



Maharashtra Education Society's

Abasaheb Garware College

(Autonomous)

(Affiliated to Savitribai Phule Pune University)

Three Year B.A. Degree Program in Economics

(Faculty of Humanities)

Syllabus under Autonomy

S.Y.B.A.(Economics)

Choice Based Credit System Syllabus
To be implemented from the Academic Year, 2023-24
Structure of the Course:S.Y.B.A.(Economics)
STRUCTURE UNDER GRADUATE

Sr.No	Year	Semester	Course Type	Paper Number	Course Code	Title of Paper	No. of Credits	No. of Lectures
1	FYBA	1	Theory	G-1	UAEC-111	Indian Economic-I	3	48
		2	Theory	G-1	UAEC-121	Indian Economic-II	3	48
2	SYBA	3	Theory	G-2/CC-1C	UAEC-231	Financial System-I	3	48
			Theory	S-1/DSE-1A	UAEC-232	Micro Economics-I	3	48
			Theory	S-2/DSE-2A	UAECSE C-233	Macro Economics-I	3	48
			Theory	SEC-I/SEC-2A	UAEC-234	SEC Basic Concept of Research Methodology-I	2	32
3	SYBA	4	Theory	G-2/CC-1D	UAEC-241	Financial System-II	3	48
			Theory	S-1/DSE-1B	UAEC-242	Micro Economics-II	3	48
			Theory	S-2/DS E-2B	UAEC-243	Macro Economics-II	3	48
			Theory	SEC-II/SEC-2B	UAECSE C-244	Basic Concept of Research Methodology-I	2	32

4	TYBA	5	Theory	G-3	UAEC-351	Indian Economic Development-I	3	48
			Theory	S-3	UAEC-352	International Economics-I	3	48
			Theory	S-4	UAEC-353	Public Finance-I	3	48
			Theory	SEC-2C	UAEC-354	SEC Business Management-I	2	32
5	TYBA	6	Theory	G-3	UAEC-361	Indian Economic Development-II	3	48
			Theory	S-3	UAEC-362	International Economics-II	3	48
			Theory	S-4	UAEC-363	Public Finance-II	3	48
			Theory	SEC-2C	UAECSECP-364	SEC Business Management -II	2	32

S.Y.B.A. Economics (Revised Syllabus)
Choice Based Credit System (CBCS)
G -2. Financial System

Preamble:

A financial system is a network of financial institutions, financial markets, financial instruments and financial services to facilitate the transfer of funds. It serves as a backbone of any economy. This paper aims to provide knowledge about the financial system in the country. It also aims to introduce international financial institutions operating in the global economy. The present era is the one with huge changes, development and challenges in every sector. This paper on financial system will also highlight some of the important changes taking place in the Indian financial sector.

Objectives (Course Outcomes) of the Paper:

- To understand fundamentals of modern financial system.
- To understand the recent trends and developments in banking system.
- To understand the role of the Reserve Bank of India in Indian financial system.
- To provide the knowledge of various financial and non-financial institutions.
- To provide the students the intricacies of Indian financial system for better financial decision making

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations.

Semester –III
G -2/ CC-1C
UAEC- 231 Financial Systems I

- 1. Introduction to Indian financial system** **12**
- 1.1 Introduction: Meaning, Nature, Role and Importance of Indian Financial System.
 - 1.2 Introduction: Evolution, Meaning & Definition of Bank
 - 1.3 Structure of Indian Financial System.
 - 1.4 Characteristics and Functions of Components of Indian Financial System.
- 2. Commercial Banks** **10**
- 2.1 Introduction: Theoretical basis of banking operations (Opening of Bank Account, Management of reserves and creation of credit)
 - 2.2 Major Services (functions) provided by Commercial Banks
 - 2.3 Structure and Growth of Commercial Banks in India
 - 2.4 New Technology in Banking: E-Banking, Green Banking
- 3. Co-operative Banks** **12**
- 3.1 Introduction: Evolution, Meaning and Definition
 - 3.2 Structure, Features of Co-operative banks in India
 - 3.3 Government Initiatives to Strengthen the Development of Co-operative Banks
- 4. Development Banks** **14**
- 4.1 Introduction: Meaning and Features of Development Banks
 - 4.2 Structure of Development Banks
 - 4.3 Functions and Role of Development banks in India
 - 4.4 Challenges facing by Development Banks in India

