Sahajeevan Shikshan Sanstha's

Shrimati Indira Mahadev Beharay College of Arts, Shriman Chandulal Sheth College of Commerce, Shrimati Shobhanatai Chandulal Sheth College of Science, Khed-Ratnagiri, Maharashtra, India.



# PROGRAMME OUTCOMES (POS) AND COURSE OUTCOMES (COS) FOR PROGRAMMES OFFERED BY THE INSTITUTION

Academic Year 2022-23

## Program Outcomes: B.A. (UG)

01) Learners will be equipped with comprehensive understanding of literary genres, trends and literary movements from the History of English, Marathi and Hindi Literature; thereby, enabling them to understand the valuable co-relation between the socio-culture, economical and historical contexts behind the literary production.

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

03) Learners will acquire the language skills to cope up with the challenges of outer world and will subsequently be equipped with required skills of a good citizen.

04) To understand various concepts and theories of economics and to create awareness about cooperation and international trade.

05) The students will get basic and introductory knowledge of Political Science, Local Self Government System and Indian Constitution.

**Department of English Course Outcomes** FYBA: Communication Skills in English

Outcomes:

01) It enhanced language proficiency by providing adequate exposure to reading and writing skills

02) It also helped to orient the learners towards the functional aspects of language 03) It increased the range of lexical resources through a variety of exercises

## FYBA: Introduction to Literature (Paper I)

Outcomes:

01) To write clearly, coherently and effectively about various genres literature

02) To recognize the culture and context of the work of literature 03) To develop sensitivity to Nature and fellow human beings

## SYBA: Indian Literature in English (Paper II)

Outcomes:

01) It introduced learners to the uniqueness of Indian Literature in English 02) The learners got acquainted with the pluralistic dimensions of Indian

Literature in English 03) It helped them to understand the different genres of Indian Literature in English

04) It familiarized learners with different perspectives of approaching this Literature

05) It made learners aware of prominent Indian writers in English

## SYBA: American Literature (Paper III)

Outcomes:

01) The learners of literature acquainted with the various genres and literary terms of 20th century American Literature

02) It sensitized the learners to the themes and styles of American Literature 03) It introduced them to the socio-culture milieu of 20th century America through literary texts

04) It helped to enhance their understanding of American, African-American and multi-culture sensibilities by introducing them to the literary works representing them

05) It facilitated cross-culture perspective and discussion on American literature

# **TYBA: 16th to 18th Century English Literature (Paper IV)**

Outcomes:

01) To understand the distinctive features of English literature of 16th, 17th and 18th Centuries

02) To comprehend how background influences shaped the writer's thinking 03) To recognize and appreciate the literary masters who dominated the scene

04) To grasp the different writing styles that each age adopted

#### **TYBA: Literary Criticism (Paper V)** Outcomes:

01) Use some important critical terms

02) Become aware the nature and function of literature and criticism 03) Impart the technique of close reading of literary texts

04) Understand the various literary theories and critical approaches

05) Be familiar with the tenets of practical criticism

## TYBA: Grammar and Art of Writing (Paper VI)

Outcomes:

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

02) Have improved speaking skills

03) Have developed adequate knowledge of the rules of grammar, grammatical analysis and sentence transformation 04) Write effectively in various domains

## TYBA: 19th Century English Literature (Paper VII)

Outcomes:

01) To view literary works in their dynamic interface with the background 02) To understand the literature of the 19th century as a complex outcome of artistic, intellectual and socio-political cross currents

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

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

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

## TYBA: 20th Century British Literature (Paper VIII)

Outcomes:

01) Students will be equipped with comprehensive understanding literary genres, trends and literary movements in 20th century British Literature; thereby, enabling them to understand the valuable co-relation between the socio-culture, economical and historical contexts; behind the literary production

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

## **TYBA: Drama and Theatre (Paper IX)**

Outcomes:

01) Analyze the social and artistic movements that have shaped theatre and drama

02) Apply discipline specific skills to the creation of drama

03) Analyze the difference between the concepts of drama and theatre

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

## **Department of Economics**

## Course outcomes -

## F.Y B.A ECO-I Semester I & II.

## **Outcomes:**

- I. The concept of demand and the two important schools of thought in demand analysis
- 2. The learner will know about the concept of production through economics perspective
- 3. The classification of markets and how the price of a commodity is determined in different markets.

## S.Y.B.A ADVERTISING Paper I& II, Semester III

## **Outcome:-**

- 1. Learners will know about Importance of Advertising in cooperative world.
- 2. Learner will know about the Features, organization of Advertising agency.
- 3. Learner will know about the Evaluation methods of advertising.

## T.Y.B.A. S Semester – V. ADVANCED MICRO ECONOMICS-III Paper-VII OUTCOMES:

- 1. Enable students to get knowledge on New Market structure, imperfect Competition.
- 2. Provides understanding on the welfare economics and economics of information.

# Economics Of Growth And Development Paper-Vii

## **OUTCOMES**:

- 1. Enable students to apply and analyse issues in the development process.
- 2. Students will be able to identify the issues related of growth and development.
- 3. Students will be able to understand the policy option and analysed the measures taken for the development of an economy Science

# ECONOMICS OF AGRICULTURE AND CO-OPERATION Paper-IX OUTCOMES:

- 1. Students will obtain information regarding various agricultural issues in India and remedies for it.
- 2. Making awareness about self-employment through various local business like agrotourism. travel agents. horticulture. floriculture. fishery and animal husbandry.

# T.Y.B.A. Semester-VI MACRO ECONOMICS -III Paper-XIII OUTCOMES :

- 1. Enable students to get knowledge on Goods Market in the open Economy
- 2. Provides understanding on the exchange Rate Regimes. crisis.

## **International Economics Paper-xiv**

## **OUTCOMES:**

- 1. Students will be able to identify the benefits of the international trade.
- 2. Students will be able to understand the Trade Policy and Regionalism.

## **Economics Of Agriculture And Cooperation Paper-XV**

## **OUTCOMES**:

- 1. Students will obtain information regarding various co-operative society in India.
- 2. Making awareness about marketing. finance and employment through various co-operative society

## Hindi Department BA

## **Course Outcomes**

- छात्रों को हिंदी साहित्य की विविध विधाओं का परिचय व ज्ञान बढता नजर आता है |
- छात्रों में हिंदी साहित्य की विविध विधाओं द्वारा सामाजिक व धार्मिक एकता, बंधुता व सौहार्द्रता की भावना का विकास हो रहा है।
- पारिवारिक बिखारते रिश्तों को सहेजने की क्षमताओं का विकास हो रहा है।
- प्रकृती के प्रति सम्मान व प्राकृतिक जीवों के प्रति मानवियता व सहानभूती का विकास हो रहा है।
- राष्ट्रीय एकता की भावना का विकास हो रहा है।
- आंतरराष्ट्रीय स्तर पार मानवीय सामाजिक भावनाओं का परिचय मिलता है।
- पदव्युत्तर शिक्षा के बाद अनेक छात्रोंको रोजगार, व्यवसाय आदि अवसर उपलब्ध हुए है।

# DEPARTMENT OF MARATHI COURSE OUTCOMES

## FIRST YEAR B. A. COMP. MARATHI:

- 1. साहित्यातील कथा ही संकल्पना समजून घेतील.
- 2. मराठी साहित्यातील कथन साहित्याच्या परंपरांची माहिती होईल.
- 3. कविता ही संकल्पना समजून घेतील.
- मराठीतील विविध कवी आणि त्यांच्या साहित्यिक कार्याचा परिचय होईल.
- 5. व्यावहारिक मराठी अभ्यासातून लेखन, वाचन, चिंतन कौशल्ये विकसित होतील.

## FIRST YEAR B. A. OPTIONAL MARATHI PAPER I

- 1. नाटक ही साहित्य संकल्पना समजून घेतील.
- 2. मराठी साहित्यातील नाटकांची परंपरा माहिती होईल.
- 3. नाटक संहिता आणि सादरीकरण यांतील भेद लक्षात येईल.
- 4. प्रवास वर्णन या साहित्य प्रकाराचे स्वरूप समजून घेतील.
- 5. प्रवास वर्णनाच्या माध्यमातून विविध देश-प्रदेशांची संस्कृती समजून घेतील.
- 6. व्यक्तिगत प्रवासाचे अनुभव कथन व लेखन करतील.
- 7. स्वानुभव लेखनातून लेखन करण्याचा आत्मविश्वास निर्माण होईल.

## SECOND YEAR B. A. OPTIONAL MARATHI PAPER II:

- 1. कादंबरी ही साहित्य संकल्पना समजून घेतील.
- 2. मराठीतील कादंबरी लेखनाची परंपरा समजून घेऊन कालसापेक्ष विषयांचा अभ्यास करतील.
- 3. कादंबरीच्या विविध प्रकारांची माहिती होईल.
- 4. आत्मचरित्र ही संकल्पना समजून घेतील.
- 5. चरित्र, आत्मचरित्र, आत्मकथन या संकल्पना समजून घेतील.
- 6. मराठीतील आत्मचरित्रे अभ्यासून व्यक्तीची जडणघडण कशी होते ते समजून घेतील.
- 7. आपल्या आयुष्यातील घटना आत्मकथन स्वरूपात लिहितील.

