



Estd. 1962  
"A++" Accredited by  
NAAC(2021)  
With CGPA 3.52

SHIVAJI UNIVERSITY, KOLHAPUR - 416004,  
MAHARASHTRA

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शिवाजी विद्यापीठ, कोल्हापूर - ४१६००४, महाराष्ट्र

दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग दूरध्वनी विभाग ०२३१-२६०९०९३/९४



Ref./SU/BOS/Com & Mgmt./ 539

Date : 19/07/2023

To,

The Principal  
All Affiliated (Commerce & Management) College/Institutions,  
Shivaji University, Kolhapur

**Subject : Regarding Syllabi of BBA Part-II (Sem-III/IV) Choice Based Credit System (CBCS) degree programme under the Faculty of Commerce & Management as per National Education Policy, 2020**

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the University authorities have accepted and granted approval to the revised Syllabi of **BBA Part-II (Sem-III/IV) Choice Based Credit System (CBCS)** under the Faculty of Commerce & Management as per National Education Policy, 2020

This Syllabi shall be implemented from the academic year **2023-2024**. A soft copy containing the syllabus is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in) (Online Syllabus).

You are therefore, requested to bring this to the notice of all Students and Teachers concerned.

Thanking you,

Yours faithfully,

(Dr. S. M. Kubal)  
Dy. Registrar

Encl : As above

Copy to,

1. Dean, Faculty of Commerce & Management
  2. Chairman, Board of Studies
  3. Director, BOEE
  4. Appointment Section
  5. P. G. Admission Section
  6. B. Com. Section
  7. Affiliation Section (U.G./P.G.)
  8. Computer Center/I.T.
  9. Eligibility Section
  10. Distance Education
  11. P.G. Seminer Section
- } for information
- } for information and necessary action.

# **SHIVAJI UNIVERSITY, KOLHAPUR.**



Estd. 1962

NAAC "A++" Grade

**Faculty of Commerce and Management**

Syllabus For

**BBA Part II (Sem III & IV) (CBCS)**

(Regulations in accordance with National Education Policy to  
be implemented from Academic Year 2023-24)

(Subject to the modifications that will be made from time to time)

## BBA –Part-II (Sem-III & IV)(NEP)

<b>Second Year B.B.A.</b>			
<b>Semester-III</b>		<b>Semester-IV</b>	
<b>Course Code</b>	<b>Course (Subject)</b>	<b>Course Code</b>	<b>Course (Subject)</b>
<b>Core Course</b>			
CC-B1	Fundamental of Entrepreneurship	CC-B6	Entrepreneurship Project Management
CC-B2	Cost Accountancy	CC-B7	Management Accounting
CC-B3	Service Marketing	CC-B8	Rural and Retail Marketing
CC-B4	E-Commerce	CC-B9	Production and Operations Management
CC-B5	Forms of Business Organization	CC-B10	Research Methodology
<b>Ability Enhancement Compulsory Course</b>			
AECC-C3	Statistical Techniques	AECC-C4	Statistics for Business
-	-	AECC-EVS-C5	Environmental Science**
<b>*Skill Enhancement Course/Value Based Course</b>			
SEC-SB3		SEC-SB4	
<p>*The syllabus for Skill Enhancement Courses (Skill Based and Value based Course) are provided on university website, which are common for all graduate.</p> <p>**The syllabus of Environmental Science prescribed by university is applicable.</p>			

**BBA-II-Sem.-III**  
**Fundamental of Entrepreneurship**  
**CC-B1**

<b>Course Outcomes</b>	<p>After completion of course, students will be able to :</p> <ol style="list-style-type: none"> <li>1. Explain about different aspects of entrepreneurship development, entrepreneurial skills</li> <li>2. Illustrate and make use of different theories of entrepreneurship in practical manner.</li> <li>3. Explain the concept and role of woman entrepreneurs and also to examine their problems and remedial measures</li> <li>4. Compare and evaluate rural, social, digital, and technological entrepreneurship</li> <li>5. Discuss success stories and elaborate about start-ups, eco-system and Unicorn.</li> </ol>
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<b>Total Hours of Teaching : 60</b>	<b>Lecture/Week: 04</b>	<b>Credit Points: 04</b>
<b>Total Marks: 100</b>	<b>Theory: 60</b>	<b>Internal: 40</b>

**Syllabus Contents:**

<b>Unit: I</b>	<p><b>Entrepreneurship</b>  Meaning and concept, characteristics of entrepreneurship, role of entrepreneurship in economic development, Difference between entrepreneur and intra-preneur, Type of entrepreneurship, Factors affecting entrepreneur growth</p>	15 Hours
<b>Unit: II</b>	<p><b>Theories of Entrepreneurship</b>  Schumpeter's Theory of innovation, McClelland's Theory of achievement, Max Weber's Theory of social change, Hagen's Theory of status withdrawal, Entrepreneurial Supply Theory-John Kunkle</p>	15 Hours
<b>Unit: III</b>	<p><b>Woman Entrepreneurship</b>  Concept of woman entrepreneurship, Functions &amp; problems of woman entrepreneur, remedial measures, success story of any woman entrepreneurs.</p>	15 Hours
<b>Unit: IV</b>	<p><b>Rural, Social, Digital and Technological Entrepreneurship</b>  Concept and Meaning of rural entrepreneurship, Need of rural entrepreneurship, problems of rural entrepreneurship, Meaning and concept of social entrepreneurship, Difference between business entrepreneur and social entrepreneur, Case-The Grameen Bank, Success story of Mansukhbhai Prajapati- Mitticool, Digital and Technological Entrepreneurship-Introduction, concept, scope, practical examples, Start-Ups and eco system, Introduction to Unicorn</p>	15 Hours

**Note:** Relevant case studies based on the above units should be discussed in the class

**Suggested Practical Work /Field Work:**

1. Visit any creative entrepreneur and understand the creativity, motivation, reason for starting business. Study the impact of creativity on business.
2. Visit nearest industrial area and collect information about different industrial units. Prepare industrial profile of the designated area.
3. Identify entrepreneurs in your vicinity. Classify them according to different types of entrepreneurs.
4. Identify women entrepreneurs in nearby area. Prepare report on their voyage of entrepreneurship. Study the challenges faced and strategies to overcome the challenges.
5. Interview the rural entrepreneurs to ascertain the problems and prospects in rural entrepreneurship.

