper II ALGEBRA I</b>	CO1	To understand integers ,divisibility, congruence relation, equivalence relation and its application
	CO2	To understand functions, bijective functions, binary relations, properties of binary relation
	CO3	To get the knowledge of polynomials , their algebraic structure , divisibility , gcd of polynomials
<b>Discrete Mathematics</b>	CO 1	To Understand the concept of Preliminary counting
	CO 2	To Understand Advanced Counting
	CO 3	To get the knowledge of Permutations and recurrence Relations of order n
<b>S.Y.B.Sc. Sem III &amp; IV</b>		
<b>Paper I CALCULUS II</b>	CO1	To Understand the Concept of Infinite Series, Their Convergence and divergence
	CO2	To Understand Riemann Integration , properties of R Integration
	CO3	To Understand Improper Integration , beta Gamma Functions and examples
<b>Paper II Linear Algebra I</b>	CO1	To Understand system of linear equations and applications in various fields
	CO2	To Understand vector spaces over $\mathbb{R}$ , sub spaces, linear independence and linear dependence of vectors
	CO3	To Understand determinants and their properties
<b>Paper III Ordinary differential equations</b>	CO1	To Study higher order differential equations
	CO2	To Study system of linear differential equations
	CO3	Solution of differential equations by numerical methods
<b>Paper I Multivariable Calculus I</b>	CO1	To Study Functions of several variables
	CO2	To Study Differentiation of Scalar Fields
	CO3	To Understand Applications of Differentiation of Scalar Fields and Differentiation of vector fields
<b>Paper II Linear algebra II</b>	CO1	To Study Linear transformation, Isomorphism, Matrix associated with L.T.
	CO2	To Study Inner product spaces
	CO3	To study Eigen values, eigen vectors, diagonalizable matrix
<b>Paper III Numerical Methods elective A</b>	CO1	To Study Solutions of algebraic and transcendental equations
	CO2	To Study Interpolation, Curve fitting, Numerical integration
	CO3	To Study Solutions of linear system of Equations and eigen value problems

## **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:**

<b>F.Y.B.COM. Sem I &amp; II</b>		
<b>Accountancy and Financial Management</b>	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
<b>Commerce</b>	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.
<b>Business Economics</b>	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.
<b>Business Communication</b>	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.
<b>Environmental Studies</b>	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
<b>Foundation Course</b>	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.
<b>Mathematical and Statistical Techniques</b>	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.
<b>S.Y.B.COM. Sem III &amp; IV</b>		
	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.

<b>Accountancy and Financial Management III</b>	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.
<b>Business Economics</b>	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.
<b>Business Law</b>	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
<b>Commerce</b>	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.
<b>Foundation Course</b>	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.
<b>Financial Accounting and Auditing- Introduction to Management Accounting I</b>	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.
<b>Advertising</b>	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.
<b>Company Secretarial Practice</b>	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.
<b>Co-Operation</b>	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.
<b>T.Y.B.COM. Sem V &amp; VI</b>		
<b>Business Economics</b>	CO1	<ul style="list-style-type: none"> <li>· Students would understand the impact of the New Economic Policy and the different policy measures for Sustainable Development and Foreign Investment.</li> </ul>

	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.
<b>Commerce-Marketing</b>	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.
<b>Financial Accounting and Auditing - Financial Accounting</b>	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.
<b>Financial Accounting and Auditing - Cost Accounting</b>	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.

<b>Export Marketing</b>	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
<b>Purchasing and Store Keeping</b>	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

## 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 analyze 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:

<b>F.Y.B.M.S (SEMESTER-I)</b>		
<b>Introduction To Financial Accounts</b>	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.
<b>Business Law</b>	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.
<b>Business Statistics</b>	CO1	To familiarize the students with fundamental statistical tools which can help them in analyzing the business data.
	CO2	To Analyse and contrast techniques and biases of quantitative methods within the context they are to be applied
<b>Business Communication I</b>	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
<b>Foundation Of Human Skills</b>	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.
<b>Business Economics I</b>	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.
<b>Foundation Course I</b>	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.
<b>Semester-Ii</b>		
<b>Principles Of Marketing</b>	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.
<b>Industrial Law</b>	CO1	Understand the laws related to working conditions in different settings.
	CO2	Learn the laws relating to Industrial Relations, Social Security and Working conditions.
<b>Business Mathematics</b>	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.
<b>Business Environment</b>	CO1	Critically assess the business environment of an organization using selected strategic tools.
	CO2	Construct and present scenarios that synthesize business environment information.
<b>Principles Of</b>	CO1	Analyze the business decisions made by

<b>Management</b>		organisations using various tools and techniques to remain competitive.
	CO2	Offer diverse learning opportunities to develop analytical and soft skills.
<b>Business Communication Ii</b>	CO1	Have clear understanding of effective principles of effective presentation tools
	CO2	Get exposure to Group discussions and various types of mock interviews.
<b>Foundation Course - Value Education And Soft Skill Ii</b>	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
<b>S.Y.Bms (Semester-Iii)</b>		
<b>Introduction To Cost Accounting(Finance Elective)</b>	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
<b>Corporate Finance (Finance Elective)</b>	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
<b>Consumer Behaviour (Marketing Elective)</b>	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.
<b>Advertising (Marketing Elective)</b>	CO1	To understand and examine the growing importance of advertisin
	CO2	To understand the future and career in advertising
<b>Recruitment &amp; Selection (Human Resource Management)</b>	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
<b>Employees Relations &amp; Welfare (Human Resource Management)</b>	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
<b>Business Planning &amp; Entrepreneurship</b>	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.
<b>Information Technology In Business Management I</b>	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
<b>Accounting For Managerial Decisions</b>	CO1	To acquaint management learners with basic accounting fundamentals.
	CO2	To develop financial analysis skills among learners.
<b>Strategic Management</b>	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.
<b>Foundation Course Iii- Environmental Management</b>	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.
<b>Semester-Iv</b>		
<b>Auditing (Finance Elective)</b>	CO1	To examine the system of internal check
	CO2	To confirm the existence of assets & liability.
<b>Strategic Cost Management (Finance Elective)</b>	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.
<b>Integrated Marketing Communication (Marketing)</b>	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.
<b>Rural Marketing (Marketing)</b>	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.
<b>Human Resource Planning &amp; Information System (Human Resource Management)</b>	CO1	To Understand the Concept and Process of HRP
	CO2	To Understand Ways of matching Job Requirements and Human Resource Availability
<b>Training &amp; Development</b>	CO1	To make the students acquainted with working of the two powerful media; i.e. radio and television

<b>In HRM (Human Resource Management)</b>	CO2	The content is useful for both advertising and journalism students in order to further their careers in their respective fields
<b>Information Technology In Business Management-II</b>	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
<b>Business Economics II</b>	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
<b>Business Research Methods</b>	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
<b>Foundation Course IV - Ethics &amp; Governance</b>	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
<b>Production &amp; Total Quality Management</b>	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.
<b>T.Y.BMS (SEMESTER-V)</b>		
<b>Investment Analysis &amp; Portfolio Management (Finance)</b>	CO1	To acquaint the learners with various concepts of finance
	CO2	To understand various models and techniques of security and portfolio analysis
<b>Wealth Management (Finance)</b>	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
<b>Risk Management (Finance)</b>	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
<b>Financial Accounting (Finance)</b>	CO1	To acquaint the learners in preparation of final accounts of companies
	CO2	To study the accounting of foreign currency and investment
<b>Services Marketing (Marketing)</b>	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
<b>E-Commerce &amp; Digital</b>	CO1	To understand the increasing significance of E-Commerce and its applications in Business and