## SECOND YEAR A. OPTIONAL MARATHI PAPER III:

- 1. भाषेचे स्वरूप, घटक व कार्य जाणून घेतील.
- 2. बोली भाषांचे स्वरूप, भेद व महत्व अभ्यासतील.
- 3. स्वतःच्या प्रदेशातील बोलीभाषेचे स्वरूप लक्षात घेतील.
- बोली भाषा व प्रमाण भाषा यांचे स्वरूप जाणून घेतील व दोन्ही प्रकारांचा अबलंब करतील.

## THIRD YEAR B. A. OPTIONAL MARATHI PAPER IV:

- 1. प्राचीन व मध्ययुगीन मराठी वाङमयाच्या इतिहासाची माहिती घेतील.
- 2. मध्ययुगीन मराठी वाङमयाचे रचना प्रकार समजतील.
- 3. मराठी भाषेतील लेखन परंपरा समजून घेतील. ४. मराठी भाषेबद्दल अभिमान निर्माण होईल.
- 4. संत, पंडिती, शाहीरी वाडमय व बखर वाङमयाचा परिचय होईल.

## THIRD YEAR B. A. OPTIONAL MARATHI PAPER V:

- 1. भारतीय साहित्य विचारांचा परिचय होईल.
- 2. भारतीय साहित्य आस्वादाची प्रक्रिया समजेल.
- 3. भारतीय साहित्याची निर्मिती प्रक्रिया व प्रयोजनांचा परिचय होईल.
- 4. पाश्चात्य साहित्य विचारांचा परिचय होईल.
- 5. पाश्चात्य साहित्य आस्वादाची प्रक्रिया समजेल.
- 6. पाश्चात्य साहित्याची निर्मिती प्रक्रिया व प्रयोजनांचा परिचय होईल.

## Hindi Department MA

#### **Program and Course Outcomes**

- छात्रों को हिंदी साहित्य की विविध विधाओं का परिचय व ज्ञान बढता नजर आता है।
- छात्रों में हिंदी साहित्य की विविध विधाओं द्वारा सामाजिक व धार्मिक एकता, बंधुता व सौहार्द्रता की भावना का विकास हो रहा है।
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- राष्ट्रीय एकता की भावना का विकास हो रहा है।
- आंतरराष्ट्रीय स्तर पार मानवीय सामाजिक भावनाओं का परिचय मिलता है।
- पदव्युत्तर शिक्षा के बाद अनेक छात्रोंको रोजगार, व्यवसाय आदि अवसर उपलब्ध हुए है।

## **Department of Commerce**

#### **Programme Outcome**

1. Com. (Regular)

## Programme Outcome

- After completing three years of B. Com. Degree students would gain, to recognize features and roles of businessmen, entrepreneur, managers, consultant, which help learners to possess knowledge and other soft skills.
- Learners will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA etc.
- Leaners will acquire the skills like effective communication, decision making, critical thinking and problem solving in day to day business organization.
- **B.Com.** Learners can also acquire practical skills to work as an accountant, audit assistant and other financial supporting service
  - Enable for higher education and advance research in the field of commerce and finance
  - Equip with the knowledge of accounting process and preparation of final accounts of sole trader

**Course outcomes** 

First Year B. Com.

Course

Commerce paper I & II (Semester I & II)

Accountancy and Financial	٠	After studding Accountancy and Financial Management paper	
Management Paper I & II		I and II students can gain —	

(Semester I & II) • The knowledge regarding nature meaning and objectives of accounting standard

- Difference between installment and hire purchase system
- How to maintain books of recording under hire purchase installment method
- Concept of consignment accounting
- Calculation of manufacturing cost, gross profit and net profit of manufacturing concern
- Allocation of expenses or income and gains as capital, revenue or deferred revenue
- Understand introduction of insurance claims and construct practical problem on loss of stock
- How to prepare final accounts from incomplete record kept by small traders

#### Second Year B. Com.

#### Commerce paper III & IV (Semester III & IV)

- Preparation of final accounts in case of admission and retirement or death of partner.
- How the cash is to be distributed as and when received .

Procedure of amalgamations and sale of partnership firms.

Accountancy and Financial

- Management III and IV
- Procedure of issue of shares and debentures and how preference shares and debentures can be redeemed.
- This subject also differentiate profit and loss prior period to incorporation and post incorporation

#### **Group: Business Management**

Subject: Marketing Management I & II (Semester III & IV)

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**Group: Financial Accounting and Auditing** 

Subject: Auditing	•	Student will understand the concept of audit, various types of
		auditing, how to vouch various expenses and incomes and

verification of assets and liabilities. 3. Student will understand to describe the different types of audit requirement in different situations

- Students will learn to adopt the accurate sampling techniques for the purpose of test checking.
- Student will understand the need for an independent or external audit.

Third Year B. Com.

After completion of study the students will be able to:

- Prepare final accounts of company along with various adjustments
- Use the practical knowledge regarding amalgamation of companies, internal reconstruction etc.
- How to be bought back equity shares
- How to analyse the internal or external reconstructions of companies
- Explain meaning, needs, objectives of personal investment accounts, solve problem on personal investment accounting

After conclusion of study the students will be able to:

- Define the various components of total cost of a product i.e. direct & indirect cost and fixed & flexible cost.
- EOQ for managing working capital.
- Define the features of overhead or indirect cost of production and basis of allocation and apportionment.
- Determine basis for computing tender price of a product.
- To understand the concept of standard and marginal costing.

#### **Financial Accounting**

#### **Cost Accounting**

- Calculation of contract cost and profit at each contract.
- Through variance analysis how to control the cost.

## **Group: Business Management**

	After the completion of the course the students are expected to :
Management and	• Acknowledge the need for formal management education.
Organisation Development –	• Acquire skills for becoming effective managers.
I & II (Semester V & VI)	• Practice management principles wherever possible and utilize
	the available resources more productively.
	After Completion of this course the student would be able to
	• Use business finance terms and concepts practically.
	Application of correct techniques for making financial
Financial Management	management decision.
r manciai Management	• Use the financial information tackle with the financial
	management problems with the help of advanced techniques.
	• Students will be able to understand the need and importance of
	financial management.
	• Students will be able to calculate the GST for the given
	transactions related to goods or services or both.
	• Student will able to understand the basic principles underlying
	the Indirect Taxation Statutes with reference to GST
Indirect tax	• Student will able to understand Tax liability and taxable
	entities.
	• Students will be able to understand the Place of supply, Time
	of supply of goods or services or both.

- After completion of the course students will be able to:
- Understand the basic concepts of export marketing.

## • Understand the need and benefits of product designing.

## **Export marketing**

- Understand the significance of branding, labeling and marking for the purpose of export marketing.
- Understand the procedure, documents required and policies of export marketing.

## **Department of B.Com.** (Accounting And Finance)

Programme Outcome (PO), Program Specific Outcome (PSO) and Course Outcome (CO)

Name of the Programme	Programme Outcome	Program Specific Outcome
	To develop fundamental knowledge about the fields of finance, accountancy, audit, taxation, law, technology and innovative practices by adopting learner centric pedagogy.	Have fundamental knowledge of finance, accountancy, audit, taxation, law, technology and innovative practices.
B.com. Accounting -and Finance	To motivate students to pursue higher studies such as chartered accountancy, cost accountancy, Bachelor of Accounts & Finance (B.A.F) (Programme) chartered financial analyst, Business administration and company	Communicate effectively with all stakeholders
	Secretaryship	

To nurture students	' ability	to	work
as consultants.			

To arouse students' interest in research.

Makes students capable of

issues.

recognizing and resolving ethical

Work at both individual and team level.

Ability to conceptualize a complex issue into a coherent written statement and oral

solve specific business problems and decision making. Apply ethical principles and commitment towards professional ethics and responsibility.

#### FYBAF

## Semester – I

Sr. No.	Name of The	Code	(	Course Outcomes (After completing this course, the
	Course	Course	S	tudents will be able to)
			A	At the end of this course students should be able to:
Foundation 1 UA&F Course		1.	Understood the demographic composition of India	
			having regard to Language, Religion, and Gender etc.	
		2.	Understood stratified reasons as to differences and	
	UA&FFSI.7		women problems.	
		3.	Understood the fundamental duties of Indian citizens	
			specified in the Indian Constitution.	
		4	4.	Understood hierarchy of local self-government and
				amendment to the same.

			A	at the end of this course students should be able to:
			1.	Relate to the various concepts and processes of
				managerial communication.
			2.	Getting knowledge about what is ethics and how and
				for what it should be followed.
	Business		3.	Identify the gap between current level of
2	Communication	IIA & EESI 6		communication skills and the expected industry
Z	I	Ι υΑαγγδι.υ		standards.
	1		4.	Develop essential communication skills required for
				managing a business.
			5.	Getting helpful for knowledge about what is
				communication, types of communication, channels
				and modes of communication.
			А	t the end of this course students should be able to:
			1.	Expose students of Commerce to basic
				Microeconomics
	D :		2.	Concepts and inculcate in analytical approach to the
3	Business	UA&FFSI.3		subject matter.
	Economics I		3.	Stimulate the students' interest by showing the
				relievable and use of various economic theories and
				functions.
			4.	Apply economic reasoning to problems of business.
			А	t the end of this course students should be able to:
			1.	Understand and analyze various political,
	Business	UA&FFSI.5		technological and economic environment in the
4	Environment			business
			2.	Aware of business ethics.
			3.	Aware of various consumer laws in India.

