



**1.1.2: The programmes offered by the institution focus on employability / entrepreneurship / skill development and their course syllabi are adequately revised to incorporate contemporary requirements**

**SYLLABUS OF THE COURSES FOCUSING  
EMPLOYABILITY / ENTREPRENEURSHIP / SKILL  
DEVELOPMENT**

**Colour Coding**

**EMPLOYABILITY**

**ENTREPRENEURSHIP**

**SKILL DEVELOPMENT**

**STATISTICS / ECONOMICS / PSYCHOLOGY**

**Employability**  
**Entrepreneurship**  
**Skill development**

<b>I-B.Com</b>	<b>BUSINESS ECONOMICS - I</b>	<b>21AECM11</b>
<b>SEMESTER – I</b>		<b>HRS/WK – 5</b>
<b>ALLIED-1</b>		<b>CREDIT –3</b>

**OBJECTIVE**

1. To provide knowledge of basic concepts of Economics in Business

**COURSE OUTCOMES (CO's):**

At the end of the Course the students will be able to exhibit the following;

**CO1:** Understands the Meaning, Definitions of Economics, Business Economics & their relationship

**CO2:** knowledge about Demand & Elasticity of Demand

**CO3:** understands the concept Demand Forecasting & methods to Forecast

**CO4:** Knowledge about factors of production features & Laws of production

**CO5:** understands the Cost & Revenue Concepts & Relationship.

**Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes**

SEMESTER-I	COURSE CODE: 21AECM11				COURSE TITLE: BUSINESS ECONOMICS - I				HOURS:5	CREDITS:3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									4.5	

**Result: The score of this course is 4.5 (Very High)**

Association	1 %-20 %	21 %-40 %	41 %-60 %	61 %-80 %	81 %-100 %
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

**UNIT I -I Business Economics: Introduction**

**15 HOURS**

Business Economics-Meaning -Definition-Nature& Scope of Business Economics-Relationship of Business Economics and other Disciplines-Objectives of Business Firm-Business Decision Making Process.

## **UNIT II: Demand Analysis& Elasticity of Demand**

**15 HOURS**

Demand – Meaning- Definition-Factors Influencing Demand –Law of Demand – Exceptions to the Law of Demand – **Elasticity of Demand** –Importance of Elasticity of Demand-Types of Elasticity of Demand.

## **UNIT III: Demand Forecasting**

**15 HOURS**

**Demand Forecasting** -Meaning-Objectives of Demand Forecasting-Types of Forecasting-Methods of Demand Forecasting-Survey Method-Consumer Survey Method-Expert opinion method- Statistical Methods-Trend Projection-Criteria of a good forecasting Method-**Forecasting Demand for New Products.**

## **UNIT IV: Theory of Production**

**15 HOURS**

Introduction-Factors of Production-Production Function –Importance of Production Function –The Cobb-Douglas Production Function – The Law of Variable Proportions – The Law of Returns to Scale.

## **UNIT V: Cost and Revenue**

**15 HOURS**

Cost concepts - Short Run Cost curves- Marginal Cost, Average Cost-Total Cost- Total Fixed Cost, and Total Variable Cost –Relationship between Average cost & Marginal Cost-U-Shaped Long Run Average Cost Curve-L-Shaped Long-run Average Cost Curve-Concept of Revenue-Average Revenue & Marginal Revenue.

### **Text Books:**

1. K.P.M. Sundaram, Business Economics, Sultan Chand and Sons, New Delhi.
2. H.L.Ahuja , Business Economics, Sultan Chand and Sons, New Delhi
3. Aryamala, Business Economics, Vijay Nicole Imprints Private Limited, Chennai

### **Reference Books:**

1. Lipsey, Richard, G.,1969, Introduction to Positive Economics, English Language Book Society and Weidenfeld and Nicolson, London.
2. K.K.Dewett, Modern Economic Theory, S.Chand& Company LTD, New Delhi
3. Samuelson, Paul Anthony and William D. Nordhaus, 1998, Economics, Ed.6, New Delhi: Tata McGraw Hill Publishing Company Ltd. New Delhi.
4. Hal R.Varian, Inter Mediate Micro Economics: A Modern Approach, W.W.Norton and Company, New York.
5. Gardner Ackley, Micro Economics, The Macmillan Co, New York.