<b>Marketing (Marketing)</b>		Various Sectors
	CO2	to understand Latest Trends and Practices in E-Commerce and Digital Marketing, along with its Challenges and Opportunities for an Organisation
<b>Sales &amp; Distribution Management (Marketing)</b>	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
<b>Customer Relationship Mgmt. (Marketing)</b>	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
<b>Finance For Hr Professionals &amp; Compensation Management (Human Resource Management)</b>	CO1	To orient HR professionals with financial concepts to enable them to make prudent HR decisions
	CO2	To understand the various compensation plans
<b>Strategic Human Resource Management &amp; Hr Policies (Human Resource Management)</b>	CO1	To understand the various compensation plans
	CO2	To understand the relationship between strategic human resource management and organizational performance
<b>Performance Management &amp; Career Planning (Human Resource Management)</b>	CO1	To understand the concept of performance management in organizations
	CO2	To review performance appraisal systems
<b>Stress Management(Human Resource Management)</b>	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
<b>Logistics And Supply Chain Management</b>	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
<b>Corporate Communication &amp; Public Relations</b>	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
<b>SEMESTER-VI</b>		
<b>International Finance(Elective Finance)</b>	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
<b>Innovative Financial Services(Elective Finance)</b>	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
<b>Project Management (Elective Finance)</b>	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
<b>Strategic Financial Management (Elective Finance)</b>	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
<b>Brand Management (Elective Marketing)</b>	CO1	To understand the meaning and significance of Brand Management
	CO2	To Know how to build, sustain and grow brands
<b>Retail Management (Elective Marketing)</b>	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.
<b>International Marketing (Elective Marketing)</b>	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
<b>Media Planning And Management</b>	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.
<b>HRM In Global Perspective (ELECTIVE HUMAN RESOURCE)</b>	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
<b>Organisational Development (Elective Human Resource)</b>	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
<b>HRM In Service Sector</b>	CO1	To understand how to manage human resources in service sector

<b>Management (Elective Human Resource)</b>	CO2	To understand the significance of human element in creating customer satisfaction through service quality
<b>Human Resource Accounting &amp; Audit (Elective Human Resource)</b>	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
<b>Operation Research</b>	CO1	To help students to understand operations research methodologies
		To help students to solve various problems practically
<b>Project Work</b>	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.

## **Department of Computer Science**

### **Programme Learning Outcomes**

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

- To formulate, to model, to design solutions, procedure and to use software tools to solve real world problems.
- 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.
- To familiarize with the modern-day trends in industry and research based settings and thereby innovate novel solutions to existing problems.
- To apply concepts, principles, and theories relating to computer science to new situations.
- To use current techniques, skills, and tools necessary for computing practice
- To apply standard Software Engineering practices and strategies in real-time software project development
- To pursue higher studies of specialization and to take up technical employment.
- To work independently or collaboratively as an effective team member on a substantial software project.

- To communicate and present their work effectively and coherently.
- To display ethical code of conduct in usage of Internet and Cyber systems.
- To engage in independent and life-long learning in the background of rapid changing IT industry.

### Course Outcomes

<b>F.Y.B.Sc. C.S. Semester I</b>		
<b>Course Code</b>	<b>Course Title</b>	<b>Course Outcomes</b>
USCS101	Digital Systems & Architecture	<ul style="list-style-type: none"> <li>• To learn about how computer systems work and underlying principles</li> <li>• To understand the basics of digital electronics needed for computers</li> <li>• To understand the basics of instruction set architecture for reduced and complex instruction sets</li> <li>• To understand the basics of processor structure and operation</li> <li>• To understand how data is transferred between the processor and I/O devices</li> </ul>
USCS102	Introduction to Programming with Python	<ul style="list-style-type: none"> <li>• Ability to store, manipulate and access data in Python</li> <li>• Ability to implement basic Input / Output operations in Python</li> <li>• Ability to define the structure and components of a Python program.</li> <li>• Ability to learn how to write loops and decision statements in Python.</li> <li>• Ability to learn how to write functions and pass arguments in Python.</li> <li>• Ability to create and use Compound data types in Python</li> </ul>

USCS103	LINUX Operating System	<ul style="list-style-type: none"> <li>• Work with Linux file system structure, Linux Environment</li> <li>• Handle shell commands for scripting, with features of regular expressions, redirections</li> <li>• Implement file security permissions</li> <li>• Work with vi, sed and awk editors for shell scripting using various control structures</li> <li>• Install softwares like compilers and develop programs in C and Python programming languages on Linux Platform</li> </ul>
USCS104	Open Source Technologies	<ul style="list-style-type: none"> <li>• Differentiate between Open Source and Proprietary software and Licensing.</li> <li>• Recognize the applications, benefits and features of Open-Source Technologies</li> <li>• Gain knowledge to start, manage open-source projects.</li> </ul>
USCS105	Discrete Mathematics	<ul style="list-style-type: none"> <li>• Define mathematical structures (relations, functions, graphs) and use them to model real life situations.</li> <li>• Understand, construct and solve simple mathematical problems.</li> <li>• Solve puzzles based on counting principles.</li> <li>• Provide basic knowledge about models of automata theory and the corresponding formal languages.</li> <li>• Develop an attitude to solve problems based on graphs and trees, which are widely used in software.</li> </ul>

USCS106	Descriptive Statistics	<ol style="list-style-type: none"> <li>1. Organize, manage and present data.</li> <li>2. Analyze Statistical data using measures of central tendency and dispersion.</li> <li>3. Analyze Statistical data using basics techniques of R.</li> <li>4. Study the relationship between variables using techniques of correlation and regression.</li> </ol>
USCS107	Soft Skills	<ul style="list-style-type: none"> <li>• Learners will be able to understand the importance and types soft skills</li> <li>• Learners will develop skills for Academic and Professional Presentations.</li> <li>• Learners will able to understand Leadership Qualities and Ethics.</li> <li>• Ability to understand the importance of stress management in their academic &amp; professional life.</li> </ul>
<b>F.Y.B.Sc. C.S. Semester II</b>		
USCS201	Design & Analysis of Algorithms	<ul style="list-style-type: none"> <li>• Students should be able to understand and evaluate efficiency of the programs that they write based on performance of the algorithms used.</li> <li>• Students should be able to appreciate the use of various data structures as per need</li> <li>• To select, decide and apply appropriate design principle by understanding the requirements of any real life problems</li> </ul>

USCS202	Advanced Python Programming	<ul style="list-style-type: none"> <li>• Ability to implement OOP concepts in Python including Inheritance and Polymorphism</li> <li>• Ability to work with files and perform operations on it using Python.</li> <li>• Ability to implement regular expression and concept of threads for developing efficient program</li> <li>• Ability to implement exception handling in Python applications for error handling.</li> <li>• Knowledge of working with databases, designing GUI in Python and implement networking in Python</li> </ul>
USCS203	Introduction to OOPs using C++	<ul style="list-style-type: none"> <li>• Work with numeric, character and textual data and arrays.</li> <li>• Understand the importance of OOP approach over procedural language.</li> <li>• Understand how to model classes and relationships using UML.</li> <li>• Apply the concepts of OOPS like encapsulation, inheritance and polymorphism.</li> <li>• Handle basic file operations.</li> </ul>