		<ol> <li>Identify the factors of the international business environment. Understand the positive and negative impact of the environment on business.</li> <li>Know and analysis different business environment</li> <li>Implications of WTO and FDI for Indian Industries.</li> </ol>
5	Cost Accounting I	<ul> <li>At the end of this course students should be able to:</li> <li>1. Understand the concepts of costing and accounting procedures.</li> <li>2. Study practical adjustments in production with elements of cost Study practical approach towards cost structure of labours.</li> <li>SI.2</li> <li>3. Understanding formulas for calculation of cost of labours.</li> <li>4. Study practical approach towards overheads in production</li> <li>5. Study per overhead cost and apportion of elements used in production.</li> </ul>
6	Financial UA& Accounting I	<ul> <li>At the end of this course students should be able to:</li> <li>1. Solve practical problems regarding Inventory Valuation by FIFO and Weighted Average Method.</li> <li>2. Classify in considering features of various transactions and able to apply structure of Final Accounts in proper manner.</li> <li>3. Accounting of Departmental Stores.</li> <li>4. Understood application of Hire purchase transactions in real life as regular transaction in the society</li> </ul>
7	Financial UA& Management	<ul> <li>At the end of this course students should be able to:</li> <li>1. Understand the concept of financial management.</li> <li>2. Understand different concepts of valuation.</li> <li>3. Calculate various leverages on their own.</li> </ul>

- 4. Easily identify various sources of finance.
- 5. Calculate cost of capital of the various firms.

## FYBAF

## Semester – II

Sr. No.	Name of The Course	Code Course	Course Outcomes (After completing this course, the students will be able to)
1	Foundation Course	UA&FFSII.3	<ol> <li>At the end of this course students should be able to:</li> <li>Understand New industrial policy 1992 with its economic reform.</li> <li>Understand fundamental rights stated in the constitution. Understood importance of environment protection in the current era.</li> <li>Understood significance of aggression, violence and the need to control in life.</li> <li>Understood conflict resolution technique and peace and harmony in society.</li> </ol>
2	Auditing I	UA&FFSII.2	<ol> <li>At the end of this course students should be able to:</li> <li>Understand the concept of auditing, errors and frauds, principles of audit and types of audit.</li> <li>Plan an audit program and maintain working papers and audit note books. Understand techniques of auditing.</li> <li>Understand concept of internal audit</li> </ol>
3	Financial Accounting II	UA&FFSII.1	<ul><li>At the end of this course students should be able to:</li><li>1. Understand difference in between single entry system and double entry system and practically</li></ul>

able to link up, to prepare final accounts from incomplete records.

- Learn application of Branch Accounting for small branches by Debtor system and for big branches by stock and debtors system.
- Understand transactions between Principal/ Manufacture and agent, able to apply consignment accounting regarding these transactions.
- Know basic principles of insurance and able to calculate fire insurance claim regarding goods lost by fire

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

- 1. Demonstrate an understanding of the foundations and history of mathematics.
- Perform computations in higher mathematics. Read and understand middle-level proofs.
- 3. Write and understand the basics of Profit and loss, interest and annuity concepts.
- Develop and maintain problem-solving skills. Able to solve the problems based on ratio, proportion and percentage. students able to understand the practical aspects of shares and mutual funds.

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

issue management & securitization process, the

Innovative1.scenario of the financial service sector in India.The<br/>various services offered,the<br/>procedures,criteria,eligibilty,need of availing such<br/>services.The students would also understand the

4

Business

Mathematics

UA&FFSIL6

5

background of the stock market operations. The Syllabus also provides a good understanding of Credit Rating Agencies & consumer finance.

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

- Understand the legality behind making a contract. Understand legality behind making a contract of sale and agreement to sell.
- 2. Understand legality behind negotiable instruments of promissory notes, bills of exchange, cheque.
- 3. Understand legality and rights of consumers.

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

- Deal with nerves and think more positively about public speaking.
- Consider ways of grabbing the listener's attention, holding their interest, and concluding strongly.
- Use body language and tone of voice to enhance their presentations.
- Use slides and visual aids effectively. Students will develop knowledge, skills, and judgment around human communication through practicing business letters that facilitate their ability to work collaboratively with others.

SYBAF

Semester – III

Business Law – UA&FFSII.5 I

UA&FFSIL7

7

Business

Communication

6

			Course Outcomes (Arter
Sr. No.	Name of The Course	Code Course	completing this course, the
			students will be able to)
			At the end of this course students should
			be able to:
			1. Get proper guidance about
			investment, differences about banking
			and non-banking financial services,
			and inflation.
	Foundation Course in		2. Understand knowledge regarding
1	Commerce (Financial	UA&FFSIII.5	Sensex, IPO shares, methods of
	Market Operation)		raising finance by company through
			various financial instruments.
			Understand classification of financial
			instruments, derivatives. Get helpful
			knowledge about consumer finance,
			plastic money, features of financial
			services, underwriter.
			At the end of this course students should
			be able to:
			1. Understand the concept of
			Macroeconomics and various circular
			flows of income.
2	D . E		2. Understand various concepts in
2	Business Economics II	UA&FFSIII.4	money, prices and inflation. Aware of
			public finance in depth.

 Understand various sources of public revenue and expenditure. An appreciation of the ethical issues in economics competition.

**Course Outcomes (After** 

3	Cost Accounting II	UA&FFSIII.2	<ul> <li>At the end of this course students should be able to:</li> <li>1. Solve cost sheet problems and acquire skill of application of cost sheet. One of the important techniques to determine prices</li> <li>2. Find reasons of distinction between financial accounting and cost accounting and to solve practical problems.</li> <li>3. Apply calculation of pricing of large size contracts by contract costing and to solve practical problems.</li> <li>4. Apply technique of determination of price at the time of running manufacturing process by process costing in practical manner</li> </ul>
4	Direct Taxation	UA&FFSIII.3	<ul> <li>At the end of this course students should be able to:</li> <li>1. the legal as well as the practical aspects of the subjects.</li> <li>2. Develop knowledge of various sections under Direct taxes.</li> <li>3. The students will be able to compute income from salary deductions at various sources. Learn about capital gains, tax rates under partnership firm &amp; Individual. The various</li> </ul>

methods & procedures of tax

planning & ethics in taxation will also be learnt.

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

- To learn the structure of Final Accounts of Partnership Firms with Admission, Retirement, Death of partner.
- To learn actual implementation of dissolution of partnership firms with the technique of Piecemeal Distribution of Cash.
- To learn the procedure of Amalgamation of partnership firm and conversion of partnership firm into joint stock company.
- To learn inter settlement of various transactions during the conversion of partnership firms into Joint Stock Co.
- To learn transactions and procedure of foreign currency translation into Indian Rupees.

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

- Understand an insight of various beneficial social legislative measures.
- Understand rights and liabilities of partners, Outsiders. Incorporation and dissolution of partnership firm.

5 Financial Accounting III UA&FFSIII.1

6 Business Law

UA&FFSIII.6

 Understand nature of LLP, merits of LLP and process of winding up of LLP Understand provisions of Health safety and welfare measures for workers and its inspection.

- Demonstrate an understanding of the Legal environment of business.
- Apply basic legal knowledge to business transactions. Communicate effectively using standard business and legal terminology.

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

- Learn different parts of hardware and different types of software Learn and execute different commands of Ms word, Ms Excel and Ms PowerPoint
- Learn Downloading information, creating e-mail ID and sending, receiving emails.
- Learn legal issues of the internet, importance of electronic data interchange and e-commerce.

# 7 Information Technology 7 I UA&FFSIII.7

#### **SYBAF**

Semester – IV

Sr. No.	Name of The Course	Code Course	Course Outcomes (After completing this course, the students will be able to)
1	Foundation Course in Management (Introduction to Management)	UA&FFSIV.4	<ol> <li>At the end of this course students should be able to:</li> <li>Discuss and communicate the management evolution and how it will affect future managers.</li> <li>Observe and evaluate the influence of historical forces on the current practice of management.</li> <li>Identify and evaluate social responsibility and ethical issues involved in business situations and logically articulate your own position on such issues.</li> <li>Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence and control the internal environment.</li> <li>Practice the process of management's four functions: planning, organizing, leading, and controlling.</li> </ol>
2	Research Methodology	UA&FFSIII.4	<ul><li>At the end of this course students should be able</li><li>to:</li><li>1. Learn about sources, types of data,</li><li>recognition of sources of Datta collection.</li></ul>

3	Financial Accounting	UA&FFSIV.1	<ol> <li>Learn about how to design the research and types of hypotheses. Getting knowledge about the types of data classification of data collection, how to process the data, and learnt about the how to calculate the mean, median, mode, Learn about the how to write report, interpretation and submission of data/ project</li> <li>At the end of this course students should be able to:</li> <li>Apply to formats of Company Final Accounts as per Indian Company's Act, 2013 in practical manner with notes to accounts.</li> <li>Understand provisions regarding redemption of preference shares as per</li> <li>Company's Act, 2013 and applying practically to solve practical problems. Understand various</li> </ol>
			<ul> <li>share also they are able to understand provisions</li> <li>regarding redemption of debentures.</li> <li>4. Apply conversion of foreign currency into</li> <li>Indian currency when, to solve practical</li> <li>problems about foreign branches.</li> <li>At the end of this course students should be able</li> </ul>
4	Management Accounting	UA&FFSIV.2	<ul> <li>to:</li> <li>1. Understand the concept of management accounting. Analyses and interprets financial statements.</li> <li>2. Calculate various ratios from the financial statements.</li> <li>3. Do cash flow analysis</li> </ul>