### **Journals for Reference**

1. Journal of Applied Economics.
2. International Journal of the Economics of Business.

### **Websites for Reference**

<http://www.yahoo.com/socialscience/economics/infoseek-economics>  
[www.sciencedirect.com](http://www.sciencedirect.com)

<b>I-B.Com (Bank Management)</b>	<b>BUSINESS ECONOMICS</b>	<b>21AEBM11</b>
<b>SEMESTER – I</b>		<b>HRS/WK – 5</b>
<b>ALLIED-1</b>		<b>CREDIT –4</b>

## OBJECTIVE

1. To provide knowledge of basic concepts of Economics in Business

### COURSE OUTCOMES (CO's):

At the end of the Course the students will be able to exhibit the following;

**CO1:** Understands the Meaning, Definitions of Economics, Business Economics & their relationship

**CO2:** knowledge about Demand & Elasticity of Demand

**CO3:** understands the concept Demand Forecasting & methods to Forecast

**CO4:** Knowledge about factors of production features & Laws of production

**CO5:** understands Various Cost Concepts & Revenue Concepts.

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER-I	COURSE CODE: 21AEBM11				COURSE TITLE: BUSINESS ECONOMICS				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

### UNIT I: Business Economics: Introduction

**15 HOURS**

Business Economics-Meaning -Definition-Nature & Scope of Business Economics-Relationship of Business Economics and other Disciplines-Objectives of Business Firm-**Business Decision Making Process.**

**UNIT II: Demand Analysis & Elasticity of Demand****15 HOURS**

Demand –Meaning-Definition-Factors Influencing Demand –Law of Demand – Exception to the Law of Demand – **Elasticity of Demand** –Importance of Elasticity of Demand-Types of Elasticity of Demand.

**UNIT III: Demand Forecasting****15 HOURS**

Demand Forecasting -Meaning-Objectives of Demand Forecasting-Types of Forecasting-**Methods of Demand Forecasting**-Survey Method-Consumer Survey Method-Expert opinion method- Statistical Methods-Trend Projection-Criteria of a good forecasting Method-Forecasting Demand for New Products.

**UNIT IV: Theory of Production****15 HOURS**

Introduction-Factors of Production-Production Function –Importance of Production Function –The Cobb-Douglas Production Function – The Law of Variable Proportions – The Law of Returns to Scale.

**UNIT V: **Cost and Revenue******15 HOURS**

Cost concepts - Short Run Cost curves - Marginal Cost, Average Cost-Total Cost- Total Fixed Cost, and Total Variable Cost –Relationship between Average cost & Marginal Cost-U-Shaped Long Run Average Cost Curve-L-Shaped Long-run Average Cost Curve-Concept of Revenue-Average Revenue & Marginal Revenue.

**Text Books:**

1. H.L. Ahuja, Business Economics, Sultan Chand and Sons, New Delhi.
2. K. P. M. Sundaram, Business Economics, Sultan Chand and Sons, New Delhi
3. T. Aryamala, Business Economics, Vijay Nicole Imprints Private Limited, Chennai

**Reference Books:**

1. Lipsey, Richard, G.,1969, Introduction to Positive Economics, English Language Book Society and Weidenfeld and Nicolson, London.
2. K. K. Dewett, Modern Economic Theory, S.Chand & Company LTD, New Delhi
3. Samuelson, Paul Anthony and William D. Nordhaus, 1998, Economics, Ed.6, New Delhi: Tata McGraw Hill Publishing Company Ltd. New Delhi.
4. Halr.Varian,Inter Mediate Micro Economics: A Modern Approach , W.W.Norton and Company, New York.
5. Gardner Ackley, Micro Economics, The Macmillan Co, New York.

**Journals for Reference**

1. Journal of Applied Economics.
2. International Journal of the Economics of Business.

**Websites for Reference**

<http://www.yahoo.com/socialscience/economics/infoseek-economics>

[www.sciencedirect](http://www.sciencedirect.com)

<b>I-B.B.A(CA)</b>	<b>APPLICATION OF ECONOMICS IN BUSINESS</b>	<b>17ABE11</b>
<b>SEMESTER – I</b>		<b>HRS/WK – 5</b>
<b>ALLIED-1</b>		<b>CREDIT –4</b>

## OBJECTIVES

1. To equip the students with basic knowledge of Economics.
2. To acquaint the students with consumer behavior, cost concepts and production function and business cycle.

### Course Outcomes (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** Understands the definitions and Scope of Economics.