6. Collect information from different sources on internet about start-ups in India and elaborate present scenario of business.
7. Write stories of any 10 successful entrepreneurs in different fields/sectors in your area.
8. Visit the food processing project in your area and prepare a detailed project report.
9. Identify social entrepreneurs, educational entrepreneurs in your area and prepare report on their work.
10. Any other practical based on syllabus

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Entrepreneurship Development: Vasant Desai, Himalaya Publishing House
2. Entrepreneurship Development: S.S.Khanka, S.Chand Publication
3. Project Preparation, Appraisal, Implementation: Prasanna Chandra, TataMcGraw Hill Publication
4. Entrepreneurship Development: E.Gordon and K.Natarajan ,Himalaya Publishing House
5. Fundamentals of Entrepreneurship: Amit Kumar,Amita Dubey and Pooja Doobey, Sahitya Publishing House
6. Fundamentals of Entrepreneurship: Sanjay Gupta, Sbpd Publications
7. Entrepreneurial Development: C.B. Gupta and N.P. Srinivasan , Sultan Chand & Sons Publication

**Suggested Journals:**

- Journal of Entrepreneurship, Management and Innovation
- Journal of Entrepreneurship and Innovation in emerging economies
- Journal of small business and entrepreneurship
- Journal of Management and Entrepreneurship

**BBA-II-Sem.-III**  
**Cost Accountancy**  
**CC-B2**

<b>Course Outcomes</b>	After completion of course, students will be able to : 1.Explain concepts in Cost Accountancy 2.Apply methods of Costing and able to choose methods of pricing material issues for material management 3.Solve inventory control problems by using inventory control techniques 4. Utilize marginal costing technique in decisionmaking 5. Compare and discuss cost audit techniques for effective cost control	
<b>Note-Practical Problems would be asked on Unit 1,2,3,4</b>		
<b>Total Hours of Teaching : 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Points :04</b>
<b>Marks : 100</b>	<b>Theory : 60</b>	<b>Internal :40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<b>Introduction to Cost Accounting</b> Meaning of Costing, Cost Accounting and Cost Accountancy, Cost Centre , Cost Unit, Objectives of Cost Accounting, Importance of Cost Accounting, Financial Accounting Vs. Cost Accounting, Limitations of Cost Accounting, Classification of Cost on various bases, Preparation of Cost Sheet(Practical Problem)	15 Hours
<b>Unit: II</b>	<b>Methods of Costing and Material Management</b> Methods of Costing-Job Costing, Batch Costing, Contract Costing, Service Costing, Process Costing(Theory), Methods of pricing material issues (FIFO, LIFO, Simple Average, Weighted Average) (Practical Problems), Inventory Cost Control Techniques-EOQ(Practical Problems)and ABC Analysis	15 Hours
<b>Unit: III</b>	<b>Marginal Costing and Break Even Analysis</b> Marginal Costing-Meaning, Marginal Cost Equation and Break Even Analysis, Managerial Applications of Marginal Costing- Make or Buy Decision, Effect of changes in Selling Price (Practical Problems)	15 Hours
<b>Unit: IV</b>	<b>Standard Costing and Cost Audit</b> <ul style="list-style-type: none"> <li>▪ Standard Costing: Meaning, Objectives, Advantages and Disadvantages, Types of Variances-Material Variances(Practical Problems)</li> <li>▪ Cost Audit: Nature ,Scope, Objectives, Types and Techniques of Cost Audit</li> </ul> (Only theoretical understanding should be given)	15 Hours
<b>Note:</b> Relevant case studies based on the above units should be discussed in the class		

**Suggested Practical Work / Field Work:**

1. Visit a manufacturing unit to identify elements of cost. Prepare cost sheet.
2. Visit to different industrial units in your vicinity to understand different method of costing used.
3. Visit different business organization. Collect information regarding cost classification
4. Visit any manufacturing unit to identify elements of inventory and inventory control techniques used.
5. Conduct interview of Cost Accountant /Financial Manager to understand process of cost determination
6. Visit any manufacturing unit and learn inventory –material issue methods used and prepare report on it.
7. Visit to Manufacturing unit and understand cost audit method.
8. Study application of standard costing practices in any manufacturing industry in nearby vicinity.
9. Study application of marginal costing in decision making in any manufacturing industry in nearby vicinity.
10. Any other practical based on syllabus

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Cost Accounting-Methods and Problems: B.K.Bhar,Academic Publishers, Kolkata
2. Advanced Cost Accounting: S.P.Jain and K.L.Narang, Kalyani Publishers, Ludhiana
3. Management Accounting: M.Y. Khan and P.K.Jain ,Tata McGraw Hill Publication ,New Delhi
4. Management Accounting: I.M.Pandey ,Vani Publication, New Delhi
5. Cost Accounting: Principles and practice: M.N.Arora ,Vikas Publishing,Noida
6. Principles and practice of Cost Accounting: A. K.Bhattacharya, PHI Learning PrivateLtd., New Delhi
7. Cost Accounting and Financial Management: R. M. Kishore ,Taxmann’s AlliedServices Pvt. Ltd., Delhi
8. Cost and Management Accounting: S.N.Maheshwari, S.Chand Publication, New Delhi
9. Cost Accounting: B.S.Raman ,United Publishers

**Suggested Journals:**

- Accounting Research Journal
- The Accounting Review
- Indian Journal of Accounting
- The Management Accountant
- Chartered Accountant

**BBA-II-Sem.-III**  
**Service Marketing**  
**CC-B3**

**Course Outcomes**

- After completion of course, students will be able to :
1. Illustrate Services- it's concept, classification and importance
  2. Demonstrate and experiment with 7 P's of service marketing
  3. Apply 7 P's for various service organizations
  4. Analyze financial services and discuss their functioning
  5. Discuss application of 7 P's in different service sector