Semester IV
G -2/ CC -1D
UAEC-241 Financial System II

- 1. Reserve Bank of India** **12**
- 1.1 Structure and Role of RBI in India
 - 1.2 Major Functions of RBI.
 - 1.3 Monetary Policy: Tools of monetary policy and their Limitations
 - 1.4 Money measures – M0, M1, M2, M3, M4
- 2. Financial Markets** **10**
- 2.1 Classification of Financial Market
 - 2.2 Indian Money Market: Functions and Instruments.
 - 2.3 Indian Capital Market: Functions and Instruments
 - 2.4 Non-Banking Financial Intermediaries: Meaning and Functions
- 3. Financial Regulatory Institutions in India** **14**
- 3.1 SEBI: Role and Functions
 - 3.2 IRDA: Role and Functions
 - 3.3 PFRDA: Role and Functions
 - 3.4 NABARD: Role and Functions
- 4. Banking Sector Reforms in India** **12**
- 4.1 Need of Banking Sector Reforms in India
 - 4.2 M. Narsimham Committee I (1991) and II (1998) Measurers and Recommendations
 - 4.3 Basel norms- I, II, III, IV
 - 4.4 Contemporary issues in financial system NPAs: Types, Reasonsand Remedies

Basic Reading List:

1. The Indian Financial System, Markets, Institutions and Services, Bharati V.Pathak, Kindle Edition.
2. Indian Financial System, Jaydeb Sarkhel, Seikh Salim, McGraw-Hill India Pvt. Ltd. Chennai, 2018
3. Indian Banking, R. Parmehwaram & S. Natrajan , S. Chand Publishing, Delhi.
4. Non-Banking Financial Companies in India: Functioning & Reforms, Jafor Ali Akhan, New Century Publications, 2010
5. Indian Financial Markets, Ajay Shah, Michael Gorham and Susan Thomas, Elsevier, 2008.
6. The Story of the Reserve Bank of India, Rahul Bajoria, Kindle Editon.

Advanced Reading List:

1. Securities Market and Products: Mr. Sunder Sankaran, Taxman Publication Pvt. LtdNew Delhi.
2. Financial System & Economic Reforms: P. Mohan Rao, Deep & Deep Publication Pvt. Ltd. New Delhi 2008.
3. Indian Banking Towards 21st Century: Chawla A.S. & others, Deep & Deep Publications, New Delhi.
4. Black Money & Indian Economy: Bhadane J R, International Publications, 2018.
5. Financial Institutions And Markets: Jitendra Mahakund and L.M. Bhole, McGraw Hill India, 2017.

S.Y.B.A. Economics (Revised Syllabus)
Choice Based Credit System (CBCS)
S -1. Micro Economics

Preamble-

As a foundation course, in this Paper, student is expected to understand the definition, nature and scope of economics, method and approaches to the study of Economics. The chapters incorporated in this Paper deal with the theory of consumer's behavior, theory of demand and supply, analysis of production function, cost and revenue analysis, market structures and the equilibrium of a firm and industry. In addition, the principles of factor pricing and commodity pricing and welfare economics have been included.

Objectives of the Paper:

- To develop an understanding about subject matter of Economics.
- To impart knowledge of microeconomics.
- To clarify micro economic concepts
- To analyze and interpret charts, graphs and figures
- To develop an understanding of basic theories of micro economics and their application.
- To demonstrate that the theories discussed in class will usually be applied to real-life situations.
- To help the students to prepare for varied competitive examinations

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations

Semester III
S-1/DSE-1A
UAEC- 232 Micro Economics I

1 Introduction

10

- 1.1 Meaning, Nature, Scope, Importance and Limitations of Micro Economics
- 1.2 Basic Economic problems: scarcity and Choice
- 1.3 Production possibility curve, Choice and Opportunity Cost
- 1.4 Tools of Economic Analysis – Functional Relationship, Graphs and Schedules, Equations (Linear and nonlinear) Variables- Dependent and Independent Variable, Endogenous and Exogenous

2 Theory of Consumer Behavior

14

- 2.1 Utility – Meaning and Definition
- 2.2 Cardinal Utility Analysis: Assumptions and Types Cardinal Approach: Law of Diminishing Marginal Utility, Law of Equi- Marginal Utility, Consumer's Equilibrium
- 2.3 Ordinal Approach: Indifference Curve Analysis- Meaning and Definition, Properties of Indifference Curve, Consumer's Equilibrium,
- 2.4 Utility Maximization – ICs and Budget Constraints