**CO2:** Analyzes the concepts of Demand, Supply & Elasticity of demand.

**CO3:** Acquires knowledge about all the Cost concepts and Revenue concepts.

**CO4:** Understands the Production function & Pricing in imperfect Competition

**CO5:** knowledge about the Business cycle and theories related to business cycle.

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER-I	COURSE CODE: 17ABE11				COURSE TITLE: APPLICATION OF ECONOMICS IN BUSINESS				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	5	5	5	5	5	5	5	5	5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	4	4	4	4	5	5	5	5	4.5	
Mean Overall Score									4.5	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

### UNIT I: Introduction to Economics

**15 HOURS**

Definitions of Economics –Scope –Positive and Normative Economics-Economics and Business Economics.

**UNIT II: Demand and Supply Analysis****15 HOURS**

**Law of Demand** –Factors Influencing Demand –Law of Supply –Factors determining Supply-**Elasticity of Demand** –Types-Price Elasticity –Income Elasticity–Cross Elasticity-Demand Forecasting-Meaning-Definition-Forecasting demand for new products.

**UNIT III: Cost and Revenue Analysis****15 HOURS**

Meaning of Cost –Cost Concepts-Short Run Cost curves- **Marginal Cost**, **Average Cost**, Total Cost, Fixed Cost, and Variable Cost –Opportunity Cost-Relationship between Average cost & Marginal Cost-Long Run Average Cost Curve. Concepts of Revenue-**Average Revenue**-**Marginal Revenue**

**UNIT IV: Production Analysis and Pricing policy****15 HOURS**

Production Function –Laws of Production–The Law of Returns to Scale-Economies and Diseconomies of Scale-Market Morphology-Introduction of **Types of market**- Pricing in imperfect competition.

**UNIT V: Business cycles****15 HOURS**

Meaning– Definition -Characteristics-**Phases of Business Cycle**- Theories of Business cycle-Schumpeter's Innovation Theory-Sun spot Theory-Control of business cycle.

**Text Books:**

1. K.P.M. Sundaram, Business Economics, Sultan Chand and Sons, New Delhi
2. H.L. Ahuja, Business Economics, Sultan Chand and Sons, New Delhi
3. T. Aryamala, Business Economics, Vijay Nicole Imprints Private Limited, Chennai.
4. Jothi Sivagnanam. K & Srinivasan R, Business Economics, Tata McGraw Hill Education Pvt. Ltd., Publication, New Delhi.
- 5.

**Reference Books:**

1. Lipsey, Richard, G., Introduction to Positive Economics, English Language Book Society and Weidenfeld and Nicolson, London.
2. Mannur, H.G.,1993, International Economics: Theory and Policy Issues, Vikas Publishing House Pvt. Ltd.,New Delhi.
3. Samuelson, Paul Anthony and William D. Nordhaus, 1998, Economics, Ed.6, New Delhi: Tata McGraw Hill Publishing Company Ltd. New Delhi.
4. Gardner Ackley, Micro Economics, The Macmillan Co, New York.

**Journals for Reference**

1. Journal of Applied Economics.
2. International Journal of the Economics of Business

**Websites for Reference**

<http://www.yahoo.com/socialscience/economics/infoseek-economic>

<b>I-B.A (History)</b>	<b>TAMIL NADU ECONOMY</b>	<b>21AEHI11</b>
<b>SEMESTER - I</b>		<b>HRS/WK – 5</b>
<b>ALLIED - 1</b>		<b>CREDIT – 4</b>

## OBJECTIVES

- 1.To understand the relevance of regional economics and
- 2.To understand the resources of Tamil Nadu

## COURSE OUTCOMES (CO's):

**At the end of the Course the students should be able to exhibit the following;**

**CO1:** acquires knowledge about the Natural resources in Tamil Nadu.

**CO2:** Understands the Human Resources & the Human development index.

**CO3:** gains knowledge of agricultural sector in Tamil Nadu.

**CO4:** Knowledge of the industrial sector in Tamil Nadu.

**CO5:** Understands the Service sector of Tamil Nadu.

**Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes**

SEMESTER-I	COURSE CODE: 21AEHI11				COURSE TITLE: Tamil Nadu Economy				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

## UNIT I: Introduction

**15 HOURS**

Introduction-Meaning of a Regional Economy – Geographical Features of Tamil Nadu – Natural Resources in Tamil Nadu; Land, Forest, Water and Minerals.



## **UNIT II: Human Capital**

**15 HOURS**

Human Capital-Meaning-Human Resources In Tamil Nadu-Size, Growth and Density of Population in Tamil Nadu –Analysis of the 2011 Census-The Occupation Pattern in Tamil Nadu – **Human Development Index**- Education, Health, and Nutrition, Water Supply, Housing And Slum Clearance Board –Trends in SDP & Per capita SDP.