USCS204	Database Systems	<ul style="list-style-type: none"> <li>• To appreciate the importance of database design.</li> <li>• Analyze database requirements and determine the entities involved in the system and their relationship to one another.</li> <li>• Write simple queries to MySQL related to String, Maths and Date Functions.</li> <li>• Create tables and insert/update/delete data, and query data in a relational DBMS using MySQL commands.</li> <li>• Understand the normalization and its role in the database design process.</li> <li>• Handle data permissions.</li> <li>• Create indexes and understands the role of Indexes in optimization search.</li> </ul>
USCS205	Calculus	<ul style="list-style-type: none"> <li>• Develop mathematical skills and enhance thinking power of learners.</li> <li>• Understand mathematical concepts like limit, continuity, derivative, integration of functions, partial derivatives.</li> <li>• Appreciate real world applications which uses the learned concepts.</li> <li>• Skill to formulate a problem through Mathematical modelling and simulation.</li> </ul>

USCS206	Statistical Methods	<ul style="list-style-type: none"> <li>• Calculate probability, conditional probability and independence.</li> <li>• Apply the given discrete and continuous distributions whenever necessary.</li> <li>• Define null hypothesis, alternative hypothesis, level of significance, test statistic and p value.</li> <li>• Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases.</li> <li>• Apply non-parametric test whenever necessary.</li> <li>• Conduct and interpret one-way and two-way ANOVA.</li> </ul>
USCS207	E-Commerce & Digital Marketing	<ul style="list-style-type: none"> <li>• Understand the core concepts of E-Commerce.</li> <li>• Understand the various online payment techniques</li> <li>• Understand the core concepts of digital marketing and the role of digital marketing in business.</li> <li>• Apply digital marketing strategies to increase sales and growth of business</li> <li>• Apply digital marketing through different channels and platforms</li> <li>• Understand the significance of Web Analytics and Google Analytics and apply the same.</li> </ul>
<b>S.Y.B.Sc. C.S. Semester III</b>		

USCS301	Theory of Computation	<ol style="list-style-type: none"> <li>1. Understand Grammar and Languages</li> <li>2. Learn about Automata theory and its application in Language Design</li> <li>3. Learn about Turing Machines and Pushdown Automata</li> <li>4. Understand Linear Bound Automata and its applications</li> </ol>
USCS302	Core Java	<ol style="list-style-type: none"> <li>1. Object oriented programming concepts using Java.</li> <li>2. Knowledge of input, its processing and getting suitable output.</li> <li>3. Understand, design, implement and evaluate classes and applets.</li> <li>4. Knowledge and implementation of AWT package.</li> </ol>
USCS303	Operating System	<ol style="list-style-type: none"> <li>1. To provide a understanding of operating system, its structures and functioning</li> <li>2. Develop and master understanding of algorithms used by operating systems for various purposes.</li> </ol>
USCS304	Database Management Systems	<ol style="list-style-type: none"> <li>1. Master concepts of stored procedure and triggers and its use.</li> <li>2. Learn about using PL/SQL for data management</li> <li>3. Understand concepts and implementations of transaction management and crash recovery</li> </ol>

USCS305	Combinatorics and Graph Theory	<ol style="list-style-type: none"> <li>1. Appreciate beauty of combinatorics and how combinatorial problems naturally arise in many settings.</li> <li>2. Understand the combinatorial features in real world situations and Computer Science applications.</li> <li>3. Apply combinatorial and graph theoretical concepts to understand Computer Science concepts and apply them to solve problems</li> </ol>
USCS306	Physical Computing and IoT Programming	<ol style="list-style-type: none"> <li>1. Enable learners to understand System On Chip Architectures.</li> <li>2. Introduction and preparing Raspberry Pi with hardware and installation.</li> <li>3. Learn physical interfaces and electronics of Raspberry Pi and program them using practical's</li> <li>4. Learn how to make consumer grade IoT safe and secure with proper use of protocols.</li> </ol>
USCS307	Web Programming	<ol style="list-style-type: none"> <li>1. To design valid, well-formed, scalable, and meaningful pages using emerging technologies.</li> <li>2. Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites</li> <li>3. To develop and implement client-side and server-side scripting language programs.</li> <li>4. To develop and implement Database Driven Websites.</li> <li>5. Design and apply XML to create a markup language for data and document centric applications.</li> </ol>
<p><b>S.Y.B.Sc. C.S. Semester IV</b></p>		

USCS401	Fundamentals of Algorithms	<p>1. Understand the concepts of algorithms for designing good program</p> <p>2. Implement algorithms using Python</p>
USCS402	Advanced Java	<p>1) Understand the concepts related to Java Technology</p> <p>2) Explore and understand use of Java Server Programming</p>
USCS403	Computer Networks	<p>1. Learner will be able to understand the concepts of networking, which are important for them to be known as a 'networking professionals'.</p> <p>2. Useful to proceed with industrial requirements and International vendor certifications.</p>
USCS404	Software Engineering	<p>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</p> <p>Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.</p> <p>Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice</p> <p>Able to use modern engineering tools necessary for software project management, time management and software reuse.</p>

USCS405	Linear Algebra using Python	<ol style="list-style-type: none"> <li>1. Appreciate the relevance of linear algebra in the field of computer science.</li> <li>2. Understand the concepts through program implementation</li> <li>3. Instill a computational thinking while learning linear algebra.</li> </ol>
USCS406	.Net Technologies	<ol style="list-style-type: none"> <li>1. Understand the .NET framework</li> <li>2. Develop a proficiency in the C# programming language</li> <li>3. Proficiently develop ASP.NET web applications using C#</li> <li>4. Use ADO.NET for data persistence in a web application</li> </ol>
USCS407	Android Developer Fundamentals	<ol style="list-style-type: none"> <li>1) Understand the requirements of Mobile programming environment.</li> <li>2) Learn about basic methods, tools and techniques for developing Apps</li> <li>3) Explore and practice App development on Android Platform</li> <li>4) Develop working prototypes of working systems for various uses in daily lives.</li> </ol>
<b>T.Y.B.Sc. C.S. Semester V</b>		
USCS501	Artificial Intelligence	<ol style="list-style-type: none"> <li>1) After completion of this course, learner should get a clear understanding of AI and different search algorithms used for solving problems.</li> <li>2) The learner should also get acquainted with different learning algorithms and models used in machine learning.</li> </ol>

USCS502	Linux Server Administration	<p>1) Learner will be able to develop Linux based systems and maintain. Learner will be able to install appropriate service on Linux server as per requirement.</p> <p>2) Learner will have proficiency in Linux server administration.</p>
USCS503	Software Testing and Quality Assurance	<p>1) Understand various software testing methods and strategies. Understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software.</p> <p>2) Design SQA activities, SQA strategy, formal technical review report for software quality control and assurance.</p>
USCS504	Information and Network Security	<p>1) Understand the principles and practices of cryptographic techniques.</p> <p>2) Understand a variety of generic security threats and vulnerabilities, and identify &amp; analyze particular security problems for a given application.</p> <p>3) Understand various protocols for network security to protect against the threats in a network</p>
USCS505	Architecting of IoT	<p>1) Learners are able to design &amp; develop IoT Devices.</p> <p>2) They should also be aware of the evolving world of M2M Communications and IoT analytics.</p>

USCS506	Web Services	<p>1) Emphasis on SOAP based web services and associated standards such as WSDL.</p> <p>2) Design SOAP based / RESTful / WCF services Deal with Security and QoS issues of Web Services</p>
USCS507	Game Programming	<p>1) Learner should study Graphics and gaming 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.</p>
<b>T.Y.B.Sc. C.S. Semester VI</b>		
USCS601	Wireless Sensor Networks and Mobile Communication	<p>After completion of this course, learner should be able to list various applications of wireless sensor networks, describe the concepts, protocols, design, implementation and use of wireless sensor networks. Also implement and evaluate new ideas for solving wireless sensor network design issues.</p>
USCS602	Cloud Computing	<p>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. Learner should be able to identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc. They should explain the core issues of cloud computing such as security, privacy, and interoperability.</p>

USCS603	Cyber Forensics	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	After completion of this course, learner should get an understanding of the field of information retrieval and its relationship to search engines. It will give the learner an understanding to apply information retrieval models.
USCS605	Digital Image Processing	Learner should review the fundamental concepts of a digital image processing system. Analyze the images in the frequency domain using various transforms. Evaluate the techniques for image enhancement and image segmentation. Apply various compression techniques. They will be familiar with basic image processing techniques for solving real problems.
USCS606	Data Science	After completion of this course, the students should be able to understand & comprehend the problem; and should be able to define suitable statistical method to be adopted.
USCS607	Ethical Hacking	Learner will know to identify security vulnerabilities and weaknesses in the target applications. They will also know to test and exploit systems using various tools and understand the impact of hacking in real time machines.