			4 Manage working capital requirement	
			estimations of the firm.	
	Business Law – III	UA&FFSIV.5	At the end of this course students should able to:	
			1. Students have understood various	
			definitions that are required to learn provision of	
			company Act 2013.	
			2. Students have understood the process of	
5			incorporation of a company and its importance.	
			3. Students have understood the ways to	
			raise capital in the primary market by public	
			companies and private companies. Students have	
			understood types of prospectus and its need to	
			issue in different situations.	
			At the end of this course students should be able	
			to:	
			1. Learn need and importance of business	
		UA&FFSIV.6	process, business process management in IT,	
	Information Technology – II		BPM life cycle	
6			2. Learn practical knowledge of Tally	
			software	
			3. Learn importance and applications of	
			information system in management, role of	
			computer in MIS Learn different IT auditing	
			techniques	
TYBAF Semester -V				
Semeste	1 - Y			
Sr. No.	Name of The Course	Code Course	Course Outcomes (After completing this	
			course, the students will be able to)	

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

- Acquired analytical skills in solving marketing related problems and challenges and be familiar with the strategic marketing management process.
- Exposed to the development, evaluation, and implementation of marketing management in a variety of business environments. Understand the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes.
- Learn, administer and contribute to the design and evaluation of the performance management program..

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

- understand the concept of capital budgeting, receivable management, mutual fund and bond valuation and their practical implications in real life.
- 2. Understand the concept of net present value and how to calculate the payback period of a project.

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

- Understanding of concepts of costing and accounting procedures. Know ratios which are used in company's
- 2. Get Knowledge about comparison of cost integrated and non integrated costing system
- Study practical activities in production with two systems Study practical approach towards in service costing

Management Application

1

Research Methodology

Cost Accounting

3

2

UA&FFSV.2

			<ol> <li>Study practical approach towards process in production Study per unit cost and apportion of elements used in process</li> <li>Study practical calculations of cost with reference to activity Differentiate cost between traditional and ABC approach.</li> </ol>
4	Indirect Taxation	UA&FFSV.5	<ul> <li>At the end of this course students should be able to:</li> <li>1. practical aspect of GST, how it is calculated and rate of GST indeltail. Students are able to calculate GST on their transactions. They are able to understand various concepts of GST.</li> </ul>
5	Financial Accounting – V	UA&FFSV.1	<ul> <li>At the end of this course students should able to:</li> <li>Students have understood various definitions that are required to learn provision of company Act 2013.</li> <li>Students have understood the process of incorporation of a company and its importance. Students have understood the ways to raise capital in the primary market by public companies and private companies. Students have understood types of prospectus and its need to issue in different situations.</li> </ul>
6	Financial Accounting – VI	UA&FFSV.3	<ol> <li>At the end of this course students should be able to:</li> <li>Apply format of final accounts as per Banking Companies Act, 1949 in practical manner.</li> <li>Verify the financial position of the Bank from various angles. Apply format of final accounts as per Insurance Companies Act, and verify actual calculation premium in practical manner.</li> </ol>

 Practically apply procedure of valuation of personal investment in real, mostly investment in Share market and in Debentures / Bonds

## TYBAF

## Semester -VI

Sr. No.	Name of The Course	Code Course	Course Outcomes (After completing this course, the students will be able to)
1	Indian Economics		<ul> <li>At the end of this course students should be able to:</li> <li>1. Understand the various aspects of the Indian economy. Develop a perspective on the different problems and approaches to economic planning and development in India.</li> <li>2. Develop a perspective on the different problems and approaches to economic planning and development in India Understand the role of the Indian Economy in the global context, and how different factors have affected this process.</li> </ul>
2	Financial Management	UA&FFSVI.6	<ul> <li>At the end of this course students should be able to:</li> <li>1. Describe the dimensions of performance and risk relevant to financial firms. understand the concept of business valuation , mergers and acquisition etc.</li> </ul>

			2. Calculate contemporary measures of
			financial measures of performance and
			risk. understand the practical aspect of
			lease accounting , hire purchase system
			and its accounting treatment. understand
			how to calculate the amount of working
			capital. Describe contemporary
			managerial risk.Evaluate the economic
			environment and the impact of
			governmental economic
			At the end of this course students should be
			able to:
			1. Prepare various types of budgets
			depending upon the types of activities.
			2. Understand the concepts of absorption
3	Cost Accounting	IIA & FESVI 2	costing, marginal costing, and cost
5	Cost Accounting	UA&FFSVI.2	volume and profit analysis.
			3. Take decisions like make or buy,
			appropriate sales mix on the basis of
			analytical costing methods. Find
			material, labour, sales and overhead
			variances.
			At the end of this course students should be
4	Taxation – III	UA&FFSVI.5	able to:
			1. practical aspect of GST, how it is
			calculated and rate of GST indeltail.
			Students are able to calculate GST on
			their transactions. They are able to
			understand various concepts of GST.

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

- Prepare Final Account for Electricity Company as per Double Account System
- Prepare final accounts of Co-Operative Housing Society & Consumer Co-Operative Society.
- Get the knowledge of IFRS its Purpose & Objective of financial statement, its Framework, its assumption, characteristics, element, recognition & measurement. understand the mutual fund and AS-13.

#### M.Com Business Management – Program outcomes

- After completing of graduation, students can appear to different professional exams like C.A., C. S., CMA, L.L.B., C.F.A. etc. and competitive examinations like MPSC, UPSC, Bank Recruitment, Railway Recruitment etc.
- Students can also get the practical skills regarding accounting, auditing.

**UA&FFSVI.4** 

- Due to wide range of subjects in commerce, it results in strengthening capacities in varied areas of commerce and industry aiming towards holistic development of learners.
- Develops communication skills and build confidence to face the challenges of the corporate world.

#### **Course Outcome**

#### **Strategic Management**

- Learners will be able to comprehend new strategic management ideas and their applications in the workplace.
- Students receive information on business, corporate, and global reforms.

5.

Financial

Accounting – VI

- Learners improve their learning and analytical skills so that they can solve problems and offer strategic solutions.
- Students become acquainted with contemporary innovations and trends in the business sector.

## **E-Commerce**

- Learners will be able to grasp the expanding world of ecommerce via the use of an analytical framework.
- Learners become familiar with contemporary ecommerce concerns and issues.
- Students get a grasp of various business concepts.
- Learners will be able to comprehend web-based commerce and analyse a company &ecommerce needs.
- Learners gain knowledge of the legal and regulatory environment, as well as E-commerce security challenges
- Students get a grasp of various business concepts.

## **Entrepreneurial Management**

- The student learn and understand Sharpen creative, innovative and developing the problem solving skills
- Equipped the student with life skills and prepare them to tackle failures and uncertainties.
- Overview on women and social entrepreneurship.
- Understanding on entrepreneurial environment and its relevance in student.

## **Marketing Strategies and Practices**

- The student will gain the broad understanding of marketing practicing concepts, competition and marketing strategies.
- The marketing strategies and practices course provides an overview of competitive strategies, product, pricing, promotion strategies and Emerging strategies in advance today's era that will form the base for the application based studies

## **Retail Management**

- The student understand retail business and mechanisms identify its workIng
- The student learn to E retailine concept and as well as challenges aware in Challenges
- This subject providing an insight to the students Issue associated with regarding various store merchandising, operation, visual merchandising, the inventory management, retail sales etc

• Student aware of various career To help of opportunities in retail sector

## Travel and tourist management

- To help of opportunities in retail sector. understand concept in broader contextualize tourism within cultural, of society. environmental, political and economic dimensions
- Student learns how to apply relevant and technology for the production management of tourism experiences.
- Thoughts are being raised on how sustainability principles can be applied to tourism practices in local and global contexts.

## **Economics for Business Decisions (Micro)**

- The course helps to equip the students with basic tools of economic theory and its practical applications.
- Learners will familiarize with the understanding of the economic aspects of current affairs and thereby prepares them to analyses the market behavior with economic way of thinking.
- In addition to providing an insight into application of economic principles in business decisions, it also intends to widen analytical ability of the students and to provide them a foundation for further study of economics.
- Understanding the use of concepts of business economics.

## **Economics for Business Decisions (Macro)**

- Enhance students' knowledge about Macro Economics and they will grasp fully the theoretical rationale behind policies at the country as well as corporate level.
- Through this course learners receive a firm grounding on the basic.
- Macro-economic concepts that strengthen analysis of crucial economic Policies.
- Better understanding and updating knowledge of macroeconomic policies through regularly reading of suggested current readings and related articles in the dailies and journals.
- Understanding international aspects of Trade policies.

## M.Com Accounting – Program Outcomes

- After completing of graduation, students can get skills regarding various aspects like accounting, marketing, advertising, basic administration, etc.
- Students can get thorough knowledge of finance and commerce.

- After completing of graduation, the students can get the knowledge to become Manager, Accountant, Management Accountant, Cost Accountant, Auditor, Company Secretary, Teacher, Professor, Stock Agents, Government employees and so on.,
- Enhancement of decision making capability of the students at personal & professional level
- Entrepreneurial skills development to start up their own Business.
- After completing of graduation, the students can get the knowledge of different specializations in Accounting, costing, business management etc.