3 Theory of Demand

12

- 3.1 Demand: Meaning & Determinants of Demand, Individual Demand Schedule and Market Demand Schedule
- 3.2 The Law of Demand: Meaning & Its Exceptions, Assumptions, Reasons
- 3.3 Theory of Elasticity of Demand –Meaning and Types Price Elasticity of Demand: Meaning, Types, Measurement and Methods of calculating elasticity of supply, numerical problems
- 3.4 Income Elasticity of Demand: Meaning and Types
- 3.5 Cross Elasticity of Demand: Meaning and Types

4 Supply and Production Analysis

12

- 4.1 Meaning, Definition and Determinant of Supply
- 4.2 The Law of Supply
- 4.3 Elasticity of Supply and Types
- 4.4 The Production Function: Meaning and Definition and Concepts (Total, Average and Marginal Production)
- 4.5 The law of Variable Proportion and Law of Returns to Scale, Economies and Dis-economies of Scale

Semester IV
S1/ DSE 1B
UAEC-242 Micro Economics II

- 1 Cost and Revenue Analysis** **10**
- 1.1 Concepts of Costs: Types of costs (Total, Average, Marginal, Fixed, Variable, Sunk, Economic and Opportunity Cost, Accounting Cost)
 - 1.2 Relationship between AC and MC, Derivation of Short-run and Long run cost curve
 - 1.3 Concepts of Revenue: (total, Average, Marginal revenue)
 - 1.4 Relationship between AR and MR and Price Elasticity of Demand
- 2 Market Structure** **12**
- 2.1 Meaning of Market- Classification of forms of Market
 - 2.2 Perfect Competition- Meaning and Characteristics, Equilibrium of Firm and Industry under Perfect Competition (Short- Run and Long- Run), Profit Maximization
 - 2.3 Monopoly: Meaning, Characteristics, Short and Long Run Equilibrium, Price Discrimination
 - 2.4 Monopolistic Competition: Meaning, Characteristics, Selling Cost- Meaning, Derivation of Excess Capacity
 - 2.5 Oligopoly and Duopoly- Meaning and Characteristics
- 3 The Theory of Distribution** **13**
- 3.1 Marginal Productivity Theory of Distribution, Concepts of Productivity: Marginal Revenue Products and Value of Marginal Product
 - 3.2 The Theory of Rent: Ricardian Theory of Rent, Modern Theory and Quasi Rent
 - 3.3 Wages: Modern Theory of Wages, Supply Curve of Labour
 - 3.4 Interest: Classical, Keynesian, Loanable Funds Theory
 - 3.5 Profit: Risk and Uncertainty Theory, Innovation Theory
- 4 Welfare Economics** **13**
- 4.1 Meaning and Definition
 - 4.2 Classical and New Welfare Economics Theory
 - 4.3 Pigovian approach
 - 4.4 Amartya Sen's views on welfare

Reference Books:

1. Mansfield, E., Microeconomics, W.W. Norton and Company, New York.
2. Koutsoyiannis, A., Modern microeconomics, Macmillan, London.
3. Lipsey & Cristal, Introduction to Positive Economics, Oxford Press.
4. Jack Hirshlifer, Price Theory and Applications, Prentice Hall of India Pvt. Ltd. Delhi
5. Ahuja H.L. : Modern Micro Economics, S. Chand & Company Ltd New Delhi
6. Jhingan M.L., Micro Economic Theory, Virinda Publication, Delhi.
7. K.K. Dewett, Modern Economics Theory, S. Chand Publications, New Delhi.
8. KPM Sundaram and E.N.Sundaram, Micro Economics, S.Chand Publication, New Delhi.
9. Seth M.L. : Micro Economics, Lakshmi NarainAgrawal Publisher
10. सूक्ष्मअर्थशास्त्रप्रा. रामदेशमुख, विद्याप्रकाशन, नागपूर
11. उच्चतरआर्थिकसिद्धांत, प्रा. कृष्णरावपाटील, श्रीमंगेशप्रकाशन, नागपूर

S.Y.B.A. Economics (Syllabus)
Choice Based Credit System (CBCS)
S -2.Macro Economics

Preamble-

Macroeconomics is the branch of economics that deals with the functioning of an economy as a whole. Macroeconomic analysis involves theoretical, empirical as well as policy-related aspects. This curriculum introduces the under graduate students to the field of macroeconomics and enables them to learn the functioning of the economy in a systematic manner.