On completion of B.Sc. Zoology, students will learn:

PO1 - After completion of the program students will be able to understand basic and modern concepts of Zoology.

PO2 - Knowledge about different communicable and noncommunicable diseases, importance of personal hygiene, research ethics, genetics and biotechnology advancements will generate the awareness about human values in the learners mind.

PO3 - Problem solving and research skills of the students will be enhanced by study of biostatistics, scientific problems, research methodologies etc.

PO4 - Syllabus will inculcate good laboratory practices in students and train them about scientific handling of important instruments.

PO5 - Syllabus will also provide an insight to the basic nutritional and health aspects of human life.

**Course Outcomes:**

<b>F.Y.B.Sc. Sem I</b>		
<b>USZO101</b> Wonders of Animal World, Biodiversity and its Conservation	CO1	Curiosity will be ignited in the minds of learners, to know more about the fascinating world of animals which would enhance their interest and love for the subject of Zoology.
	CO2	Learners would appreciate the treasure of Biodiversity, its importance and hence would contribute their best for its conservation.
	CO3	Minds of learners would be impulsed to think differently and would be encouraged ipso facto to their original crude ideas from the field of biological sciences.
<b>USZO102</b> Instrumentation And Animal Biotechnology	CO1	Learners would work safely in the laboratory and avoid occurrence of accidents (mishaps) which will boost their scholastic performance and economy in use of materials / chemicals during practical sessions.
	CO2	Learners would understand recent advances in the subject and their applications for the betterment of mankind; and that the young minds would be tuned to think out of the box.
	CO3	Students will be skilled to select and operate suitable instruments for the studies of different components of Zoology of this course and also of higher classes including research.
<b>F.Y.B.Sc. Sem II</b>		
<b>USZO201</b> Ecology and Wildlife Management	CO1	It would allow learners to study about the nature of the animal population, specific factors affecting its growth and its impact on the population of other life forms.
	CO2	Learners will grasp the concept of interdependence and interaction of physical, chemical and biological factors in the environment and will lead to better understanding about implications of loss of fauna specifically on human beings, erupting a spur of desire for conservation of all flora and

		fauna.
	CO3	Learners would be inspired to choose career options in the field of wildlife conservation, research, photography and ecotourism.
<b>USZO202</b> Nutrition, Public Health And Hygiene	CO1	Healthy dietary habits would be inculcated in the lifestyle of learners in order to prevent risk of developing health hazards in the younger generation due to faulty eating habits.
	CO2	Promoting optimum conservation of water, encouragement for maintaining adequate personal hygiene, optimum use of electronic gadgets, avoiding addiction, thus facilitating achievement of the goal of healthy young India in true sense.
	CO3	Learners will be able to promptly recognize stress related problems at initial stages and would be able to adopt relevant solutions which would lead to a psychologically strong mind set promoting positive attitude important for academics and would be able to acquire knowledge of cause, symptoms and precautions of infectious diseases.
<b>S.Y.B.Sc. Sem III</b>		
<b>USZO301</b> Fundamentals of Genetics, Chromosomes and Heredity, Nucleic acids	CO1	Learner would comprehend and apply the principles of inheritance to study heredity.
	CO2	Learners will understand the concept of multiple alleles, linkage and crossing over.
	CO3	Learner will comprehend the structure of chromosomes and its types.
	CO4	Learner will understand the mechanisms of sex determination.
	CO5	Learner would be able to correlate the disorders linked to a particular sex chromosome.
	CO6	Learner will understand the importance of nucleic acids as genetic material.
	CO7	Learner would comprehend and appreciate the regulation of gene expressions.
<b>USZO302</b> Nutrition and Excretion, Respiration and Circulation, Control and Coordination of Life Processes, Locomotion and Reproduction.	CO1	Learner would understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary hierarchy.
	CO2	Learner would be able to correlate the habit and habitat with nutritional, excretory and osmoregulatory structures.
	CO3	Learner would understand the increasing complexity of respiratory and circulatory physiology in evolutionary hierarchy.
		Learner will be able to correlate the habit and habitat of animals with respiratory and circulatory organs.
		Learner would understand the process of control and coordination by nervous and endocrine regulation.
		Learner would be amazed by various locomotory structures found in the animal kingdom.
		Learner would be acquainted with various reproductive strategies present in animals.
<b>USZOE1303</b> Ethology,	CO1	Learner would gain insight into different types of animal behavior and their role in biological adaptations.
	CO2	Learner would be sensitized to the feelings which are instrumental in social behavior.
	CO3	Learner would understand the general epidemiological aspects

Parasitology, Economic Zoology		of parasites that affect humans and take simple preventive measures for the same.
	CO4	Learner would comprehend the life cycle of specific parasites, the symptoms of the disease and its treatment.
	CO5	Learner would gain knowledge on animals useful to mankind and the means to make the most of it.
	CO6	Learner would learn the modern techniques in animal husbandry.
	CO7	Learner would pursue entrepreneurship as a career.
<b>S.Y.B.Sc. Sem IV</b>		
<b>S.Y.B.Sc</b> <b>USZO401</b> Origin and evolution of life, Population genetics and evolution, Scientific attitude, methodology, scientific writing and ethics in scientific research.	CO1	Learner will gain insights into the origin of life.
	CO2	Learner will analyze and critically view the different theories of evolution.
	CO3	Learner would understand the forces that cause evolutionary changes in natural populations.
	CO4	Learner would comprehend the mechanisms of speciation
	CO5	Learner will be able to distinguish between microevolution, macroevolution and megaevolution.
	CO6	The learner would develop qualities such as critical thinking and analysis.
	CO7	The learner will imbibe the skills of scientific communication and he/she will understand the ethical aspects of research.
<b>USZ0402</b> Cell Biology, Endomembrane System, and Biomolecules.	CO1	Learner would acquire insight into the composition of the transport mechanisms adopted by the cell and its organelles for its maintenance and composition.
	CO2	Learner would appreciate the intricacy of endomembrane system. Learner would understand the interlinking of endomembrane system for functioning of cell.
	CO3	The learner will realize the importance of biomolecules and their clinical significance.
<b>USZOE1403</b> Comparative Embryology, Aspects of Human Reproduction, Pollution and its effect on organisms.	CO1	Learner will be able to understand and compare the different types of eggs and sperms.
	CO2	Learner will be able to understand and compare the different pre- embryonic stages
	CO3	Learners will be able to understand human reproductive physiology.
	CO4	Learners will become familiar with advances in ART and related ethical issues.
	CO5	The learners will be sensitized about the adverse effects of pollution and measures to control it.