**Total Hours of Teaching: 60**

**Lecture/Week: 04**

**Credit Points: 04**

**Total Marks: 100**

**Theory : 60**

**Internal : 40**

**Syllabus Contents:**

<b>Unit: I</b>	<b>Introduction to services</b> Meaning and concept of Services, Characteristics of Services, Difference between Goods and Services, Classification of Services, Importance, Reasons for growth of service sector in India.	15 Hours
<b>Unit: II</b>	<b>Service Marketing</b> Meaning, 7P's in Service Marketing-Product-Product Service Grid, Price, Place, Promotion, Process, People and Physical Evidence, Services Marketing Triangle, Customer Service in Technology/Digital Era.	15 Hours
<b>Unit: III</b>	<b>Introduction of industry and Application of 7 P's</b> Introduction - Industry, Application of 7 P's in -Financial Services-Bank, Insurance, Mutual fund, Transportation Services.	15 Hours
<b>Unit: IV</b>	<b>Introduction of Application of 7 P's</b> Application of 7 P's in-Travel and Tourism services, Hotel, Healthcare services	15 Hours

**Note:** Relevant case studies based on the above units should be discussed in the class.

**Suggested Practical work/ Field work :**

1. Visit different service units in your vicinity. Study the marketing mix they offer.
2. Conduct a comparative study of tour and travel organizations in Maharashtra using internet sources.
3. Visit to nearby hotel/restaurant of your area and study marketing mix offered.
4. Visit to Automobile Dealers in your vicinity and study the marketing mix offered.
5. Visit to Transportation Services in your vicinity and study the marketing mix offered.
6. Visit to Insurance Company in your vicinity and study the marketing mix offered.
7. Visit hospital in your vicinity and study the marketing mix offered.
8. Visit a bank to understand marketing mix offered.
9. Select any organization dealing in Financial Services-Bank, Insurance, Mutual fund, Transportation Services, Travel and Tourism services, Hotel, Healthcare services and study the customers' expectations and fulfillment using appropriate scales like SERVQUAL model.
10. Any other practical based on syllabus

**Note:** Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand -written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.

**Reference Books:**

1. Services Marketing: S.M. Zha, Himalaya Publishing House
2. Services Marketing :Harsh Verma, Pearson Education
3. Service Marketing: Rajendra Nargudkar, Tata McGraw Hill Education Pvt. Ltd.
4. Services Marketing :Zeithaml, Bitner, Gremler & Pandit, McGraw Hill Publication

5. Service Marketing: The Indian Context: R. Srinivasan, PHI Learning Pvt. Ltd., Delhi.

**Suggested Journals:**

- Journal of Services Marketing
- Service Marketing Quarterly
- The IUP Journal of Marketing Management
- Indian Journal of Marketing

<b>BBA-II-Sem.-III E-Commerce CC-B4</b>		
<b>Course Outcomes</b>	After completion of the course, students will be able to : <ol style="list-style-type: none"> <li>1. Understand the concept of E-Commerce, EDI.</li> <li>2. Know different applications of E-Commerce, E-Banking &amp; E-Trading</li> <li>3. Identify the key security threats in the E-commerce environment</li> <li>4. Learn how to design E-Commerce website using HTML</li> </ol>	
<b>Total Hours of Teaching : 60</b>	<b>Lecture /Week : 04</b>	<b>Credit Points : 04</b>
<b>Total Marks: 100</b>	<b>Theory : 60</b>	<b>Internal : 40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<b>Introduction to E-Commerce</b> <b>Introduction-</b> Concept, features and functions of E-Commerce, Scope and Basic models of E-Commerce, Benefits of E-Commerce. <b>Electronic Data Interchange (EDI)-</b> Concept of EDI, Differences in Paper based business and EDI based business, Advantages of EDI, Application areas for EDI, Action plan for implementing EDI, Factors influencing the choice of EDI software. <b>E-Commerce in India-</b> Status of E-Commerce in India, Problems and Opportunities in E-Commerce in India, Future of E-Commerce, Legal issues involved in E-Commerce in India.	15 Hours
<b>Unit: II</b>	<b>Applications of E-Commerce</b> <b>E-Marketing-</b> Traditional Marketing V/s E-Marketing, Impact of Ecommerce on markets, Marketing issues in E-Marketing, Promoting E-Business, Direct Marketing-One to One Marketing. <b>E-Banking-</b> Concept of E-Banking, Traditional Banking V/s E-Banking, Operations in E-Banking, E-Payments-Transactions through Internet, Requirements of payment Systems, Post-Paid payment system: credit card, Cyber cash, E-cheques, Instant paid payment system: Debit Cards, Direct Debit, Prepaid payment system: Electronic cash, Digi cash, Smart cards. UPI payment methods, Google pay, Phone pay, Paytm. <b>E-Trading-</b> Stock Market Trading, Importance and advantages of E-Trading	15 Hours
<b>Unit: III</b>	<b>Internet &amp; E-Security</b> <b>Internet-</b> Concept of internet, use of internet, requirement for internet, Domains, Internet services, Establishing connectivity on the internet, Types of internet providers, constituents of internet, protocols- TCP, IP, FTP, GOFFER, SMTP, POP3, TELNET, Email. <b>E-Security-</b> Need of Internet Security, Security Threats, Security Breach, Breach Avoidance, Detection and Recovery, Confidentiality and Integrity, Electronic Signature, Encryption and Decryption, Access Control, Authentication, Firewalls and Proxy Services, SSL (Secure Socket Layer), HTTPS.	15 Hours
<b>Unit: IV</b>	<b>Website Designing using HTML</b> Meaning of Website and Webpage, static, dynamic website, importance of website and home page and its features, guidelines for constructing the webpage, Web page text formatting and alignment, font control and special characters, colors and design, Title, Paragraphs, indents, fonts, page breaks, graphics, putting images on the Web, creating Web page, image, hyperlinks, working with themes, frames and	15 Hours

	table model, Interactive Web pages, Interactive layout with frames.	
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**Note:** Relevant case studies based on the above units should be discussed in the class

**Suggested Practical Work / Field Work:**

1. Identify different E-commerce models like Flipkart, Amazon etc. Study the marketing mix.
2. Explain steps involved in EDI based transactions with example.
3. Write problems and opportunities of any one website which you visit frequently.
4. Visit a stock broker nearby and understand the process of E-trading.
5. Interview a technocrat dealing with E-security to know more about E-security domain.
6. Compare the E-marketing techniques used by different companies. Take two good brands and study using internet.
7. Visit a bank nearby and interview bank officials and consumers to understand the E-banking facilities.
8. Interview bank officials to know more on bank security during transactions.
9. Develop a website using HTML for displaying your personal information.
10. Any other practical based on the syllabus