#### **Course Outcomes**

## **Advanced Financial Accounting**

- Create the awareness of Indian banking system.
- Understand the reforms and other developments in the Indian Banking
- Insight into the functions and role of Reserve Bank of India.
- Identify events that need to be recorded in Banking Company the Final Account of and Their Schedules
- Develop the skill of recording financial transactions and preparation of reports in accordance with Banking & Describe Insurance Act.
- The techniques relating to Equip with co-operative Society the knowledge of accounting process and final preparationol accounts of Foreign Currency Conversion As-13 and
- identify Insurance and analyze the reasons for difference between Banking and Insurance

## **Advance Cost Accounting**

- This course provides the students an understanding of the application of advanced cost accounting techniques for management such as Single output costing, process costing, cost allocation, ABC costing, Responsibility Accounting & Strategic Cost Management etc.
- The student is expected to have a good working knowledge of the subject.
- Students learn about cost accounting for cost management, planning and control through budgetary control and variance analysis through activity based costing.
- Students acquire decision making skill in cost accounting to the level where he or she can function effectively as a professional.

## **Direct Tax**

• Students will be able to identify the technical terms related to direct taxation.

- Students should be able to determine the residential status of an assessed and thus should be able to compute the taxable income of assesse with different residential status.
- Students will be able to compute income from salaries, house property, business/profession, capital gains and income from other sources.
- Students will be able to understand the various benefits/ deductions under Chap VI-A of the Income tax act, 1961 which are to be reduced from the gross total income of the assesse.
- Students will be able to compute the net total income and the total tax liability of an individual assesse considering the income from all heads of income and the deduction under Chap V- A of the Income tax act, 1961.

• Students will be able to compute the taxable income and tax for partnership firm

## **Indirect Tax**

- Understand the importance of indirect taxes (GST) in the Indian and global economy and its contribution to the economic development.
- Understand the implications of GST on the taxable capacity consumers, dealers and of the society at large and its changes
- Learners able to be changes a tax consultant in management and Preparing the tax planning,
- The Payment of tax and filing of tax returns.
- Student will able to identify and analyze the under different procedural aspects applicable statutes related to indirect taxation.
- Student will able to understand the basic principles underly1ng ne Indirect Taxation Statutes (with Act 2017). Reference to Goods & Service Tax Student will able to examine the method of tax credit. Inflows and outflows, tax imposition, tax exemption, tax deduction, Delivery of goods and services, Tax rates, Periodic tax returns. Place of delivery of goods and services and its impact on GST.
- By the end of the course students will be able to describe how the provisions in the corporate tax laws can be used for tax planning

## **Financial Management**

- Leaners are made aware of the skill to manage financial resources of a company.
- Learners understand the various sources of finance available to businessmen these days.
- Ability to select an investment proposal by analyzing the compounded and discounted value of money invested.

- Learners are made aware of the importance of Capital Budgeting and different techniques of capital budgeting for decision making.
- Learners understand the concept of working capital, cash management, receivable management, inventory management and its requirements and control policies.
- Learners understand the concept of budgetary control its importance, limitations and preparation of different types of budget.
- Learners understand the concept of strategic financial management, financial decision making and financial planning process

## **Corporate Financial Accounting**

- To study the basic concepts of corporate accounting.
- To understand the proceedings of the preparation of consolidated balance sheet
- To get an idea about Green accounting, Double accounts, Farm accounts, voyage accounts, and liquidation proceedings of companies
- To give a detailed view of legal provisions regarding calculation of Value of Shares.
- To explain the concept of divisible profits and various accounting procedures.
- To give a comprehensive view of legal provisions governing audit of Companies and its various kinds implications in
- To prepare the final accounts of companies.
- To know the liquidator's final statement of accounts

## <u>B.Sc.</u>

#### **PROGRAM OUTCOMES**

PO1 Students will have a firm foundation in the fundamentals and application of current Science and scientific theories including those in Chemistry, Botany, Zoology and Mathematics

PO2 Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.

PO3 Students will be able to design and carry out scientific experiments as well as accurately record and analyses the results of such experiments.

PO4 Students will be able to explore new areas of research in both Science and allied fields of science and technology.

PO5 Students will appreciate the central role of Science in our society

#### **PROGRAMME : B. Sc. Botany**

USB0501 PLANT DIVERSITY - III 2.5 Credits (60 Lectures)

Course outcomes: The students would be able :

- 1. To gain knowledge about microbial diversity and techniques for culturing and visualization.
- 2. To understand the salient features of three major groups of algae, their life cycle patterns with a suitable example; to be able to identify them.
- 3. To learn the general characteristics and classification of two major groups of fungi along with life cycles of each group; to be able to identify them.
- 4. To understand the scope and importance of Plant Pathology and apply the concepts of various control measures of commonly widespread plant diseases.

## USB0502 PLANT DIVERSITY - IV 2.5 Credits (60 lectures)

Course outcomes: The students would be able :

1. To acquire knowledge of different fossil forms and understand their role in evolution.

- To provide plant description, describe the morphological and reproductive structures of seven families and also identify and classify according to Bentham and Hooker's system.
- 3. To gain proficiency in the use of keys and identification manuals for identifying any unknown plants to species level.
- 4. To relate anomalies in internal stem structure with function and appreciate the salient features of the root stem transition zone.
- 5. To get exposure to pollen study and learn to apply it in various fields.

## USB0503 FORM AND FUNCTIONS- II 2.5 Credits (60 Lectures)

Course outcomes: The students would be able :

- 1. To acquire knowledge about two important organelles and molecular mechanisms of translation
- 2. To understand water relations of plants, inorganic and organic solute transport, and apply the knowledge to manage mineral nutrition and survival in challenging abiotic stresses.
- 3. To understand succession in plant communities and study remediation technologies in order to apply knowledge acquired for cleanup of polluted sites.
- 4. To get exposure to principles and techniques of plant tissue culture and apply these studies for improving agriculture and horticulture and to become an entrepreneur.

# USBO504 CURRENT TRENDS IN PLANT SCIENCES – II 2.5 Credits (60 Lectures) Course outcomes: The students would be able :

- 1. To get exposure to the technique of mushroom cultivation and explore the possibility of entrepreneurship in the same.
- 2. To learn ethnobotanical principles, applications and utilize indigenous plant knowledge for the cure of common human diseases and improvement of agriculture.

- 3. To gain knowledge about the latest molecular biology techniques for isolation and characterization of genes.
- 4. To learn principles and application of commonly used techniques in instrumentation.
- 5. To gain proficiency in the monograph study and pharmacognostic analysis of six medicinal plants.

## USBO601 PLANT DIVERSITY – III 2.5 Credits (60 Lectures)

Course outcomes: The students would be able :

- 1. To identify, describe and study in detail the life cycles of three Bryophytes.
- 2. To and study in detail classification and general characters of three classes of Pteridophytes and identify as well as describe the life cycles of one example from each class.
- 3. To study evolutionary aspects and economic utilization of Bryophytes and Pteridophytes.
- 4. To identify, describe and study in detail the life cycles of three Gymnosperms.

## USBO602 PLANT DIVERSITY – IV 2.5 Credits (60 Lectures)

Course outcomes: The students would be able:

- To study contribution of Botanical gardens, BSI to Angiosperm study and provide plant description, describe the morphological and reproductive structures of seven families.
- 2. To gain exposure to a phylognetic system of classification.
- 3. To gain insight into the anatomical adaptations of different ecological plant groups.
- 4. To understand development plant of male and female gametophytes, embryonic structure and development.
- 5. To understand the different aspects and importance of Biodiversity and utilize them for conservation of species so as to prevent further loss or extinction of Biodiversity and preserve the existing for future generations.

# USB0603 FORMS AND FUNCTION - III 2.5 Credits 60 Lectures)

Course outcomes: The students would be able :

- To study various plant biomolecular structures and appreciate the structures, role, functions and applications of enzymes.
- 2. To gain insight into the Nitrogen and plant hormone metabolism with applications of the same in agriculture and horticulture.

- 3. To understand principles of genetic mapping, mutations and solve problems based on them, gain knowledge of various metabolic disorders and their implications.
- 4. To generate and test hypotheses, make observations, collect data, analyze and interpret results, derive conclusions, and evaluate their significance within a broad scientific context, using suitable statistical techniques.

## USB0604 Current Trends in Plant Science – II 2.5 Credits (60 Lectures)

Course outcomes: The students would be able :

- 1. To gain insight into recent molecular biology techniques for DNA analysis and amplification and Barcoding techniques and applications therein.
- 2. To understand and apply tools of Bioinformatics for data retrieval and phylogenetic analysis.
- 3. To learn about the sources of economically important plants in the field of fats and oils and apply it for extraction, dealing with entrepreneurship in the field.
- 4. To gain knowledge and proficiency in preservation of post-harvest produce and explore the possibility of entrepreneurship in the field.