Objectives–

- To introduce students to the historical background of the emergence of macroeconomics
- To familiarize students with the differences between microeconomics and macroeconomics
- To familiarize students with various concepts of national income
- To familiarize students with Keynesian macroeconomics theoretical frame work of consumption and investment functions
- To introduce students to the conceptual frameworks of IS and LM curve
- To introduce students to the role of money in an economy.
- To introduce students to the conceptual and theoretical frameworks of inflation, deflation and stagflation, Business Cycle.
- To introduce students to the various instruments of monetary and fiscal policies

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher Driven Power Point Presentations.

Semester III
S2/ DSE-2A-
UAEC- 233 Macro Economics I

1 Introduction	10
1.1 Meaning, Nature, Scope, Importance and Limitations of Macro Economics	
1.2 Relationship among Macro Economics Variables: Growth and Unemployment, Inflation and Business Cycle, Inflation and Unemployment.	
1.3 The difference between Micro Economics and Macro Economics	
2 National Income	12
2.1 Meaning and Importance of National Income	
2.2 Circular Flow of National Income Closed Economy (Two and Three Sector) and Open Economy Models (Four Sector Model)	
2.3 Various Concepts of National Income–GDP, GNP,NNP, NDP- at Factor Price & Market Price PCI, Personal Income, Disposable Income, nominal and real income, GDP Deflator	
2.4 Methods of National Income Measurement National Income Accounting For an Open Economy, Difficulties in the Measurement of National Income	
3 Theory of Employment and Output	13
3.1 Classical Theory of Employment, Say’s Law of Market and Flexibility of the wage rates.	
3.2 Keynes’ Criticism on Classical Theory	
3.3 Keynesian Theory of Employment–Aggregate Supply Price and Aggregate Demand Price, Employment Determination	
3.4 Critical Evaluation of Keynesian Theory of Employment	
4 Consumption and Investment	13
4.1 Consumption Function – Meaning, Various Concepts - APC, MPC, Psychological Law of Consumption, Factors Influencing Consumption Function	
4.2 Saving – Saving function, APS, MPS, Paradox of Saving Investment – Meaning, Types, Marginal Efficiency of Capital and Marginal Efficiency of investment	
4.3 The Concept of Multiplier; the Principle of Acceleration	
4.4 Derivation IS Curve, Slope of IS Curve Shifts in the IS Curve	

Semester IV
S2/ DSE-2B-
UAEC- 243 Macro Economics II

1 Money	12
1.1 Money– Meaning and Functions	
1.2 Value of Money –Meaning, Quantity Theory of Money, Cash Balance Approach	
1.3 Supply of Money–Various Measures of RBI Concept of High-Powered Money Concept of Money Multiplier	
1.4 Derivation LM Curve, Slope of LM Curve, Shifts in the LM Curve	
2 Inflation	12
2.1 Inflation–Meaning, Types, Causes–Demand Pull and Cost Push Inflation, Effects	
2.2 Measures to Control Inflation	
2.3 Deflation–Meaning, Causes and Effects Philips Curve, Stagflation–Meaning	
2.4 Measuring inflation Index Number – Meaning, Construction, Importance and Limitations, Significance of base change.	
3 Business Cycles	10
3.1 Meaning, Features and Phases of Business Cycle Causes and Effects of Business Cycle	
3.2 Keynes’ Theory of Business Cycle	
3.3 Control of Business Cycles–Monetary and Fiscal Controls	
3.4 Samuelson’s Model	
4 Macroeconomic Objectives and Policies	10
4.1 Macroeconomic Objectives; Economic Stability, Full Employment, Price Stability, External Equilibrium, Economic Growth.	
4.2 Meaning and Instruments of Monetary Policy, Fiscal Policy , International Trade	
4.3 Limitations of Monetary Policy and Fiscal Policy	
5 Introduction Post Keynesian	04
5.1 Supply Side Economics- As a response to the Problems of Stagflation	
5.2 Introduction to Neo-Classical Macroeconomics	
5.3 Introduction to Rational Expectations	