***Note:** Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. E-Commerce: C.S.V. Murty ,Himalaya Publishing House
2. E-Commerce: Kamblesh Bajaj and Debjani Nag ,Tata Mc Publication
3. E-Commerce: S Jaiswal, Galgotia Publications Pvt. Ltd.
4. Internet & E-Mail Hacking: Vishnu Priya Singh , Computech Publications Limited
5. E-Marketing: Sushila Madan, Scholar Tech Press Publication
6. Fundamental of E-Marketing: Neeru Kapoor ,Pinnacle Learning
7. E-Banking in India: Challenges & Opportunities: R K Uppal , Rimpi Jatana , New Century Publications
8. E-Banking: R Kumar, Pacific Books International Publication
9. HTML Black Book: Steven Holzner, Dreamtech Publication

**Suggested Journals:**

- Electronic Commerce Research
- International Journal of Electronic Commerce
- Electronic Commerce Research and Applications

**BBA-II-Sem.-III**  
**Forms of Business Organization**  
**CC-B5**

<b>Course Outcomes</b>	After completion of course, students will be able to : 1. Explain different forms of business organization. 2. Classify different sources of finance available and analyze influence on business decisions. 3. Illustrate and examine different combinations of business and their performances 4. Discuss new trends in management and its recent scenario in market
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<b>Total Hours of Teaching : 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Point : 04</b>
<b>Total Marks : 100</b>	<b>Theory : 60</b>	<b>Internal : 40</b>

**Syllabus Contents:**

<b>Unit: I</b>	<b>Forms of business organization</b> Meaning and definition ,Types of business, Characteristics of Business Organization, Features of sole proprietorship, Joint Hindu Family& Co-operative Society, Features and types of partnership and joint stockcompany, One person company, Producer Company and non-banking financial company as per Companies Act, 2013.	15 Hours
<b>Unit: II</b>	<b>Methods of Finance</b> Long Term: Meaning & type of Shares and Debentures, Short Term : Public Deposit, Trade Credit, Bank Credit, Commercial Paper, Factoring, Installment Credit & Customer Advances	15 Hours
<b>Unit: III</b>	<b>Business Combination</b> Meaning & Causes of Business Combination, Types of Business Combination, Advantages & Disadvantages of Mergers & Amalgamation, Advantages & Disadvantages of Takeovers and Acquisitions, Advantages & Disadvantages of Joint Venture	15 Hours
<b>Unit: IV</b>	<b>New Trends in management</b> Professional Management, Disaster Management, Event Management, Total Quality Management	15 Hours

**Note:** Relevant case studies based on the above units should be discussed in the class

**Suggested Practical Work / Field Work:**

1. Visit a government organization to understand the process to start a proprietorship firm.
2. Visit a chartered accountant to understand the process of establishing private limited company.
3. Critically analyze the different forms of business from the view point of establishment.
4. Visit an event management firm in your vicinity and study their business operations.
5. Interview chartered accountant to understand the advantages and disadvantages of partnership, private limited company and limited company.
6. Interview chartered accountant or a business consultant to know on the sources of raising short term and long term finance for business.
7. Visit the district industrial center (DIC) to understand the role of government in setting up of business organization and also in proving finance.
8. Visit government websites to understand the financial schemes extended to entrepreneurs.
9. Study from the media on mergers, acquisitions, takeover of firms in India.
10. Any other practical based on syllabus

***Note:** Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand -written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Business Organization and Management: M.C. Shukla, S.Chand & Company Ltd.
2. Modern Business Organization & Management: S.A.Sherlekar, Virendra Sherlekar., Himalaya Publishing House
3. Business Organization & Management: Y.K.Bhushan,Sultan Chand & Sons Publication
4. Business Organization :S.K Chottorjee, VK Global Publications Private Limited
5. Business Organization and Management: Jagdish Prakash, Kitab Mahal Publication

**Suggested Journals:**

- Journal of Business Research
- Journal of Business Strategy
- Journal of Business & Industrial Marketing

**BBA-II-Sem.-III**  
**Statistical Techniques**  
**AECC-C3**

<b>Course Outcomes</b>	After completion of course, students will be able to : 1. Define Descriptive Statistical techniques 2. Apply applications of statistical techniques. 3. Utilize suitable statistical formula and analyze result. 4. Conclude degree of relationship of two variables and estimate unknown variable.
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<b>Total Hours of Teaching : 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Points : 04</b>
<b>Total Marks : 100</b>	<b>Theory : 60</b>	<b>Internal : 40</b>

**Syllabus Contents:**

<b>Unit: I</b>	<p><b>Introduction to Statistics and Sampling Techniques</b></p> <ul style="list-style-type: none"> <li>• <b>Introduction to Statistics</b> Meaning of Statistics, Scope of Statistics: In Industry, Economics and Management Sciences, Meaning of primary and secondary data, Frequency and Frequency Distribution, Construction of Histogram and Ogive Curve.</li> <li>• <b>Sampling Techniques</b> Sample, Population, Sampling, Census Method and Sampling Method, Advantages of Sampling over Census Method. Simple Random Sampling with and without Replacement Method, Stratified Sampling Method</li> </ul>	15 Hours
<b>Unit: II</b>	<p><b>Measures of Central Tendency (MCT)</b> Meaning of MCT, Requirements of good MCT, Definition: Arithmetic Mean, Weighted Average, Combined A.M., Median, Mode, Merits and demerits of Mean, Median, Mode, Numerical Examples</p>	15 Hours
<b>Unit: III</b>	<p><b>Measures of Dispersion (Variability)</b> Meaning of Dispersion, Requirements of good Measure of Dispersion, Absolute and Relative Measure of Dispersion, Definition Mean Deviation, Standard Deviation and their relative measures, Variance, Combined Variance, Numerical Examples</p>	15 Hours
<b>Unit: IV</b>	<p><b>Correlation and Regression</b></p> <ul style="list-style-type: none"> <li>• <b>Correlation</b> Concept of correlation, Types of Correlation, Methods of studying Correlation, Karl Pearson's Correlation Coefficient, Spearman's Rank Correlation Coefficient, Scatter Diagram, Interpretation of <math>r = -1, 0, 1</math>. Numerical examples</li> <li>• <b>Regression</b> Concept of Regression, Regression Co-efficients and Equations of Line of Regression, Relation between Correlation Co-efficient and Regression Co-efficients. Numerical Examples.</li> </ul>	15 Hours