## 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		
	CO1	<ul style="list-style-type: none"><li>Students will develop a solid understanding of the concepts of "space," "place" and "region" and their</li></ul>

<b>HUMAN GEOGRAPHY</b>		importance in explaining world affairs.
	CO2	<ul style="list-style-type: none"> <li>Students will understand general demographic principles and their patterns at regional and global scales.</li> </ul>
	CO3	<ul style="list-style-type: none"> <li>Students will be able to locate on a map major physical features, cultural regions, and individual states and urban centers.</li> <li></li> </ul>
	CO4	<ul style="list-style-type: none"> <li>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.</li> </ul>
		<b>F.Y.B.A Sem II</b>
<b>ENVIRONMENTAL GEOGRAPHY SEMESTER II</b>	CO1	<ul style="list-style-type: none"> <li>Students will be able to analyze human-environment interaction(s) for a specific case and for specified social and/or environmental conditions.</li> </ul>
	CO2	<ul style="list-style-type: none"> <li>Students will be able to identify, collect and process digital spatial data using industry-standard tools.</li> </ul>
	CO3	<ul style="list-style-type: none"> <li>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</li> </ul>
	CO4	<ul style="list-style-type: none"> <li>An Environmental Studies major will be able to apply lessons from various courses through field experiences.</li> </ul>
<b>GEOGRAPHY OF MAHARASHTRA</b>	CO1	<ul style="list-style-type: none"> <li>To understand the physical and human characteristics of different regions</li> </ul>
	CO2	<ul style="list-style-type: none"> <li>To learn about the different cultures that exist in different parts of the Maharashtra.</li> </ul>
	CO3	<ul style="list-style-type: none"> <li>To understand how different regions interact with each other</li> </ul>
	CO4	<ul style="list-style-type: none"> <li>To find out about the economic, political, and social issues that affect different regions of the Maharashtra</li> </ul>
	CO4	<ul style="list-style-type: none"> <li>learn about the history of different regions of the Maharashtra.</li> </ul>

		<b>SYBA SEMESTER IV</b>
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.
		<b>TYBA SEMESTER V</b>
SETTLEMENT 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 diverse subject.
GEOGRAPHICAL 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.
GEOGRAPHICAL TOOLS AND TECHNIQUE PART – II 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.
RESEARCH METHODOLOGY Paper - IX		understand some basic concepts of research and its methodologies
		identify appropriate research topics
		select and define appropriate research problem and parameters
		prepare a project proposal (to undertake a project)
		organize and conduct research (advanced project) in a more appropriate manner.
		write a research report and thesis.
		write a research proposal (grants)

S.Y.B.A. Geography SEM III and IV

Paper III

Physical Geography of India	CO1	course help to understand the problem ,creat awareness and promote interest for conservation of environment .
	CO2	It gives information about to understand the distribution of physical and man- made environment.
	CO3	It will help to develop and promote the cartographic skills such as map filling and map reading.
	CO4	This course develop the geographic skills and knowledge to student and prepare them for competitive examination.
Agriculture Geography of India	CO1	Course help student to understand the physical and human factors affecting on agriculture.
	CO2	The course highlight the issues related with agriculture and suggest remedial measures to overcome them.
	CO3	It will help to develop and promote the cartographic skills such as map filling and statistical techniques.
T.Y.B.A. Geography SEM V and VI		
Paper VIII Geography of resources	CO1	This course help the students to know the different types of resources.
	CO2	It gives information about distribution of different types of resources.
	CO3	Course gives important knowledge to student about depletion and conservation of minerals and power resources.
	CO4	Course helps students to understand importance of forest and soil.
Paper V Geography of tourism and recreation	CO1	This course help the students to know the nature and scope of tourism geography.
	CO2	Course gives knowledge about the importance of planning and organization of tourism.
	CO3	It gives information about policies of tourism and places of tourist interested in India and Maharashtra
	CO4	Course help students to mark the precise locations of tourist centres on the map of India.

***F.Y.B.Com –SEM-I And SEM-II***

<b>Environmental Studies</b>	CO1	The successful completion of the course will create an environmental awareness among Commerce students.
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	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

S.Y.B.A. SEM III and IV (Revised syllabus )2022-2023

Paper III

SEM-III Agricultural Geography	CO1	Course help student to understand the physical and human factors affecting on agriculture.
	CO2	The course highlight the issues related with agriculture and suggest remedial measures to overcome them.
	CO3	It will help to develop and promote the cartographic skills such as map filling and statistical techniques.
SEM-IV Geography of tourism a	CO1	This course help the students to know the nature and scope of tourism geography.
	CO2	Course gives knowledge about the importance of planning and organization of tourism.
	CO3	It gives information about policies of tourism and places of tourist interested in India and Maharashtra
	CO4	Course help students to mark the precise locations of tourist centres on the map of India.

S.Y.B.A. SEM III and IV (Revised syllabus )2022-2023

Paper III

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	CO3	It gives information about policies of tourism and places of tourist interested in India and Maharashtra
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# **J.S.M. COLLEGE, ALIBAG- RAIGAD**

Department of Commerce

**Programme outcome (POS)  
Programme Specific Outcomes (PSO)  
and Course Outcomes (COS)**

## **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 co-occurring.
- 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:**

<b>F.Y.B.COM. Sem I &amp; II</b>		
<b>Accountancy and Financial Management</b>	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
<b>Commerce</b>	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.
<b>Business Economics</b>	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 its 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.

<b>Business Communication</b>	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.
<b>Environmental Studies</b>	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
<b>Foundation Course</b>	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.
<b>Mathematical and Statistical Techniques</b>	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.
<b>S.Y.B.COM. Sem III &amp; IV</b>		
	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.

<b>Accountancy and Financial Management III</b>	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.
<b>Business Economics</b>	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.
<b>Business Law</b>	CO1	Learner will understand the Indian contract act and importance of Contract act.
	CO2	Learners should be 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
<b>Commerce</b>	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.
	CO1	The successful completion of course will enable the learner to understand the remedial measures taken to address human right issues.

<b>Foundation Course</b>	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.
<b>Financial Accounting and Auditing- Introduction to Management Accounting I</b>	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.
<b>Advertising</b>	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.
<b>Company Secretarial Practice</b>	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.

<b>Co-Operation</b>	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.
<b>T.Y.B.COM. Sem V &amp; VI</b>		
<b>Business Economics</b>	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.
<b>Commerce-Marketing</b>	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.
<b>Financial Accounting and Auditing - Financial</b>	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.

<b>Accounting</b>	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.
<b>Financial Accounting and Auditing - Cost Accounting</b>	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.
<b>Export Marketing</b>	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
<b>Purchasing and Store Keeping</b>	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



**J.S.M. COLLEGE, ALIBAG- RAIGAD**

Department of Chemistry

**Programme outcome (POS)  
Programme Specific Outcomes (PSO)  
and Course Outcomes (COS)**

## **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 coloring cloth through projects.
- They also understand the analysis of many drugs through practical.