Basic Reading List–

- 1 David Colander, Macro Economics, McGraw Hill Education Private Limited (Latest Edition)
2. D. N. Dwivedi, Macro Economics: Theory and Policy, McGraw Hill Education Private Limited(Latest Edition)
3. H. L. Ahuja, Macro Economics: Theory and Policy, S. Chand & Company Limited. (LatestEdition)
4. M. L. Jhingan, Macro Economic Theory, Vrinda Publications Private Limited (Latest Edition)
5. Wavare Anil Kumar & V.Kumbhar ,(2019)Macro Economics,Ruby Publisher, Kolhapur, MS,India.
6. N. Gregory Mankiw, Principles of Macroeconomics, Cengage Learning (Latest Edition)
7. Olivier Blanchard & David Johnson, Macroeconomics, Pearson (Latest Edition)
8. Rudiger Dornbusch, Stanley Fischer & Richard Startz, Macroeconomics, Tata McGraw HillEducation Private Limited (Latest Edition)
9. Sampat Mukherjee, Macroeconomics: A Global Text, New Central Book Agency PrivateLimited (Latest Edition)
10. Stephen Williamson, Macroeconomics, Pearson (Latest Edition)(LatestEdition)
11. जी .एन. झामरे , स्थूलअर्थशास्त्र, पिपळापुरेआणिकं. प्रकाशननागपूर(Latest Edition)
12. संतोषमोटेगांवकर, स्थूलअर्थशास्त्र, अरुणाप्रकाशन, लातूर(Latest Edition)
13. जे.एफ. पाटील, साकालिकआर्थिकविश्लेषण, फडकेप्रकाशन, कोल्हापूर(Latest Edition)

Advanced Reading List

1. Ben Fine & Ourania Dimakou, Macroeconomics: A Critical Companion, Pluto Press(Latest Edition)
2. Brian Snowdon & Howard Vane (2003), The Development of ModernMacroeconomics: A Rough Guide, in Macroeconomics: A Reader, (Ed.) Brian Snowdonand Howard Vane, Routledge 16
3. Brian Snowdon& Howard Vane, Macroeconomics: A Reader, Routledge (LatestEdition)
4. Brian Snowdon& Howard Vane, Modern Macroeconomics: Its Origins,Developments and Current State, Edward Elgar (Latest Edition)
- 4.David Romer, Advanced Macroeconomics, McGraw-Hill (Latest Edition)
- 5.DilipNachane, Critique of the New Consensus Macroeconomics and Implications forIndia, Springer
- 6.John McDonald, Rethinking Macroeconomics: An Introduction, Routledge (LatestEdition)
- 7.Michel De Vroey, A History of Macroeconomics: From Keynes to Lucas and Beyond,Cambridge University Press (Latest Edition)
- 8.N. Gregory Mankiw, Macroeconomics, Worth Publishers (Latest Edition)
- 9.Sampat Mukherjee, Analytical Macroeconomics: From Keynes to Mankiw, NewCentral Book Agency Private Limited

Skill Enhancement Course (SEC):

SYBA (Economics) SEC-I

Basic Concept of Research Methodology

Course outline:

The course will be given in the form of lectures and practical work .Lectures will focus on research, especially with regard to sampling methods, data collection and data preparation. The course will focus on the practical implementation of diverse sample techniques. Students are expected to collect and classify the data.

Aims and objectives of course:

- To develop the understanding of the basic concept of research.
- To develop the understanding of the basic framework of sampling and data collection..
- To develop the understanding of various sampling methods and techniques.
- To identify various sources of information for data collection.
- To develop the understanding of the conducting survey on various issues..

Learning outcomes of course:

On completion of the course, the student shall be able to

- Demonstrate his/her understanding of sampling methods and the ability to use collection of data
- Identify the appropriate sample techniques for different kinds of research questions
- Identify the appropriate source of data in relation to the collection of research data.
- Able to classify and present the collected data in the form of graph, bar diagram, chart etc.

SKILL DEVELOPMENT ACTIVITIES (Any Three of the following)

(IMPORTANT NOTES - At the end of the course three point/ activities each should be selected for each semester (III & IV semester) from the different points given in the appendix. The important questions and issue in your area should be considered and the issue / activities related to the subject should be given to the student accordingly. Such as Agriculture Sector, farmers, Cooperative Sector, Small Scale Industries etc.) .

1. Prepare a chart showing the steps of research.
2. Prepare a chart showing the sampling technique
3. Prepare Charts showing sources of primary data.
4. Prepare a chart showing sources of secondary data.
5. Construct a questionnaire to measure student's attitude towards the purchase of two wheelers / readymade garments etc.
6. Collect the data related to any schemes of your locality and present in front of the students.
7. Construct a questionnaire for collection of primary data on any Social issue.