**Note:** Relevant case studies based on the above units should be discussed in the class.

**Suggested Practical Work / Field Work:**

1. Collect the data on demographic profile of students admitted in BBA course and apply descriptive statistical tools for meaningful analysis and interpretation.
2. Collect the 12 months data of electricity bill of your home, expenses per month for a year, SSC, HSC

- marks of your friends and apply descriptive statistical tools for meaningful analysis and interpretation.
3. Visit the service organization/business organization/industry nearby to understand the practical applications of statistical techniques in business and decision making.
  4. Make use of above data to calculate the correlation between score of SSC and HSC. Correlation between income, electricity bill and expenses per month.
  5. Make use of above data to calculate the regression taking expenses as a dependent variable.
  6. Collect the data from 10 female friends and 10 male friends on the variables considered for selecting the smart phones and use spearman's rank correlation for analysis.
  7. Conduct a study to investigate the satisfaction levels of customers in a shopping mall by using different sampling methods and prepare a detailed analysis report.
  8. Get the data of select shares from internet and apply statistical tools to draw meaningful conclusions.
  9. Build up the last five year's local population data from local agencies and construct Histogram and less than Ogive curve and comment on it.
  10. Any other practical based on syllabus

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Statistical Methods: S.P.Gupta, Sultan Chand and Sons Publishers
2. Business Statistics: S.L. Agarwal , Kalyani Publishers
3. Introduction to Statistics Methods : C.B. Gupta and Vijay Gupta, Vikas Publication
4. Business Statistics :G.V. Kumbhojkar, Phadke Prakashan
5. Statistics for Managerial Decision Making: S. K. Khandelwal , International Book House Pvt. Ltd.
6. Fundamentals of Statistics : S.C. Gupta , Himalaya Publishing House
7. Statistics -Theory & Practice: R.S.N. Pillai, S. Chand Publication

**Suggested Journals:**

- Journal of Business & Economic Statistics
- Journal of Educational and Behavioral Statistics
- International Journal of Forecasting
- Communications in Statistics
- Journal of Statistics Education

**BBA-II-Sem.-IV**  
**Entrepreneurship Project Management**  
**CC-B6**

<b>Course Outcomes</b>	After completion of course, students will be able to :	
	<ol style="list-style-type: none"> <li>1. Explain and illustrate process of project identification.</li> <li>2. Examine institutional support and schemes for entrepreneurship development.</li> <li>3. Assess and utilize different methods of project appraisal.</li> <li>4. Design business plan with the help of incubation centers/ED centers</li> </ol>	
<b>Total Hours of Teaching: 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Points: 04</b>
<b>Total Marks: 100</b>	<b>Theory : 60</b>	<b>Internal: 40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<b>Introduction to Project Identification</b> Meaning and concept of project, sources of business idea, scanning of business environment, importance of project identification, criteria of selecting project	15 Hours
<b>Unit: II</b>	<b>Institutional Support and Scheme</b> Role of DIC, Maharashtra Industrial Development Corporation(MIDC), SISI, MCED, SIDBI, SFC, KVIC, MUDRA, CIDCO	15 Hours
<b>Unit: III</b>	<b>Project Appraisal</b> Methods of project appraisal -Economic analysis, financial analysis, Market analysis, Technical Analysis	15 Hours
<b>Unit: IV</b>	<b>Formulation of Business Plan</b> Concept of business plan, Contents of business plan, Significance of business plan, Formulation of business plan. Task - Preparation of business plan of any one business	15 Hours
<b>Note:</b> Relevant case studies based on the above units should be discussed in the class.		
<b>Suggested Practical work / Field work:</b>		
<ol style="list-style-type: none"> <li>1. Visit DIC to understand the supportive role of DIC in entrepreneurship.</li> <li>2. Visit nationalized bank and interview the bank manager to know the different schemes for entrepreneurs.</li> <li>3. Visit KVIC to learn about different schemes for entrepreneurs.</li> <li>4. Visit the office of MIDC to know the role of MIDC in industrial development and support to entrepreneur development.</li> <li>5. Prepare start-up business plan for different types of business.</li> <li>6. Interact with young entrepreneurs in your area and understand their motivation.</li> <li>7. Visit the websites of SISI, MCED SIDBI, SFC, MUDRA and CIDCO and understand their functions and role in entrepreneurial development.</li> <li>8. Search on website the venture capitalist and study their mode of operations.</li> <li>9. Prepare a feasibility and viability report of start up business plan you have prepared.</li> <li>10. Any other practical based on syllabus</li> </ol> <ul style="list-style-type: none"> <li>• Organize a seminar of Bank Manager of Nationalized bank to understand the project appraisal process.</li> <li>• Organize a seminar of young entrepreneur</li> <li>• Organize a seminar of women entrepreneur</li> <li>• Invite chartered accountant to understand preparation of business plan and feasibility report.</li> </ul>		

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Entrepreneurship Development: Vasant Desai, Himalaya Publishing House
2. Entrepreneurship Development: S.S.Khanka, S.Chand Publication
3. Project Preparation-Appraisal, Implementation : Prasanna Chandra, Tata McGraw Hill Publication
4. Entrepreneurship Development : Gordon and Natarajan , Himalaya Publishing House
5. Fundamentals of Entrepreneurship: Amit Kumar, Amita Dubey and Pooja Doobey, Sahitya Publishing House
6. Entrepreneurial Development: C.B. Gupta and N.P. Srinivasan , Sultan Chand & Sons Publication

**Suggested Journals:**

- Journal of management and Entrepreneurship
- Journal of Entrepreneurship, Management and Innovation
- Journal of Entrepreneurship and Innovation in emerging economies
- Journal of small business and entrepreneurship