**Course Outcomes:**

<b>F.Y.B.Sc. Sem I &amp; II</b>		
<b>Paper I</b>	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.
<b>Paper II</b>	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
<b>S.Y.B.Sc. SEM III &amp; IV</b>		
<b>Paper I</b>	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.
<b>Paper II</b>	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
<b>Paper III</b>	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.
<b>T.Y.B.Sc. SEM V &amp; VI</b>		
<b>Paper I</b>	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
<b>Paper II</b>	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

<b>Paper III</b>	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
<b>Paper IV</b>	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
<b>M.Sc. SEM I, II, III &amp; IV</b>		
<b>Paper I</b>	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.
<b>Paper II</b>	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.
<b>Paper III</b>	CO1	To know about drug discovery, green chemistry, biomolecules.
	CO2	To study the behavior of inorganic solids, their bonding, Preparation and reactions including mechanisms.
	CO3	To understand thermal and magnetic properties of inorganic Materials.
<b>Paper IV</b>	CO1	To understand ternary mixture separation and identification
	CO2	To perform organic synthesis



**J.S.M. COLLEGE, ALIBAG-RAIGAD**

**Department of Physics**

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

2022-23

**J.S.M. College, Alibag, Raigad**

**Learning outcomes**

**Programme: B.Sc. (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 foster 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 timer 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 (USPH07, USPH08 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.



*Jadhav*  
Head of the Department of Physics  
J. S. M. College, Alibag



# **J.S.M. COLLEGE, ALIBAG- RAIGAD**

## **Department of Botany**

**Programme outcome (POS)  
Programme Specific Outcomes (PSO)  
and Course Outcomes (COS)**

## **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		
<b>Paper I Plant Diversity I</b>	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.
<b>Paper II Form and Function I</b>	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.
<b>S.Y.B.Sc. SEM III &amp; IV</b>		
<b>Paper I Plant Diversity II</b>	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.
<b>Paper II Form and Function II</b>	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.
<b>Paper III Current Trends in Plant Sciences I</b>	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.
<b>T.Y.B.Sc. SEM V &amp; VI</b>		
<b>Paper I Plant Diversity III</b>	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.
<b>Paper II Plant Diversity IV</b>	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
<b>Paper III Form and Function III</b>	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 be 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 map 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.
<b>Paper IV Current Trends in Plant Sciences II</b>	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.
<b>M.Sc. SEM I, II, III &amp; IV</b>		
<b>Plant Diversity- Cryptogams I (Algae and Fungi)</b>	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.

<b>Plant Diversity- Cryptogams I (Algae and Fungi)</b>	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.
<b>Plant Physiology</b>	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.
<b>Cytogenetics, Molecular Biology and Biotechnology</b>	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.
<b>Plant Diversity- Cryptogams II (Bryophyta and Pteridophyta)</b>	CO1	Classify Bryophytes into various groups, study their importance
	CO2	Classify Pteridophytes into various groups, study their importance and multiplication of important ferns
<b>Plant Diversity: Spermatophyta II</b>	CO1	Students will be able to understand the development of pollen, spore, fertilization and to apply palynological information to plant systematics
<b>Plant Physiology and Environmental Botany</b>	CO1	Distinguish key physiological processes underlying the seed germination <ul style="list-style-type: none"> <li>• Identify the physiological factors that regulate growth and developmental processes of plants</li> <li>• Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield</li> <li>• Integrate and apply their knowledge of crop physiology for analytical thinking and solving practical problems experienced in agricultural systems</li> </ul>
	CO2	To understand and apply ecological principles and understand legislation and measures to solve environmental problems.
<b>Medical Botany And Dietetics</b>	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.



**J.S.M. COLLEGE, ALIBAG-RAIGAD**

**COMPUTER SCIENCE**

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

## 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 team 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	C01	To learn about how computer systems work and underlying principles To understand the basics of digital electronics needed for computers
	C02	To understand the basics of instruction set architecture for reduced and complex instruction sets To understand the basics of processor structure and operation
	C03	To understand how data is transferred between the processor and I/O devices
Introduction to Programming with Python	C01	Ability to store, manipulate and access data in Python Ability to implement basic Input / Output operations in Python
	C02	Ability to define the structure and components of a Python program. Ability to learn how to write loops and decision statements in Python.

	C03	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	C01	Work with Linux file system structure, Linux Environment Handle shell commands for scripting, with features of regular expressions, redirections
	C02	Implement file security permissions Work with vi, sed and awk editors for shell scripting using various control structures
	C03	Install software like compilers and develop programs in C and Python programming languages on Linux Platform
Open Source Technologies	C01	Differentiate between Open Source and Proprietary software and Licensing.
	C02	Recognize the applications, benefits and features of Open-Source Technologies
	C03	Gain knowledge to start, manage open-source projects.
Discrete Mathematics	C01	Define mathematical structures (relations, functions, graphs) and use them to model real life situations. Understand, construct and solve simple mathematical problems.
	C02	Solve puzzles based on counting principles. Provide basic knowledge about models of automata theory and the corresponding formal languages.
	C03	Develop an attitude to solve problems based on graphs and trees, which are widely used in software.
Descriptive Statistics	C01	Organize, manage and present data.
	C02	Analyze Statistical data using measures of central tendency and dispersion. Analyze Statistical data using basics techniques of R.
	C03	4. Study the relationship between variables using techniques of correlation and regression.
Soft Skills	C01	Learners will be able to understand the importance and types soft skills
	C02	Learners will develop skills for Academic and Professional Presentations. Learners will able to understand Leadership Qualities and Ethics.
	C03	Ability to understand the importance of stress management in their academic & professional life.
<b>F.Y.B.Sc. C.S. Semester II</b>		
Design & Analysis of Algorithms	C01	Students should be able to understand and evaluate efficiency of the programs that they write based on performance of the algorithms used.

	C02	Students should be able to appreciate the use of various data structures as per need
	C03	To select, decide and apply appropriate design principle by understanding the requirements of any real life problems
Advanced Python Programming	C01	Ability to implement OOP concepts in Python including Inheritance and Polymorphism Ability to work with files and perform operations on it using Python.
	C02	Ability to implement regular expression and concept of threads for developing efficient program Ability to implement exception handling in Python applications for error handling.
	C03	Knowledge of working with databases, designing GUI in Python and implement networking in Python
Introduction to OOPs using C++	C01	Work with numeric, character and textual data and arrays.
	C02	Understand the importance of OOP approach over procedural language. Understand how to model classes and relationships using UML.
	C03	Apply the concepts of OOPS like encapsulation, inheritance and polymorphism. Handle basic file operations.
Database Systems	C01	To appreciate the importance of database design. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
	C02	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
	C03	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	C01	Develop mathematical skills and enhance thinking power of learners.
	C02	Understand mathematical concepts like limit, continuity, derivative, integration of functions, partial derivatives. Appreciate real world applications which uses the learned concepts.
	C03	Skill to formulate a problem through Mathematical modelling and simulation.
Statistical Methods	C01	Calculate probability, conditional probability and independence.

		Apply the given discrete and continuous distributions whenever necessary.
	C02	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.
	C03	Apply non-parametric test whenever necessary. Conduct and interpret one-way and two-way ANOVA.
E-Commerce & Digital Marketing	C01	Understand the core concepts of E-Commerce. Understand the various online payment techniques
	C02	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
	C03	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**

Course Name	Course Number	Outcome
Principles of Operating Systems	C01	To provide a understanding of operating system, its structures and functioning
	C02	Develop and master understanding of algorithms used by operating systems for various purposes.
	C03	Understanding of algorithms used by operating systems for various purposes.
Linear Algebra	C01	Appreciate the relevance of linear algebra in the field of computer science.
	C02	Understand the concepts through program implementation
	C03	Install a computational thinking while learning linear algebra.
Data Structures	C01	To introduce data abstraction and data representation in memory graph
	C02	To describe, design and use of elementary data structures such as stack, queue, linked list, tree and
	C03	How and why different data structures are used for different types of problems.
Advanced Database Concepts	C01	To develop understanding of concepts and techniques for data management and learn about widely used systems for implementation and usage.
	C02	To develop understanding of Transaction management and crash recovery
	C03	To develop concepts of programming concepts of database.