## **UNIT III: Agricultural Sector**

**15 HOURS**

**Land use pattern**- – Cropping Pattern – Agricultural Inputs – Irrigation, Fertilizer – Agricultural Marketing-Regulated Markets-Uzhavar Sandhai-Agriculture Finance-Livestock.

## **UNIT IV: Industrial Sector**

**15 HOURS**

Industry: Growth of Industry – Changes in Industrial Structures – Major Industries: Cotton Textiles, Sugar, Cement, Automobiles, Leather and Electronics – Small and Cottage Industries – Light Engineering Industries.

## **UNIT V: Service Sector**

**15 HOURS**

Service Sectors in Tamil Nadu – **Transport-Communication**-Energy- **Banking**- **Information Technology**.

### **Text Books:**

1. A G Leonard S J. 2006. Tamil Nadu Economy, Macmillan India Limited, New Delhi.
2. Dr. N. Raja Lakshmi. 1999. Tamil Nadu Economy, Business Publication, Mumbai.
3. Perumalsamy, S. (1990), Economic Development of Tamil Nadu, S. Chand &Co. Ltd, New Delhi

### **Reference Books:**

1. Kurien, C.T and James Joseph, 1979, Economic change in Tamil Nadu; A Regionally and Functionally Disaggregated study, Allied Publishers Pvt Ltd., New Delhi.
2. Government of Tamil Nadu, Tamil Nadu, an Economic Appraisal, Evaluation and Applied Research Department, Chennai, Various Issues.
3. Madras Institute of Development studies, 1988, Tamil Nadu Economy Performance and Issues, Oxford and IBH Publishing Co., New Delhi.
4. Tamil Nadu Economic Appreciation.

<b>I-B.Com</b>	<b>BUSINESS ECONOMICS - II</b>	<b>21AECM22</b>
<b>SEMESTER - II</b>		<b>HRS/WK – 5</b>
<b>ALLIED-2</b>		<b>CREDIT –3</b>

## OBJECTIVE

1. To provide knowledge on Applications of Economic concepts in Business

### COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following

**CO1:** Understands the Market structure, Output & Price determination in Perfect Competitions & Role of Time in a Perfect market.

**CO2:** Understands different Imperfect Market competitions, Output & Price determination in Imperfect Competitions.

**CO3:** Get knowledge about Marginal productivity theory in Factor pricing.

**CO4:** Knowledge about how Interest & profit is determined.

**CO5:** Understands the importance of Capital Budgeting

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER-II	COURSE CODE: 21AECM22				COURSE TITLE: BUSINESS ECONOMICS - II				HOURS:5	CREDITS:3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	5	5	5	5	5	5	5	5	5	
CO2	4	4	4	4	5	5	5	5	4.5	
CO3	5	5	5	5	5	5	5	5	5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	4	4	4	4	4	4	4	4	4	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

### UNIT I: Market Structure: Pricing under Perfect Competition

**15 HOURS**

Meaning of Market- Classification of **market Structure**- Perfect Competition-Features-Price determination **under Perfect Competition**-Short Run & Long Run Equilibrium of the Firm and Industry –Time Element in price determination.

**UNIT II: Market Structure: Pricing under Imperfect Competition** **15 HOURS**

Monopoly-Features-Price Discrimination-Monopolistic Competition-Features – Price & Output determination under Monopolistic Competition- Selling Cost –Wastages of Monopolistic Competition-Oligopoly – Sweezy Model – Collusion and Price Leadership-Duopoly- Cournot Model.

**UNIT III: Theory of Factor Pricing-1** **15 HOURS**

Marginal Productivity Theory of Distribution- Theories of Rent-Ricardian Theory, Modern Theory and Quasi Rent -Theories of Wages- Iron Law of Wages, Wage Fund Theory.

**UNIT IV: Theory of Factor Pricing-** **15 HOURS**

Theories of Interest: Loanable Fund Theory, Liquidity Preference Theory-Theories of Profit: Dynamic Theory, Uncertainty Theory and Innovation Theory.

**UNIT V: Capital Budgeting** **15 HOURS**

**Capital Budgeting**-Meaning-Definition-Features of Capital Budgeting-Need for Capital Budgeting -Importance of Capital Budgeting –Forms of Capital Budgeting -Nature of Capital Budgeting Problem-Demand for Capital-Supply of Capital-Capital Rationing.