<b>BBA-II-Sem.-IV Management Accounting CC-B7</b>		
<b>Course Outcomes</b>	After completion of course, students will be able to : 1. Explain Management Accounting concept and difference between Financial Accounting and Management Accounting 2. Utilize different reports to management 3. Make use of different Financial Statement analysis tools	
<b>Note-Practical Problems will be asked on Unit 2,3,4</b>		
<b>Total Hours of Teaching: 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Points: 04</b>
<b>Total Marks: 100</b>	<b>Theory : 60</b>	<b>Internal: 40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<b>Introduction to Management Accounting</b> <ul style="list-style-type: none"> <li>▪ Management Accounting: Meaning ,Definition, Functions of Management Accounting ,Difference between Financial Accounting and Management Accounting, Tools and Techniques of Management Accounting, Advantages and Disadvantages of Management Accounting</li> <li>▪ Reporting to Management: Meaning of Reporting ,Objects, Types of Report, Requirements of Good Report, Principles of Good Report</li> </ul>	15 Hours
<b>Unit: II</b>	<b>Budget and Budgetary Control</b> Concept of Budget and Budgetary Control, Objectives and Advantages of Budget , Steps in Budget Preparation, Techniques of Budgetary Control, Types of Budget, Cash Budget, Flexible Budget, Capital Budget(Practical Problems)	15 Hours
<b>Unit: III</b>	<b>Financial Statement Analysis</b> Meaning and Types of Financial Statement, Analysis and Interpretation of Financial Statement, Techniques- Comparative Statement Analysis ,Common-Size Statement Analysis ,Trend Analysis, Ratio Analysis(Practical Problems)	15 Hours
<b>Unit: IV</b>	<b>Fund Flow Statement and Cash Flow Statement</b> <ul style="list-style-type: none"> <li>▪ Meaning of Fund and Fund Flow Statement, Uses of Fund Flow Statement, Preparation of Fund Flow Statement</li> <li>▪ Meaning of Cash Flow Statement, Uses of Cash Flow Statement Preparation of Cash Flow Statement Fund Flow Statement vs. Cash Flow Statement</li> </ul>	15 Hours
<b>Note:</b> Relevant case studies based on the above units should be discussed in the class.		
<b>Suggested Practical work / Field work:</b>		
<ol style="list-style-type: none"> <li>1. Visit any business enterprise. Prepare Cash Budget, Flexible Budget and Capital Budget of it and submit a report.</li> <li>2. Conduct interview of Management Accountant and understand his function, tools used. Select any product of organization and set budget.</li> <li>3. Prepare Master Budget for any organization and analyse it</li> <li>4. Collect Annual Reports of any organisation for 5 years and calculate different ratios and analyze it and prepare report on it.</li> <li>5. Prepare comparative statement analysis and common-size statement analysis of any company with interpretation and prepare report on it.</li> <li>6. Prepare cash flow statement for any industry for last 5 years with interpretation and prepare report on it.</li> <li>7. Prepare fund flow statement for any organization for last 5 years with interpretation and prepare report on it.</li> </ol>		

8. Collect any report of any organization in nearby your vicinity and calculate ratios and interpret it.
9. Visit any organization and study different types of Report prepared and know the structure of report.
10. Any other practical based on syllabus

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Management Accounting: I.M.Pandey ,Vani Publications, Delhi
2. Management Accounting: M.Y.Khan and P.K. Jain ,Tata McGraw Hill Publication, New Delhi
3. A Text Book of Accounting for Management: S.N. Maheshwari and S.K.Maheshwari, Vikas Publishing House Pvt. Ltd., Noida
4. Cost and Management Accounting: S.N.Maheshwari, S. Chand Publication, New Delhi
5. Management Accounting- Principles and Practice: R.K.Sharma, Neeti Gupta, Shashi K.Gupta, Kalyani Publisher, Ludhiana
6. Management Accounting-Principles and Practice: M.A.Sahaf, Vikas Publishing House Pvt. Ltd., Noida(UP)
7. Principles of Management Accounting: NK Agarwal, Asian Books Pvt. Ltd., New Delhi
8. Accounting for Managers: A.K.Sharma, Anmol Publication Pvt. Ltd., New Delhi

**Suggested Journals:**

- The Management Accountant
- Accounting Research Journal
- The Accounting Review
- Chartered Accountant
- Indian Journal of Accounting

**BBA-II-Sem.-IV**  
**Rural and Retail Marketing**  
**CC-B8**

<b>Course Outcomes</b>	After completion of course, students will be able to : 1. Develop understanding of concepts of rural and retail marketing. 2. Assess the current situation of rural marketing. 3. Analyze the rural marketing of agricultural inputs and products. 4. Evaluate retail formats, retail buying behavior and retail marketing mix.	
<b>Total Hours of Teaching : 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Points : 04</b>
<b>Total Marks :100</b>	<b>Theory :60</b>	<b>Internal : 40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<b>Rural Marketing</b> Introduction, Characteristics of Rural Marketing, Rural Marketing Environment, Rural Marketing mix.	15 Hours
<b>Unit: II</b>	<b>Segmentation, Targeting and Positioning for Rural Markets</b> Challenges of rural marketing, Rural consumer behavior, Marketing of Agricultural Inputs, agricultural products, non-farm products.	15 Hours
<b>Unit: III</b>	<b>Retail Marketing</b> Introduction to retail Concept of retailing, definition, Classification of Retail formats, Importance of retailing, Retail buying behavior Technology in retailing, introduction to E-tailing	15 Hours
<b>Unit: IV</b>	<b>Retail Marketing Mix</b> Components of retail marketing mix, the relevance of retail marketing mix in the current business scenario, retail mix for various formats, Visual Merchandising	15 Hours
<b>Note:</b> Relevant case studies based on the above units should be discussed in the class.		
<b>Reference Books:</b>		
<ol style="list-style-type: none"> <li>1. Rural Marketing: Concepts and practices : Balram Dogra, Karminder Ghuman, The McGraw-Hill Publishing Company</li> <li>2. Rural Marketing: C.S. G. Krishnamacharyulu and Lalitha Ramakrishnan, Pearson Education</li> <li>3. Rural Marketing: Pradeep Kashyap, Siddhartha Raut, Biztantra Publication, New Delhi</li> <li>4. Rural Marketing: Environment, Problems and Strategies: T P Gopaldaswamy, Vikas Publishing House</li> <li>5. Managing Retailing: Text and Cases: Piyush Kumar Sinha, Dwarika Prasad Uniyal, Oxford University Press Publication</li> <li>6. Retail Marketing :T Sivakumar, Global Vision Publishing House</li> <li>7. Retail Management: Suja R. Nair, Himalaya Publishing House</li> <li>8. Retailing Management :Swapna Pradhan, Tata McGraw-Hill Publishing Company</li> </ol>		
<b>Suggested Journals:</b>		
<ul style="list-style-type: none"> <li>• The IUP Journal of Marketing Management</li> <li>• Indian Journal of Marketing</li> <li>• European Journal of Marketing</li> <li>• Journal of Marketing Management</li> </ul>		

**BBA-II-Sem.-IV**  
**Production and Operations Management**  
**CC-B9**

**Course Outcomes**

After successful completion of the course, students will be able to:

1. Demonstrate fundamentals of production and operations management in a firm.
2. Take decisions related to facility locations and layout.
3. Analyze different aspects relating to designing and developing processes.
4. Apply various aspects in production planning and control.
5. Evaluate various modern practices in production and operations management.