Java based Application Development	C01	To provide insight into java based applications using OOP concepts. To provide understanding of developing GUI based desktop applications in java.
	C02	To provide knowledge of web based applications through servlet and jsp.
	C03	To provide understanding and implementation of basic JSON
Web Technologies	C01	To design valid, well-formed, scalable, and meaningful pages using emerging technologies.
	C02	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.
	C03	To develop and implement Database Driven Websites. Design and apply XML to create a markup language for data and document centric applications.
Green Technologies	C01	Know about Green IT Fundamentals: Business, IT, and the Environment
	C02	Green IT Strategies and Significance of Green IT Strategies Green Enterprise Architecture and Green Information Systems
	C03	Sociocultural Aspects of Green IT and Green Compliance
<b>S.Y.B.Sc. C.S. Semester IV</b>		
Theory of Computation	C01	Understand Grammar and Languages
	C02	Learn about Automata theory and its application in Language Design

	C03	Learn about Turing Machines and Pushdown Automata Understand Linear Bound Automata and its applications
Computer Networks	C01	Learner will be able to understand the concepts of networking, which are important for them to be known as a 'networking professionals'.
	C02	Useful to proceed with industrial requirements and International vendor certifications.
	C03	To learn network topologies
Software Engineering	C01	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
	C02	Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.
	C03	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.
IoT Technologies	C01	Enable learners to understand System On Chip Architectures.
	C02	Introduction and preparing Raspberry Pi with hardware and installation.
	C03	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.
Android Application Development	C01	Understand the requirements of Mobile programming environment.
	C02	Learn about basic methods, tools and techniques for developing Apps Explore and practice App development on Android Platform

	C03	Develop working prototypes of working systems for various uses in daily lives.
Advanced Application Development	C01	To understand all the necessary and important technologies such as MongoDB, Express.js, AngularJS, and Node.js.
	C02	To understand modern app development using Flutter
	C03	Develop robust mobile applications using Flutter
Management & Entrepreneurship	C01	Understand the meaning of management, functions, administration and its process.
	C02	Understand the foundation of entrepreneurship and its theory, types and its process. Identify the steps involved in an entrepreneurial venture (SSI).
	C03	Understand an entrepreneur is converting his business ideas into running concern by selecting the project.

<b>TYBSc CS Semm V</b>		
USCS501 Artificial Intelligence	C01	After completion of this course, learner should get a clear understanding of AI and different search algorithms used for solving problems.
	C02	The learner should also get acquainted with different learning algorithms and models used in machine learning.
	C03	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	C01	Learner will be able to develop Linux based systems and maintain.
	C02	Learner will be able to install appropriate service on Linux server as per requirement.
	C03	Learner will have proficiency in Linux server administration.
USCS503 Software Testing and Quality Assurance	C01	Understand various software testing methods and strategies.
	C02	Understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software.
	C03	Design SQA activities, SQA strategy, formal technical review report for software quality control and assurance
USCS504 Information and Network Security	C01	Understand the principles and practices of cryptographic techniques.
	C02	Understand a variety of generic security threats and vulnerabilities, and identify & analyze particular security problems for a given application.
	C03	Understand various protocols for network security to protect against the threats in a network
	C01	Learners are able to design & develop IoT Devices.

USCS505 Architecting of IoT	C02	They should also be aware of the evolving world of M2M Communications and IoT analytics.
USCS506 Web Services	C01	Emphasis on SOAP based web services and associated standards such as WSDL
	C02	Design SOAP based / RESTful / WCF services Deal with Security and QoS issues of Web Services
	C03	To understand WCF service. To design secure web services and QoS of Web Services
USCS507 Game Programming	C01	Learner should study Graphics and gaming 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.
	C02	Along with the VR and AR they should also aware of GPU, newer technologies and programming using most important API for windows.
	C03	Learner should get the understanding computer Graphics programming using Directx or Opengl.
<b>T.Y.B.Sc. C.S. Semester VI</b>		
USCS601 Wireless Sensor Networks and Mobile Communication	C01	After completion of this course, learner should be able to list various applications of wireless sensor networks.
	C02	Describe the concepts, protocols, design, implementation and use of wireless sensor networks.
	C03	Implement and evaluate new ideas for solving wireless sensor network design issues.
USCS602 Cloud Computing	C01	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.
	C02	Learner should be able to identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc.

	C03	They should explain the core issues of cloud computing such as security, privacy, and interoperability.
USCS603 Cyber Forensics	C01	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
	C02	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	C01	After completion of this course, learner should get an understanding of the field of information retrieval and its relationship to search engines.
	C02	It will give the learner an understanding to apply information retrieval models.
	C03	To provide an overview of the important issues in classical and web information retrieval.
USCS605 Digital Image Processing	C01	Learner should review the fundamental concepts of a digital image processing system.
	C02	Analyze the images in the frequency domain using various transforms.
	C03	Evaluate the techniques for image enhancement and image segmentation.
	C04	Apply various compression techniques. They will be familiar with basic image processing techniques for solving real problems.
USCS606 Data Science	C01	Understanding basic data science concepts. Learning to detect and diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.
	C02	Making aware of how to address advanced statistical situations, Modeling and Machine Learning.

	C03	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	C01	To understand the ethics, legality, methodologies and techniques of hacking.
	C02	Learner will know to identify security vulnerabilities and weaknesses in the target applications
	C03	To test and exploit systems using various tools and understand the impact of hacking in real time machines.



In-Charge  
Computer Science



**J.S.M. COLLEGE, ALIBAG-RAIGAD**

Department of Information Technology

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

2022-23

## DEPARTMENT OF I.T.

### 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****FYBSc IT (SEM I)**

<b>Course name</b>	<b>Number</b>	<b>Outcome</b>
<b>Paper 1 – Programming Principles with C</b>	CO1	Learn the basic principles of programming.
	CO2	Develop of logic using algorithm and flowchart.
	CO3	Acquire the information about data types.
	CO4	Understanding of input and output functions.
	CO5	Enhance advanced concepts using program.
<b>Paper 2 – Digital Logic and Applications</b>	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
<b>Paper 3 – Fundamentals of Database Management Systems</b>	CO1	Define and describe the fundamental elements of relational database management system
	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 database 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.
<b>Paper 4 – Computational Logic and Discrete Structure</b>	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.
<b>Paper 5 – Technical Communication Skills</b>	CO1	Analyze, synthesize and utilize the process and strategies from delivery to solving communication problem.
	CO2	Learn the communication methodologies at workplace and learning about 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.

FYBSc IT (SEM II)

Course name	Number	Outcome
Paper 1 – Object oriented Programming with C++	CO1	Understand the concept of OOPs, feature 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 – Fundamentals of Micro Processor and Microcontrollers	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 Micro Controller
Paper 3 – Web Applications Development	CO1	Analyze working of 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 Methods	CO1	Understand numerical techniques to find the roots of non-linear equations and solution of system 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 solution to simple and complex numerical problems using different techniques.
Paper 5 – Green IT	CO1	Understand the concept of Green IT and problems related to it.
	CO2	Know different standards for Green IT.
	CO3	Understand the 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 system can stay Green Information system.