# PROGRAMME : B. Sc. Zoology

## SEMESTER – I

# USZO 101Wonders Of Animal World, Biodiversity And Its Conservation

- 1. The 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
- 2. Learners would appreciate treasure of biodiversity its importance and would contribute their best for its
- 3. Minds of learners would be impulse to think differently and would be encourage ipso facto to their original crude ideas from the field of biological science

## **USZO 102 Laboratory Safety And Units Of Measurement**

- Learners would work safely in the laboratory and avoid and avoid occurance of accidents which will boost their scholastic performance and economy in the use of materials and chemicals during practical session
- 2. Learners would understand recent advance in the subject and their application for betterment of mankind and that the young minds would be turns to think out of the
- Learner will be skilled to select and operate suitable instruments for the studies of different componts of Zoology of this course and also of higher classes including research

# SEMESTER - II

## USZO 201 Ecology And Wildlife Management

- 1. Learners will learn about nature of human population , specific factors affecting its growth and its impact on the population of other life forms
- 2. Students will grasp the concept of interdependence and interaction of physical ,chemical and biological factors in the environment .
- 3. It will leads to better understanding about implications of loss of fauna on human being erupting spur of desire for conservation of all fauna and flora
- 4. Learner would be motivated to choose their career in the field of wildlife of conservation , Research, photography and ecotourism

## USZO 202 Nutrition, Public Health And Hygiene

- 1. Healthy dietary habits would be inculcated in the lifestyle of learners preventing risk of developing health hazards in younger generations due to faulty eating
- Promoting optimum conservation of water, Encouragement for maintain personal Optimum use of electronic gadgets, avoiding addiction, thus facilitating toachieve the goals of healthy young India in true sense.
- Learner will be able to promptly recognised tress related problems at initial stage and would be able to adopt related solution which would lead to psychological stronger mind-set, promoting promoting Positive

 Acquiring knowledge about cause symptoms and precautions about infectious diseases to help students to prevent frequent sickness not only for them but also for their family

## SEMESTER - III

## USZO 301 Fundamentals Of Genetics, Chromosomes Heredity And Nucleic Acids

- 1. Understand and apply the principles of inheritance, concept of multiple allele's linkage and crossing over
- 2. Learner will understand importance of nucleic acid as a genetic materials CO3: Learner would comprehend and
- 3. appreciate the regulation of gene expression
- 4. Learners would understand the structure and types of chromosome , mechanism of sex determination
- 5. Learners would be able to correlate the disorders link to a particular sex

## USZO 302 Animal Physiology

- 1. Learners should understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary hiérarchie
- 2. learner would be able to correlate the habit and habitat with nutritional, excretory and osmoregulatory structure in different classes of organism
- 3. Learner would understand increasing complexity of respiratory, and Circulatory physiology in evolutionary hierarchy
- 4. Learners would understand the process of control and coordination by nervous and endocrine

 Learners would be amazed by various locomotory structure found in the animal kingdom CO6: Learners would be acquainted with various reproductive strategies present in the animals

## USZO303 Applied Zoology

- 1. Learners would gain insight into different types of animal's behaviours and their role in biological adaptation
- 2. Learners would be sensitised to be feelings which are instrumental in social
- learners should understand the general epidemiological aspect of parasite that affect humans and takes simple preventive measures for the same
- Learner would be competent the lifecycle of specific parasite the symptoms of diseases and its treatments.
- 5. Learner would gain knowledge of animals useful to mankind and means to make the most of it
- 6. Learner would learn the modern technique in animal husbandry and peruse entrepreneurship as a career .

## SEMESTER - IV

# USZO 4010rigin And Evolution Of Life , Population Genetics ,Scientif Attitude, Methodology Scientific Writing And Ethics Inscientific Research

- 1. Learner would gain insights into the origin of life
- 2. Leraner would analyse and critically view the different theory of evolution
- 3. Learner would understand the force that cause evolutionary changes in the natural population and mechanism of speciation's.
- 4. The learner would develop quality such as critical thinking, skill of scientific communication and analysis and to understand the ethical aspects of

## USZO 402 Cell Biology, Endomembrane System And Biomolecules

- 1. Learners would acquire insights into the composition of the transport system adopted by the cell and organelle for its maintaince and composition of the cell
- 2. Learners would appreciate the intricacy of endomembrane system
- Learners would understand the interlinking of endomembrane system for functioning of the cell
- 4. Learners would realise the importance of biomolecules and their clinical

# USZO 403 Comparative Embryology Aspect Of Human Reproduction And Effects On Organism

- 1. Learners understood and compare different types of eggs and CO2: Learners would be understand human reproductive physiology
- 2. Learners would become familiar with advance in ART and related ethical
- 3. Learners would be sensitised about the adverse effect of pollution and measure to control it

# SEMESTER - V

# **USZO 501 Taxonomy Of Invertebrates**

- 1. Learners would be apprehended the basis of classification and modern classification up to class of the lower invertebrate animals
- 2. Learners would be familiarise with classification put phylum Nematode along with their examples
- 3. Learners would get an idea of higher groups of invertebrate animals life, their classification and their peculiar
- 4. Learners would get an idea of general characteristics and detail I of invertebrate animal system

# USZO 502 Haematology And Immunology

- 1. Learners comphrended basic haematology and identified various component of haem ostatistic system
- 2. Learners become familiar with the terminology used and diagnostic test performed in a pathological laboratories
- 3. Learners acquainted diagnostic approach in haematological disorders

- Learners better equipped for further pathological course or working in a diagnostic laboratory CO5: Learners comprehended the types of immunity and the components of the immune system.
- 5. The learners realised the significance role of immune system in giving resistance against

# USZO 503 Histology, Toxicology, Patholog y And Biostatistics

- Learners appreciated the well plan organization of tissues and cells in the organ system
   CO2: Learners developed broad understanding in different areas of toxicology
- 2. Learners developed critical thinking and assist student in preparation for employment in pharmaceutical and related areas
- 3. Learners become familiar with various medical terminology pertaining to pathological condition of the body cause due to disease
- 4. able to collect , organised and analysed data using parametric and non-parametric tests and also setup hypothesis and verified the same limits of significance

## USZO 504 Anatomy And Developmental Biology

- 1. Learners understood importance of various types of epidermal and dermal derivatives along with their functions
- 2. Learners understood the structure ,types and functions of human skeleton .
- 3. Learners understood the long limb muscles its arrangement and their role in body movements

## **USACFBIO601 Applied Components**

- 1. Learners understood and learn about the use of sea safety, navigational equipments and oceanographic instruments
- 2. Learners understood basic physical, chemical and biological oceanography

- Learners understood boat building techniques and design of engines used in mechanized boats CO4: Learners acquainted breeding techniques and skills for culture of major carps
- 4. Learners understood breeding techniques, hatchery and management of finfish and shell fishes

## SEMESTER - VI

## USZO 601 Taxonomy Of Vertebrates

- 1. Learners got the idea of origins of chordates , its taxonomy up to the class with reference to phylogeny with reference to phylogeny and their special features
- Learners understood the characteristic feature and examples of class reptile aves and mammals CO3: Learners got idea of vertebrate animal life after studding one representative animal Shark

## USZO 602 Physiology And Tissue Culture

- 1. Learners understood fundamental structure action and kinetics
- 2. Learners appreciated the enzyme assay procedure and therapeutic applications of
- 3. enzymes.
- 4. Learners comphrended the adaptive response of the animals to environmental changes for their
- 5. Learners understood the types and secretion of endocrine glands and their functions
- 6. Learners appreciated the significance of tissue culture as a tool in a specialised area of research and its application in various industries.

## **USZO 603 Genetics And Bioinformatics**

- 1. Learners understood an insights into the intricacies of chemicals and molecular processes that affect genetic
- Learners appreciated the enzyme assay procedure and therapeutic applications of enzymes.
- 3. Learners understood significance of molecular biology as a basis for the study of other areas of biology and biochemistry
- 4. Learners understood related areas in relatively new field in genetic engineering and

5. Learners acquainted the vast array of techniques used to manipulate genes which can be applied in numarous field like medicine research etc for human

# USZO 604 Environmental Biology Zoopharmacognosy

- 1. Learners understood the different factors affecting environment its impact and environment management law
- 2. Learners understood various methods for wildlife conservation
- Learners understood knowledge of overcome the issues related to wildlife conservation. CO4: Learners acquainted how and why different animals species are distributed around the globe

# **USACFBIO601** Applied Components

- 1. Learners understood deep sea and coastal fishes
- 2. Learners understood commercial potential and know about the major landing centres of the fishes
- 3. Learners understood basics of nutritional requirements at various developmental a
- 4. Learners should oriented towards understanding causes, pathogenicity, prophylaxis and preventive measures of various fish diseases and physiological disorders
- 5. Learners understood fish by-products and value-added products
- 6. Learners understood good manufacturing practices while manufacturing the various products

## **PROGRAMME : B. Sc. Chemistry**

## SEMESTER - I

USCH101 Students understood

- 1. Chemical Thermodynamical concepts and Chemical Calculation
- 2. Atomic Structure and Periodicity
- 3. Basic Organic Chemistry

# USCH102 Students understood

- 1. Concepts in Chemical Kinetics and Liquid state
- 2. Chemistry of Main group elements
- 3. Concepts in Stereochemistry

# SEMESTER - II

# USCH201 Students understood

- 1. Concepts in Chemical equilibrium and thermodynamic parameters and Gaseous state of matter
- 2. Concepts in Qualitative analysis and Acid base theories
- 3. Chemistry of Aliphatic hydrocarbons

# USCH102 Students understood

- 1. Concepts in Ionic equilibrium, Molecular Spectroscopy and Solid State Chemisty
- 2. Chemistry of Chemical bonding and Redox reactions
- 3. Stereochemistry of cyclohydrocarbons and Chemistry of Aromatic hydrocarbons