**Total Hours of Teaching : 60**

**Lecture /Week : 04**

**Credit Points : 04**

**Total Marks: 100**

**Theory : 60**

**Internal : 40**

**Syllabus Contents:**

Practical problems would be asked on Unit No. III. (EOQ Analysis & ABC Analysis)

<b>Unit: I</b>	<p><b>Understanding Production and Operations Management</b>            Introduction to production management, Functions and role of production manager, Production systems, Operations management- systems perspective, Challenges in operations management, Current priorities for operations management, Current manufacturing and service sector trends in India, Location decision, Factors affecting on location decision, Location planning methods, Factor rating method, Point rating method, Break even analysis.</p>	15 Hours
<b>Unit: II</b>	<p><b>Facility Layout and Product Development</b>            Facility Layout, Layout Planning, Types of Layouts, Service Facility Layouts, Technological issues in process design, Product life cycle, Product development process, process as a unit of measurement in operations, planning premises and process implications, Analyzing processes, process redesign using Business Process Re-engineering (BPR), Capacity planning, Measures of capacity</p>	15 Hours
<b>Unit: III</b>	<p><b>Planning and Control of Operations</b>            Demand forecasting, Aggregate production planning, Master production scheduling, Materials Requirement Planning (MRP), Capacity Requirement Planning (CRP), Distribution Requirement Planning (DRP), Managing inventory, Inventory planning for independent demand items, Types of inventory, Inventory costs, Inventory models- deterministic and probabilistic models, Selective control of inventory - EOQ Analysis , ABC Analysis</p>	15 Hours
<b>Unit: IV</b>	<p><b>Current trends in Production &amp; Operations Management</b>            Concepts and importance, Industry 4.0, Total Quality Management, JIT Manufacturing, Benchmarking System, Lean Management, Six Sigma, Supply Chain Management, Flexible Manufacturing System, Green Manufacturing.</p>	15 Hours

**Note:** Relevant case studies based on the above units should be discussed in the class.

**Suggested Practical work / Field work:**

1. Visit a factory in your area and prepare a report based on production process of the selected product.
2. Visit to manufacturing unit in your area and enlist the functions performed by the factory manager in day to day operations.
3. Visit to retail mall in your area; prepare a report based on the internal arrangement, layout of the mall.
4. Take 10 regular use products and prepare and present the quality measures of these products.
5. Visits to any hotel in your area and prepare the report based on quality of services provided, layout of the hotel etc.
6. In the same hotel, understand the raw materials, process of procurement of raw material, quality and quantity measurement of the said raw material.
7. Study the quality management policy and quality practices of local co-operative sugar factory / dairy / spinning mill or a private company.
8. Study standard purchase process used in local co-operative sugar factory / dairy / Spinning mill or a private company.
9. Collect the data relating to the current innovation in the field of Production and Operations Management in the market. Present in front of class.
10. Any other practical based on the syllabus.

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books:**

1. Production and Operations Management: K. Aswathappa & K. Shridhara Bhat, Himalaya Publishing House
2. Operations Management-Theory and Practice: B. Mahadevan ,Pearson India Education Services
3. Operations Management: Norman Gaither & Greg Frazier, Cengage Learning Publication
4. Production & Operations Management: S. N. Cherry, Tata McGraw-Hill Education Pvt. Ltd.
5. Operations Management: R.S.Russel & B.W.Taylor, John Wiley & Sons Publications
6. Industrial Engineering and Production Management: Martand Telsang, S. Chand & Company

**Suggested Journals:**

- Journal of Operations Management
- International Journal of Operations & Production Management
- International Journal of Operations Management
- International Journal of Production Management and Engineering
- Operations Management Research

**BBA-II-Sem.-IV  
Research Methodology  
CC-B10**

<b>Course Outcomes</b>	After completion of course, students will be able to :	
	<ol style="list-style-type: none"> <li>1. Explain fundamentals of research and describe research design</li> <li>2. Illustrate sample design and sampling methods</li> <li>3. Experiment with appropriate methods for data collection for research work</li> <li>4. Apply statistical tools for data analysis and interpretation</li> </ol>	
<b>Total Hours of Teaching: 60</b>	<b>Lecture/Week : 04</b>	<b>Credit Points: 04</b>
<b>Total Marks: 100</b>	<b>Theory : 60</b>	<b>Internal: 40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<p><b>Introduction to Research and Research Methodology</b></p> <ul style="list-style-type: none"> <li>▪ Research Fundamentals: Meaning, objectives of research, types of research, significance of research, selection of research problem. Research process, Distinction between management problem and research problems, scope of research in management, Research Methodology.</li> <li>▪ Research Design: Meaning, steps in research design, characteristics of research design. Types of Research Design, Hypothesis- concept, definition, types of hypothesis, features of good hypothesis.</li> </ul>	15 Hours
<b>Unit: II</b>	<p><b>Sampling Design and Data Collection</b></p> <p>Meaning of sampling, characteristics of good sample design, steps in sample design, types of sample design, determining size of sample. Data Collection-Meaning, types of data, methods of collecting Primary Data- observation, interview, questionnaire and schedule, Secondary Data-Sources of secondary data.</p>	15 Hours
<b>Unit: III</b>	<p><b>Processing and Analysis of data</b></p> <p>Classification of data, types of classification, Tabulation, Graphical presentation of data- bar diagram, pie-chart and curves, Processing and analyzing data-Descriptive Analysis (Mean, Mode, Median, Standard Deviation, and Variance Analysis) Inferential Analysis ('T' Test, Chi-Square Test).</p>	15 Hours
<b>Unit: IV</b>	<p><b>Report Writing</b></p> <p>Meaning, significant steps in writing report, layout of the research report, Types of report, mechanics of writing a research report, Precautions for writing research report.</p>	15 Hours
	<b>Note:</b> Relevant case studies based on the above units should be discussed in the class	
<b>Suggested Practical work / Field work:</b>		
<ol style="list-style-type: none"> <li>1. Enlist number of contemporary social and managerial problems for which research is required.</li> <li>2. Enlist questions raised out of every social and managerial problem.</li> <li>3. Discuss the research issues/problems in class for better comprehension. Prepare statement of a research problem for every social and managerial problems enlisted.</li> <li>4. Select any one statement of research problem out of above enlisted social or managerial problems.</li> <li>5. Prepare a detailed research design.</li> <li>6. Design schedule align with objectives framed.</li> </ol>		

7. Collect data of minimum 30 samples.
8. Feed data into Ms-Excel
9. Process the data using different available statistical tools in Ms-Excel.
10. Prepare a handwritten report and submit.