SEMESTER-III

SEC-I SEC-2A

UAECSEC-234 Basic Concept of Research Methodology-I

1 Introduction of Research	12
1.1 Meaning and Definition of Research Research Methods versus Methodology	
1.2 Types Of Research Basic or Pure or Fundamental Research, Applied Research, Action Research.	
1.3 Importance of Economics Research	
1.4 Research Process: an Eight-Step Model Literature survey - finding, critically evaluating and describing the relevant economic literature	
2 Research Design and Hypothesis	12
2.1 Meaning of Research Design	
2.2 Need of Research Design Features of A Good Design	
2.3 Types of Research Design: Exploratory Design, Descriptive Design, Experimental Design Qualitative and quantitative research	
2.4 Concepts of Hypothesis, Types of Hypothesis and Importance	
3 Data Collection	12
3.1 Meanings and Definition of Data Collection	
3.2 Primary Data - Meaning &Sources	
3.3 Secondary Data - Meaning &Sources Macro-Economic Data Sources – India and World – RBI, MSPI, Census, Economic Survey, CMIE, IMF, World Bank, NBER and other	
3.4 Selection of Appropriate Method for Data Collection	
3.5 Concepts of Ethics: Ethical issues to consider concerning Research Participants and Researcher	
4 Introduction of Sampling	03
4.1 Meaning and Definition of Sample	
4.2 Types of Sampling	

SKILL DEVELOPMENT ACTIVITIES

SKILL DEVELOPMENT ACTIVITIES **09**

Continuous Assessment-(C.A.): To complete any Three Skill Development Activities from the prescribed syllabus, each activity for 05marks

SEMESTER-IV
SEC-II SEC-2B – Skill Enhancement Course (SEC)
UAECSEC- 244 Basic Concept of Research Methodology –II

1 Data Analysis	10
1.1 Meaning and Definition of Data Analysis	
1.2 Nature And Importance	
1.3 Preparing data for analysis; Editing, Coding, Classification, Tabulations	
1.4 Displaying Data; Tables, Graphs, Diagram, Pie Charts,	
2 Measures of Central Tendencies	11
2.1 Definition of Mean	
2.2 Definition of Medium	
2.3 Definition of Mode	
2.4 Meaning of Dispersion, Definition-Range, Median Deviation, Quartile Derivation, Standard Derivation, Use of Microsoft Excel	
2.5 Concept of Percentages	
2.6 Concepts:-i)Frequency Distribution ii)Cumulative Frequency iii)Class Boundaries iv) Midpoint v)Class Width	
3 Research Report	14
3.1 Meanings And Objective of Research Report	
3.2 Concepts Of Case Study	
3.3 Characteristics of Good Research Report Writing	
3.4 Objective of Research Report	
3.5 Types Of Research Report	
3.6 Concepts of i)Appendices ii)Review Of Literature iii) Bibliography And References iv) Recommendation v) Hypothesis Testing	

SKILL DEVELOPMENT ACTIVITIES

SKILL DEVELOPMENT ACTIVITIES **10**

Continuous Assessment-(C.A.): To complete any Three Skill Development Activities from the prescribed syllabus, each activity for 05marks

Recommended Books:

1. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition, Pitman.
2. M.R. Spiegel (2003), Theory and Problems of Probability and Statistics (Schaum Series).
3. Cochran, William, G. (2008), Sampling Techniques, Third Edition, WileyIndia, ISBN 978 -81-265-1524-0.Reprint: 2008.
4. Bethlehem, J. (2009), Applied Survey Methods: A Statistical Perspective, Wiley.
5. Khandare V.B. and S.Yadav (2015) ,Statistical Methods,Chinmay Publication,Aurangabad. 21 6. Uwe Flick (2012), Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Sage Publications.
7. S.P.Gupta (2012), Statistical Methods, 42nd edition, Sultan chand and sons.
8. Ranjit Kumar (2014), Research Methodology: A Step-by-Step Guide for Beginners, 4th Edition, Sage Publications.
- 9 C.R. Kothari and Gaurav Garg (2019), Research Methodology: Methods and Techniques, New Age International Publications,
10. शेवाळे, पवार आणि शबनम (२०१६) संख्यात्मक तंत्रे व संशोधन पध्दती, विद्या बुक्स प्रकाशन औरंगाबाद
- 11.राम देशमुख, संख्यात्मकतंत्र, विद्याप्रकाशन, नागपूर (Latest Edition)