# SEMESTER - III

# USCH301 Students understood

- 1. Concepts of Chemical Thermodynamics and Electrochemistry
- 2. Chemistry of chemical bonding
- 3. Chemistry of various functional hydrocarbons

# USCH302 Students understood

- 1. Concepts of chemical kinetics and solutions
- 2. Chemistry of p Block elements
- 3. Chemistry of carbonyl compounds

# USCH303 Students understood

- 1. Introduction to Analytical Chemistry and Statistical Treatment of analytical data-I
- 2. Classical methods of Analysis
- 3. Instrumental methods of analysis

# SEMESTER - IV

# USCH401 Students understood

1. Concepts of Electrochemistry and Phase Equilibrium

- 2. Comparative Chemistry of the transition metals & Coordination Chemistry
- 3. Chemistry of Carboxylic acids and their derivatives, Sulphonic acids

# USCH402 Students understood

- 1. Chemistry of Solid state of matter and Catalysis
- 2. Chemistry of Ions in aqueous medium & Uses and Environmental Chemistry of volatile Oxides and oxo-acids
- 3. Chemistry of Amines, Diazonium salts, Heterocyclic compounds

# USCH403 Students understood

- 1. Different Separation Techniques in Analytical Chemistry
- 2. Different Instrumental Methods
- 3. Statistical Treatment of analytical data

# SEMESTER – V

# USCH501 Physical Chemistry Students understood

- 1. Concepts in Molecular spectroscopy
- 2. Concepts in Chemical Thermodynamic and Kinetics
- 3. Concepts in Nuclear Chemistry
- 4. Concepts in Surface chemistry and colloidal state

# USCH502 Inorganic Chemistry Students understood

- 1. Concepts of Molecular symmetry and chemical bonding
- 2. Chemistry of solid state and super conductivity
- 3. Chemistry of inner transition elements
- 4. Chemistry of non-aqueous solvents and group 16 and 17 elements

# USCH503 Organic Chemistry Students understood

- 1. Mechanism of organic reaction and concept of photochemistry
- 2. Concept of Stereochemistry and chemistry of agrochemicals and Heterocyclic compounds
- 3. Concept of IUPAC nomenclature and Synthesis of organic compounds
- 4. Concept of spectroscopy and Chemistry of natural products

# USCH504 Analytical Chemistry Students understood

1. Introduction To Quality Concepts, Chemical Calculations And Sampling

- 2. Classical Methods Of Analysis Titrimetry
- 3. Concept of Optical Method
- 4. Different Methods of Separations

# USACDD501 Drug Chemistry Students understood

- 1. General Introduction of Drug
- 2. Different Types of Drug

# USACDD502 Dye Chemistry Students understood

- 1. Introduction to dyestuff industry
- 2. Unit processes and dye intermediates

# SEMESTER – VI

# USCH601 Physical Chemistry Students understood

- 1. Concepts in Electrochemistry
- 2. Basic in quantum chemistry and renewable energy sources
- 3. Chemistry of Polymer
- 4. Concepts in NMR spectroscopy

# USCH602 Inorganic Chemistry Students understood

- 1. Concepts of Crystal Field Theory
- 2. Concept of Molecular Orbital Theory
- 3. Chemistry of organometallic compounds and catalysis
- 4. Chemistry of bioinorganic compounds, group 18 elements and Metallurgy

# USCH603 Organic Chemistry Students understood

- 1. Concept of stereochemistry and chemistry of amino acid and protein
- 2. Chemistry of carbohydrates and molecular rearrangement
- 3. Concept of spectroscopy and chemistry of nucleic acid
- 4. Concept of polymer, catalyst and reagents

# USCH604 Analytical Chemistry Students understood

- 1. Different Electro Analytical Methods
- 2. Different methods of Separation
- 3. Analysis of Food and Cosmetics
- 4. Thermal Methods and Analytical method validation

## USACDD601 Drug Chemistry Students understood

- 1. Drug Discovery, Design and Development
- 2. Different Chemotherapeutic Agents

# USACDD602 Dye Chemistry Students understood

- 1. Classification of Dyes based on Chemical Constitution and Synthesis of Selected Dyes
- 2. Non-textile uses of dyes

# Programme Outcomes (PO's) – B.Sc.Computer Science

- The BSc Computer Science helps to develop a widely applicable skill set in computing with strong programming and mathematics skills, as well as wide ranging skills in project management, effective presentations and teamwork.
- Graduate with a portfolio of work fit to present to potential employers. Depending on the chosen pathway, you can focus on particular areas of interest such as machine learning, web development, data science and video games.
- 3. The explosive and ever-growing use of technology in business and commerce means that there's a whole range of different career possibilities for computing graduates.
- 4. In terms of job opportunities and salaries, the IT sector is well ahead of most other industrial and commercial sectors.

Department of Computer Science Course Outcomes Class – F. Y. B. Sc. Semester I Computer Organization and Design

1) To learn about how computer systems work and underlying principles

2) To understand the basics of digital electronics needed for computers

3) To understand the basics of instruction set architecture for reduced and complex instruction sets

4) To understand the basics of processor structure and operation

5) To understand how data is transferred between the processor and I/O devices

## Programming with Python-I

1) Students should be able to understand the concepts of programming before actually starting to write programs.

2) Students should be able to develop logic for Problem Solving.

3) Students should be made familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.

4) Students should be able to apply the problem solving skills using syntactically simple language i.e. Python

## Free and Open Source Software

1) Upon completion of this course, students should have a good working knowledge of Open Source ecosystem, its use, impact and importance.

2) This course shall help student to learn Open Source methodologies, case studies with real life examples.

## **Database Systems**

1) Students should be able to evaluate business information problem and find the requirements of a problem in terms of data.

2) Students should be able to design the database schema with the use of appropriate data types for storage of data in database.

3) Students should be able to create, manipulate, query and back up the databases.

## **Discrete Mathematics**

1) To provide overview of theory of discrete objects, starting with relations and partially ordered sets.

2) Study about recurrence relations, generating function and operations on them.

3) Give an understanding of graphs and trees, which are widely used in software.

4) Provide basic knowledge about models of automata theory and the corresponding formal languages.

## **Descriptive Statistics and Introduction to Probability**

1) Enable learners to know descriptive statistical concepts

2) Enable study of probability concept required for Computer learners

## Soft Skills Development

1) To know about various aspects of soft skills and learn ways to develop personality

2) Understand the importance and type of communication in personal and professional environment.

3) To provide insight into much needed technical and non-technical qualities in career planning.

4) Learn about Leadership, team building, decision making and stress management

#### Semester II Programming with C

1) Students should be able to write, compile and debug programs in C language.

2) Students should be able to use different data types in a computer program.

3) Students should be able to design programs involving decision structures, loops and functions.

4) Students should be able to explain the difference between call by value and call by reference

5) Students should be able to understand the dynamics of memory by the use of pointers.

6) Students should be able to use different data structures and create/update basic data files.

## Programming with Python – II

1) Students should be able to understand how to read/write to files using python.

2) Students should be able to catch their own errors that happen during execution of programs.

3) Students should get an introduction to the concept of pattern matching.

4) Students should be made familiar with the concepts of GUI controls and designing GUI applications.

5) Students should be able to connect to the database to move the data to/from the application.

6) Students should know how to connect to computers read from URL and send email.

# Linux

1) Upon completion of this course, students should have a good working knowledge of Linux, from both a graphical and command line perspective, allowing them to easily use any Linux distribution.

2) This course shall help student to learn advanced subjects in computer science practically.

3) Student shall be able to progress as a Developer or Linux System Administrator using the acquired skill set.

## **Data Structures**

1) Learn about Data structures, its types and significance in computing

2) Explore about Abstract Data types and its implementation

3) Ability to program various applications using different data structure in Python

## Calculus

1) Understanding of Mathematical concepts like limit, continuity, derivative, integration of functions.

2) Ability to appreciate real world applications which uses these concepts.

3) Skill to formulate a problem through Mathematical modeling and simulation.

## Statistical Methods and Testing of Hypothesis

1) Enable learners to know descriptive statistical concepts

2) Enable study of probability concept required for Computer learners

## Green Technologies

1) Learn about green IT can be achieved in and by hardware, software, network communication and data center operations.

2) Understand the strategies, frameworks, processes and management of green IT

Class – S. Y. B. Sc. Semester – III

# Theory of Computation

1. Understand Grammar and Languages

- 2. Learn about Automata theory and its application in Language Design
- 3. Learn about Turing Machines and Pushdown Automata
- 4. Understand Linear Bound Automata and its applications

#### Core JAVA

1. Object oriented programming concepts using Java.

2. Knowledge of input, its processing and getting suitable output.

3. Understand, design, implement and evaluate classes and applets.

4. Knowledge and implementation of AWT package.

#### **Operating System**

1. To provide a understanding of operating system, its structures and functioning

2. Develop and master understanding of algorithms used by operating systems for various purposes.

#### **Database Management Systems**

1. Master concepts of stored procedure and triggers and its use.

2. Learn about using PL/SQL for data management 3. Understand concepts and implementations of transaction management and crash recovery

#### **Combinatorics and Graph Theory**

1. Appreciate beauty of combinatorics and how combinatorial problems naturally arise in many settings.

2. Understand the combinatorial features in real world situations and Computer Science applications.

3. Apply combinatorial and graph theoretical concepts to understand Computer Science concepts and apply them to solve problems.