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Reference Books :**

1. Research Methodology: C.R. Kothari, New Age International Ltd. New Delhi
2. Research Methodology in Management: V.P. Michael, Himalaya Publishing House
3. Research Methodology-methods and techniques: C.R. Kothari and Gaurav Garg, New Age International Publishers
4. Research Methodology & Applications of SPSS in Social Science Research: Pandian Sundara P and. Muthulakshmi S and Vijayakumar T. , Sultan Chand & Sons
5. Research Methodology: Concepts and Cases, Deepak Chawla , Neena Sondhi , Vikas Publishing House
6. Statistical Methods: S.P.Gupta, Sultan Chand and Sons publication

**Suggested Journals:**

- Indian Journal of Marketing
- Finance India
- Indian Journal of Economics and Development
- Quality and Quantity
- Economic and Political Weekly

<b>BBA-II-Sem.-IV Statistics for Business AECC-C4</b>		
<b>Course Outcomes</b>	After completion of course, students will be able to : 1. Define tools Statistics used for decision making 2. Describe applications of statistics for decision making. 3. Apply suitable statistical formula and estimate trend. 4. Analyze Construct control charts	
<b>Total Hours of Teaching : 60</b>	<b>Lecture/Week :04</b>	<b>Credit Points : 04</b>
<b>Total Marks:100</b>	<b>Theory :60</b>	<b>Internal : 40</b>
<b>Syllabus Contents:</b>		
<b>Unit: I</b>	<b>Time Series Analysis</b> Meaning and Need of Time Series, Use of Analysis of Time Series. Components of Time Series ,Determination of Trend by i) Graphic method, ii) Method of Semi Averages, iii) Method of curve fitting by the principles of Least Squares iv) Method of Moving Averages, Numerical Examples.	15 Hours
<b>Unit: II</b>	<b>Index Number</b> Meaning and Need of Index Numbers, Use of Index Numbers, Problems in Construction of Index Numbers, Types of Index Numbers: Price, Quantity and Value Index Numbers, Methods of Constructing Index Numbers. <ul style="list-style-type: none"> <li>▪ Unweighted Index Numbers: By Simple Aggregate Method and Simple Average of Relative Method.</li> <li>▪ Weighted Index Numbers: By Laspeyre's, Paasche's, Dorbish-Bowley, Fisher's, Marshall-Edgeworth's, Walsch's and Kelly's Price and Quantity Index Numbers.</li> </ul> Value Index Numbers, Numerical Examples.	15 Hours
<b>Unit: III</b>	<b>Statistical Quality Control (S.Q.C.)</b> Concept and Advantages of S.Q.C., Causes of Variation. Types of Control Process Control and Product Control, Construction of Control Chart. Control Charts for Variables. Control Charts for Mean,(X) and Range (R). Control Charts for Attributes: Control Chart for Number of Defective (np) Chart, Control Chart for Number of Defects (C) Chart, Numerical Examples.	15 Hours
<b>Unit: IV</b>	<b>Probability</b> Definition: Random Experiment, Sample Space, Event and Types of Events, Classical Definition of Probability of an Event, Conditional Probability, Addition and Multiplication laws of Probability for two events (without proof), Examples without use of permutation and combination Inverse probability: Baye's Theorem (Rules for the inverse probability, Simple Examples	15 Hours
Note: <ul style="list-style-type: none"> <li>• Use of non-programmable calculator is allowed.</li> </ul>		

- Relevant case studies based on the above units should be discussed in the class.

**Suggested Practical Work/ Field Work:**

1. Take the share values of any two companies from internet and perform trend analysis using all the methods.
2. Generate the random data in Ms-Excel and perform trend analysis using graphical methods.
3. Take the time series data from internet eg. Data of imports and export for last ten years, sales of company and the like and use time series analysis.
4. Generate the random data in Ms-Excel and apply index number method to learn application of index number.
5. Visit the manufacturing unit nearby to learn the control charts.
6. Interview and study employees to understand their roles and responsibilities in maintaining quality standards by using statistical techniques
7. Study & analyze historical data of nearby supermarkets and apply probability concepts to assess the likelihood of different market trends or the probability of demand for any 5 products
8. Study the probability concepts to assess the potential impact of different risks, involved in operations related to any local industry
9. Collect the data from vegetable market and prepare a table and graphs by using semi-average method and also comment on it
10. Any other practical based on syllabus

**The sessions on data analysis using Ms-Excel should be conducted.**

*Note: Each student should prepare report of every practical or field work including detailed information as per guidelines and structure/format given by subject teacher. The report should be hand-written. Take photographs in your cell phone with prior permission during the visit to business units and discussion with people. Produce the black and white print of photographs in your report.*

**Recommended Books:**

1. Statistical Methods: S.P.Gupta, Sultan Chand and Sons Publishers
2. Business Statistics: S.L. Agarwal , Kalyani Publishers
3. Introduction to Statistics Methods : C.B. Gupta & Vijay Gupta, Vikas Publishing
4. Statistics for Managerial Decision Making: S. K. Khandelwal, International Book House Pvt. Ltd.
5. Fundamentals of Statistics: S.C. Gupta , Himalaya Publishing House
6. Probability & Statistics: T.K.V. Iyengar, S.Chand & Company Ltd.
7. Statistics : Theory & Practice: R S N Pillai, S.Chand Publications

**Suggested Journals:**

- Journal of Educational and Behavioral Statistics
- International Journal of Forecasting

- Journal of Time Series Analysis
- Communications in Statistics
- Journal of Statistics Education