**SYBSc IT (SEM III)**

<b>Course name</b>	<b>Number</b>	<b>Outcome</b>
<b>Paper 1 – Python Programming</b>	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
<b>Paper 2 – Data Structures</b>	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
<b>Paper 3 – Computer Networks</b>	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.
<b>Paper 4 – Database Management Systems</b>	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.
<b>Paper 5 – Applied Mathematics</b>	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

**SYBSc IT (SEM IV)**

<b>Course name</b>	<b>Number</b>	<b>Outcome</b>
<b>Paper 1 – Core Java</b>	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
<b>Paper 2 – Introduction to Embedded Systems</b>	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.
<b>Paper 3 – Computer Oriented Statistical Techniques</b>	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
<b>Paper 4 – Software Engineering</b>	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
<b>Paper 5 – Computer Graphics and Animation</b>	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.

**TYBSc IT (SEM V)**

<b>Course name</b>	<b>Number</b>	<b>Outcome</b>
<b>Paper 1 – Software Project Management</b>	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
<b>Paper 2 – Internet of Things</b>	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.
<b>Paper 3 – Advanced Web Programming</b>	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.
<b>Paper 4 – Linux System Administration</b>	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
<b>Paper 5 – Enterprise Java</b>	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 Hybermate application

**TYBSc IT (SEM VI)**

<b>Course name</b>	<b>Number</b>	<b>Outcome</b>
<b>Paper 1 – Software Quality Assurance</b>	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
<b>Paper 2 – Security in Computing</b>	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.
<b>Paper 3 – Business Intelligence</b>	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.
<b>Paper 4 – Enterprise Networking</b>	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.
<b>Paper 5 – Cyber Laws</b>	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.

  
 In-charge  
 Dept. of Computer Science  
 J. S. M. College, Alibag



# **J.S.M. COLLEGE, ALIBAG-RAIGAD**

## **Department of BMS**

**Programme outcome (POS)  
Programme Specific Outcomes  
(PSO)and Course Outcomes  
(COS)**

2022-23

**DEPARTMENT OF B.M.S.**

**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 analyze 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:**

<b>F.Y.B.M.S (SEMESTER-I)</b>		
<b>Introduction To Financial Accounts</b>	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.
<b>Business Law</b>	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.
<b>Business Statistics</b>	CO1	To familiarize the students with fundamental statistical tools which can help them in analyzing the business data.
	CO2	To Analyse and contrast techniques and biases of quantitative methods within the context they are to be applied
<b>Business Communication I</b>	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
<b>Foundation Of Human Skills</b>	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.
<b>Business Economics I</b>	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.
<b>Foundation Course I</b>	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.
<b>Semester-Ii</b>		
<b>Principles Of Marketing</b>	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.
<b>Industrial Law</b>	CO1	Understand the laws related to working conditions in different settings.
	CO2	Learn the laws relating to Industrial Relations, Social Security and Working conditions.

<b>Business Mathematics</b>	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.
<b>Business Environment</b>	CO1	Critically assess the business environment of an organization using selected strategic tools.
	CO2	Construct and present scenarios that synthesize business environment information.
<b>Principles Of Management</b>	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.
<b>Business Communication Ii</b>	CO1	Have clear understanding of effective principles of effective presentation tools
	CO2	Get exposure to Group discussions and various types of mock interviews.
<b>Foundation Course - Value Education And Soft Skill Ii</b>	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
<b>S.Y.Bms (Semester-Iii)</b>		
<b>Introduction To Cost Accounting(Finance Elective)</b>	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
<b>Corporate Finance (Finance Elective)</b>	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
<b>Consumer Behaviour (Marketing Elective)</b>	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.
<b>Advertising (Marketing Elective)</b>	CO1	To understand and examine the growing importance of advertisin
	CO2	To understand the future and career in advertising

<b>Recruitment &amp; Selection (Human Resource Management)</b>	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
<b>Employees Relations &amp; Welfare (Human Resource Management)</b>	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
<b>Business Planning &amp; Entrepreneurship</b>	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.
<b>Information Technology In Business Management I</b>	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
<b>Accounting For Managerial Decisions</b>	CO1	To acquaint management learners with basic accounting fundamentals.
	CO2	To develop financial analysis skills among learners.
<b>Strategic Management</b>	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.
<b>Foundation Course Iii- Environmental Management</b>	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.
<b>Semester-Iv</b>		
<b>Auditing (Finance Elective)</b>	CO1	To examine the system of internal check
	CO2	To confirm the existence of assets & liability.
<b>Strategic Cost Management (Finance Elective)</b>	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.
<b>Integrated Marketing Communication (Marketing)</b>	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.

<b>Rural Marketing (Marketing)</b>	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.
<b>Human Resource Planning &amp; Information System (Human Resource Management)</b>	CO1	To Understand the Concept and Process of HRP
	CO2	To Understand Ways of matching Job Requirements and Human Resource Availability
<b>Training &amp; Development In HRM (Human Resource Management)</b>	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
<b>Information Technology In Business Management-II</b>	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
<b>Business Economics II</b>	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
<b>Business Research Methods</b>	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
<b>Foundation Course IV - Ethics &amp; Governance</b>	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
<b>Production &amp; Total Quality Management</b>	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.
<b>T.Y.BMS (SEMESTER-V)</b>		
<b>Investment Analysis &amp; Portfolio Management (Finance)</b>	CO1	To acquaint the learners with various concepts of finance
	CO2	To understand various models and techniques of security and portfolio analysis
<b>Wealth Management (Finance)</b>	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
<b>Risk Management (Finance)</b>	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
<b>Financial Accounting (Finance)</b>	CO1	To acquaint the learners in preparation of final accounts of companies
	CO2	To study the accounting of foreign currency and investment
<b>Services Marketing (Marketing)</b>	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
<b>E-Commerce &amp; Digital Marketing (Marketing)</b>	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
<b>Sales &amp; Distribution Management (Marketing)</b>	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
<b>Customer Relationship Mgmt. (Marketing)</b>	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
<b>Finance For Hr Professionals &amp; Compensation Management (Human Resource Management)</b>	CO1	To orient HR professionals with financial concepts to enable them to make prudent HR decisions
	CO2	To understand the various compensation plans
<b>Strategic Human Resource Management &amp; Hr Policies (Human Resource Management)</b>	CO1	To understand the various compensation plans
	CO2	To understand the relationship between strategic human resource management and organizational performance
<b>Performance Management &amp; Career Planning (Human Resource Management)</b>	CO1	To understand the concept of performance management in organizations
	CO2	To review performance appraisal systems
<b>Stress Management(Human Resource Management)</b>	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
<b>Logistics And Supply Chain Management</b>	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

<b>Corporate Communication &amp; Public Relations</b>	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
<b>SEMESTER-VI</b>		
<b>International Finance(Elective Finance)</b>	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
<b>Innovative Financial Services(Elective Finance)</b>	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
<b>Project Management (Elective Finance)</b>	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
<b>Strategic Financial Management (Elective Finance)</b>	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
<b>Brand Management (Elective Marketing)</b>	CO1	To understand the meaning and significance of Brand Management
	CO2	To Know how to build, sustain and grow brands
<b>Retail Management (Elective Marketing)</b>	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.
<b>International Marketing (Elective Marketing)</b>	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
<b>Media Planning And Management</b>	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.
<b>HRM In Global Perspective (ELECTIVE HUMAN RESOURCE)</b>	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
<b>Organisational Development (Elective Human Resource)</b>	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
<b>HRM In Service Sector Management (Elective Human Resource)</b>	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
<b>Human Resource Accounting &amp; Audit (Elective Human Resource)</b>	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
<b>Operation Research</b>	CO1	To help students to understand operations research methodologies
		To help students to solve various problems practically
<b>Project Work</b>	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.

~~Mokal~~

In-charge

Dept. BMS

J.S.M. college Alibag.