**Text Books:**

1. K.P.M. Sundaram, Business Economics, Sultan Chand and Sons, New Delhi.
2. H.L. Ahuja, Business Economics, Sultan Chand and Sons, New Delhi
3. T. Aryamala, Business Economics, Vijay Nicole Imprints Private Limited, Chennai

**Reference Books:**

1. Lipsey, Richard, G.,1969, Introduction to Positive Economics, English Language Book Society and Weidenfeld and Nicolson, London.
2. K.K.Dewett, Modern Economic Theory, S.Chand& Company LTD, New Delhi
3. Samuelson, Paul Anthony and William D. Nordhaus, 1998, Economics, Ed.6, New Delhi: Tata McGraw Hill Publishing Company Ltd. New Delhi.
4. Gardner Ackley, Micro Economics, The Macmillan Co, New York.

**Journals for Reference**

1. Journal of Applied Economics.
2. International Journal of the Economics of Business.

**Websites for Reference**

<http://www.yahoo.com/socialscience/economics/infoseek-economics>  
[www.sciencedirect.com](http://www.sciencedirect.com);

<b>I-B.Com (Bank Management)</b>	<b>MONETARY ECONOMICS</b>	<b>19AEBM22</b>
<b>SEMESTER – II</b>		<b>HRS/WK – 5</b>
<b>ALLIED-2</b>		<b>CREDIT –4</b>

## OBJECTIVES

1. To give basic and clear understanding of Indian monetary system.
2. To know the relevance of Inflation & Monetary Policy.

## COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** Understands the definitions & Functions of Money.

**CO2:** Analyzes the concept of value of money with the help of various theories **CO3:** Understands the classical & Keynesian view of Demand & Supply money.

**CO4:** Understands the concept of Inflation, & Measures to control inflation.

**CO5:** Understands the Monetary policy & role of Central bank.

## Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER-II	COURSE CODE: 19AEBM22				COURSE TITLE: Monetary Economics				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	5	5	5	5	4.5	
CO2	5	5	5	5	5	5	5	5	5	
CO3	5	5	5	5	5	5	5	5	5	
CO4	4	4	4	4	5	5	5	5	4.5	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.9</b>	

**Result:** The score of this course is 4.9 (Very High)

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

## UNIT I: Introduction

**15 HOURS**

Barter system and its Defects-Evolution of Money-Definition of Money-Kinds of Money-Functions of Money-Primary Functions of Money-Secondary Functions of Money-Contingent Functions –Static & Dynamic Functions of Money- Defects of Money-Significance of Money.

## **UNIT II: Value of Money**

**15 HOUR**

Concept of the value of Money- Quantity Theory of Money – Fisher’s Transaction Approach – Assumption of Equation of Exchange- Criticism of Quantity Theory and Fishers Equation- Cambridge Cash Balance Approach and its criticism- Index Numbers- How to prepare an Index Number- Uses and Limitation of Index Numbers.

## **UNIT III: Demand and Supply of Money**

**15 HOURS**

The Demand for Money-Classical view of Demand for Money-Keynesian view of Demand for Money -The supply of Money-Money supply & Economic activity—Creation of Money-Bank as a Creator of Money-Central Bank as creator of Money-**The Government as Creator of Money-Neutrality of Money**-Velocity of circulation of Money.

Meaning & Definition – Characteristics of Inflation-**Types of Inflation**-Causes of Inflation-Demand Pull Inflation-Cost Push Inflation-Demand Shift Inflation-Inflationary Gap-Effects of Inflation-Anti-Inflationary Measures.

## **UNIT IV: Inflation**

**15 HOURS**

Meaning & Definition – Characteristics of Inflation-Types of Inflation-Causes of Inflation-Demand Pull Inflation-Cost Push Inflation-Demand Shift Inflation-Inflationary Gap-Effects of Inflation-Anti-Inflationary Measures.

## **UNIT V: Monetary Policy**

**15 HOURS**

Meaning and Definition – Objectives of Monetary policy – **Role of Monetary policy in Indian Economic Development**- Central bank and Instrument of monetary policy - limitation of Monetary policy.