## Physical Computing and IoT Programming

1. Enable learners to understand System On Chip Architectures.

2. Introduction and preparing Raspberry Pi with hardware and installation.

3. Learn physical interfaces and electronics of Raspberry Pi and program them using practical's

4. Learn how to make consumer grade IoT safe and secure with proper use of protocols.

## Skill Enhancement: Web Programming

1. To design valid, well-formed, scalable, and meaningful pages using emerging technologies.

2. Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites

3. To develop and implement client-side and server-side scripting language programs.

4. To develop and implement Database Driven Websites.

5. Design and apply XML to create a markup language for data and document centric applications.

## Semester – IV

## Fundamentals of Algorithms

1. Understand the concepts of algorithms for designing good program

2. Implement algorithms using Python

## Advanced JAVA

1) Understand the concepts related to Java Technology

2) Explore and understand use of Java Server Programming

## **Computer Networks**

1. Learner will be able to understand the concepts of networking, which are important for them to be known as a 'networking professionals'.

2. Useful to proceed with industrial requirements and International vendor certifications.

## Software Engineering

1. Basic knowledge and understanding of the analysis and design of complex systems.

- 2. Ability to apply software engineering principles and techniques.
- 3. Ability to develop, maintain and evaluate large-scale software systems.
- 4. To produce efficient, reliable, robust and cost-effective software solutions.

5. Ability to perform independent research and analysis.

6. To communicate and coordinate competently by listening, speaking, reading and writing English for

Technical and general purposes.

7. Ability to work as an effective member or leader of software engineering teams.

8. To manage time, processes and resources effectively by prioritizing competing demands to achieve

Personal and team goals Identify and analyzes the common threats in each domain.

9. Ability to understand and meet ethical standards and legal responsibilities.

## Linear Algebra using Python

1. Appreciate the relevance of linear algebra in the field of computer science.

2. Understand the concepts through program implementation

3. Instill a computational thinking while learning linear algebra.

## .NET Technologies

- 1. Understand the .NET framework
- 2. Develop a proficiency in the C# programming language
- 3. Proficiently develop ASP.NET web applications using C#
- 4. Use ADO.NET for data persistence in a web application

## **Skill Enhancement: Android Developer Fundamentals**

1) Understand the requirements of Mobile programming environment.

- 2) Learn about basic methods, tools and techniques for developing Apps
- 3) Explore and practice App development on Android Platform
- 4) Develop working prototypes of working systems for various uses in daily lives.

Class – T. Y. B. Sc. Semester – V

## **Artificial Intelligence**

**1.** After completion of this course, learner should get a clear understanding of AI and different search algorithms used for solving problems.

**2.** The learner should also get acquainted with different learning algorithms and models used in machine learning.

## Software Testing and Quality Assurance

1. Understand various software testing methods and strategies.

2. Understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software. Design SQA activities, SQA strategy, formal technical review report for software quality control and assurance.

## Information and Network Security

1. Understand the principles and practices of cryptographic techniques.

2. Understand a variety of generic security threats and vulnerabilities, and identify & analyze particular security problems for a given application.

3. Understand various protocols for network security to protect against the threats in a network

## **Web Services**

1. Emphasis on SOAP based web services and associated standards such as WSDL. Design SOAP based / RESTful / WCF services Deal with Security and QoS issues of Web Services

## **Game Programming**

1. Learner should study Graphics and gamming concepts with present working style of developers where everything remains on internet and they need to review it, understand it, be a part of community and learn.

## Semester – VI

## Wireless Sensor Networks and Mobile Communication

**1.** 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.

## **Cyber Forensics**

1. 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.

## **Digital Image Processing**

1. Learner should review the fundamental concepts of a digital image processing system.

2. Analyze the images in the frequency domain using various transforms.

- 3. Evaluate the techniques for image enhancement and image segmentation.
- 4. Apply various compression techniques.

5. They will be familiar with basic image processing techniques for solving real problems.

#### **Data Science**

1. 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.

#### **Ethical Hacking**

1. Learner will know to identify security vulnerabilities and weaknesses in the target applications.

2. They will also know to test and exploit systems using various tools and understand the impact of hacking in real time machines.

F. Y. B. Sc. Computer Science Choice Based Credit System (CBCS) With effect from Academic year 2021-2022

Class – F. Y. B. Sc. Semester – I

#### **Digital Systems & Architecture**

After successful completion of this course, students would be able to

- 1. To learn about how computer systems work and underlying principles.
- 2. To understand the basics of digital electronics needed for computers.

3. To understand the basics of instruction set architecture for reduced and complex instruction sets.

4. To understand the basics of processor structure and operation.

5. To understand how data is transferred between the processor and I/O devices.

## Introduction to Programming with Python

After successful completion of this course, students would be able to:

1. Ability to store, manipulate and access data in Python

2. Ability to implement basic Input / Output operations in Python Ability to define the structure and components of a Python program.

- 3. Ability to learn how to write loops and decision statements in Python.
- 4. Ability to learn how to write functions and pass arguments in Python.
- 5. Ability to create and use Compound data types in Python

## LINUX Operating System

After successful completion of this course, students would be able to

1. Work with Linux file system structure, Linux Environment

2. Handle shell commands for scripting, with features of regular expressions, redirections

- 3. Implement file security permissions
- 4. Work with vi, sed and awk editors for shell scripting using various control structures

5. Install software like compilers and develop programs in C and Python programming languages on Linux Platform

## **Open Source Technologies**

- 1. Differentiate between Open Source and Proprietary software and Licensing.
- 2. Recognize the applications, benefits and features of Open-Source Technologies
- 3. Gain knowledge to start, manage open-source projects.

#### Discrete Mathematics

After successful completion of this course, learners would be able to:

1. Define mathematical structures (relations, functions, graphs) and use them to model real life situations.

2. Understand, construct and solve simple mathematical problems.

3. Solve puzzles based on counting principles.

4. Provide basic knowledge about models of automata theory and the corresponding formal languages.

5. Develop an attitude to solve problems based on graphs and trees, which are widely used in software.

## **Descriptive Statistics**

After successful completion of this course, learners would be able to

- 1. Organize, manage and present data.
- 2. Analyze Statistical data using measures of central tendency and dispersion.
- 3. Analyze Statistical data using basics techniques of R.

4. Study the relationship between variables using techniques of correlation and regression.

## Soft Skills

- 1. Learners will be able to understand the importance and types soft skills
- 2. Learners will develop skills for Academic and Professional Presentations.
- 3. Learners will able to understand Leadership Qualities and Ethics.

4. Ability to understand the importance of stress management in their academic & professional life.

## Semester – II

## **Design & Analysis of Algorithms**

After successful completion of this course, students would be able to

1. Students should be able to understand and evaluate efficiency of the programs that they write based on performance of the algorithms used.

2. Students should be able to appreciate the use of various data structures as per need

3. To select, decide and apply appropriate design principle by understanding the requirements of any real life problems

## Advanced Python Programming

After successful completion of this course, students would be able to

- 1. Ability to implement OOP concepts in Python including Inheritance and Polymorphism
- 2. Ability to work with files and perform operations on it using Python.

3. Ability to implement regular expression and concept of threads for developing efficient program

4. Ability to implement exception handling in Python applications for error handling.

5. Knowledge of working with databases, designing GUI in Python and implement networking in Python

## Introduction to OOPs using C++

After successful completion of this course, students would be able to

- 1. Work with numeric, character and textual data and arrays.
- 2. Understand the importance of OOP approach over procedural language.
- 3. Understand how to model classes and relationships using UML.
- 4. Apply the concepts of OOPS like encapsulation, inheritance and polymorphism.
- 5. Handle basic file operations.

## Database Systems

After successful completion of this course, students would be able to

- 1. To appreciate the importance of database design.
- 2. Analyze database requirements and determine the entities involved in the system and their relat
- 3. Write simple queries to MySQL related to String, Maths and Date Functions.
- 4. Create tables and insert/update/delete data, and query data in a relational DBMS using MySQL of
- 5. Understand the normalization and its role in the database design process.
- 6. Handle data permissions.
- 7. Create indexes and understands the role of Indexes in optimization search.

## Calculus

After successful completion of this course, learners would be able to:

1. Develop mathematical skills and enhance thinking power of learners.

2. Understand mathematical concepts like limit, continuity, derivative, integration of functions, partial derivatives.

3. Appreciate real world applications which use the learned concepts.

4. Skill to formulate a problem through Mathematical modeling and simulation.

## Statistical Methods

After successful completion of this course, learners would be able to

- 1. Calculate probability, conditional probability and independence.
- 2. Apply the given discrete and continuous distributions whenever necessary.

3. Define null hypothesis, alternative hypothesis, level of significance, test statistic and pvalue.

4. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases.

- 5. Apply non-parametric test whenever necessary.
- 6. Conduct and interpret one-way and two-way ANOVA.

## E-Commerce & Digital Marketing

After successful completion of this course, students would be able to

- 1. Understand the core concepts of E-Commerce.
- 2. Understand the various online payment techniques

3. Understand the core concepts of digital marketing and the role of digital marketing in business.

4. Apply digital marketing strategies to increase sales and growth of business

5. Apply digital marketing through different channels and platforms

6. Understand the significance of Web Analytics and Google Analytics and apply the same.