### **Text Books:**

1. R.Cauvery, N.Kruparani U.K.SudhaNayak, A.Manimekalai, Monetary Economics, Sultan Chand & Company LTD, Ram Nagar New Delhi.
2. S.Sankaran, Monetary Economics ,Margham Publication, Chennai

### **Reference Books:**

1. K.K.Dewett, Modern Economic Theory, S.Chand& Company LTD, New Delhi.
2. M.L.Jhingan, Monetary Economics, Sultan Chand & Company LTD, Ram Nagar New Delhi .
3. T.T.Sethi, Monetary Economics, Sultan Chand & Company, New Delhi .
4. Suraj,B.Gupta, Monetary Economics, Sultan Chand& Company, New Delhi.

### **Journals for Reference**

1. [journal of monetary economics paper](#) .
2. [journal of money credit and banking](#)

### **Websites for Reference**

<http://www.yahoo.com/socialscience/economics/infoseek-economy>

<b>I-B.A (History)</b>	<b>INDIAN ECONOMIC POLICY</b>	<b>21AEHI22</b>
<b>SEMESTER - II</b>		<b>HRS/WK – 5</b>
<b>ALLIED - 2</b>		<b>CREDIT - 4</b>

### OBJECTIVE

1.To understand the role of Economic System, Agriculture, Industry, Infrastructure, Energy & policies in India.

### COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** acquires knowledge of the Economic System of India.

**CO2:** knowledge of Present situation of Indian Agriculture

**CO3:** gains knowledge of industrial sector before and after globalization.

**CO4:** gains knowledge of infrastructure in India.

**CO5:** understands the Energy classification, sources & measures to conserve Energy.

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER-2										
COURSE OUTCOMES										
	COURSE CODE: 21AEHI22				COURSE TITLE: Indian Economic Policy				HOURS:5	CREDITS:4
	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

**Result:** The score of this course is 4.5 (Very High)

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

**UNIT I: Economic System in India****15 HOURS**

Capitalism-Socialism-Mixed Economy-Policy of Mixed economy and its relevance to India- Emergence of capitalism-**NITI Aayog**

**UNIT II: Agriculture****15 HOURS**

Role of Agriculture in Indian Economic Development-Second Phase of Green Revolution – Role & significance of Irrigation - Agricultural Subsidy -Agricultural Output and Pricing Policies in India- **Food Security-Government programs for food security**

**UNIT III: Industry****15 HOURS**

Role of Industries in Indian Economic Development-Small Vs Large Scale Industries - Reasons for Industrial Sickness in India –Suggestions for Industrial Development -Industrial Policy of Government of India 1956, 1991-Globalization and Industrial Growth.

**UNIT IV: Infrastructure****15 HOURS**

Infrastructure–Meaning-Infrastructure & Economic Development–Transport –Railways-Roadways-Waterways-Airways-PipeLine-**Communication**-Health-Education.

**UNIT V: Energy****15 HOURS**

Energy –Meaning-Classification Of Energy-Sources of Energy-Importance of Energy-Energy crisis in India- Measures to conserve Energy.

**Text Books:**

1. Datt, Ruddar and KPM Sundharam, Indian Economy, S.Chand and Co.Pvt. Ltd , New Delhi.
2. Dhingra, I C, Indian Economy, New Delhi, Sultan (Recent edition)

**Reference Books:**

1. Agarwal, A.N., Indian Economy: Problems of Development and Planning, WishwaPrakashan, New Delhi.
2. Uma Kapila, Indian Economy since Independence, Academic Foundation 2002.
3. Sen, Raj Kumar and Chatterjee, Biswaajit, India Economy: Agenda for the 21<sup>st</sup> century, Deep and Deep Publications 2002
4. Bhagwati, Jagdish N. and Padma Desai, Planning for Industrialization, Oxford University Press, London (Recent edition)
5. Francis Cherunilam, Industrial Economics: Indian Perspective, Himalaya Publishing House, Mumbai (Recent edition)
6. Kuchhal, S.C., The Industrial Economy of India, Chaitanya Publishing House, Allahabad (Recent edition)

<b>II-B. Com (Bank Management)</b>	<b>INDIAN ECONOMY</b>	<b>AEBM303</b>
<b>SEMESTER –III</b>		<b>HRS/WK – 5</b>
<b>ALLIED -3</b>		<b>CREDIT –4</b>

### OBJECTIVES

1. To help the students understand the nature of economy that India is.
2. To have an all-around information about the varied sectors of the Indian Economy.

### COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** knowledge about the developing nations and its obstacles of economic development.

**CO2:** understands national income concepts, computation of the National income & constraints faced while calculating the National Income.

**CO3:** knowledge of various problems of Indian economy and measures to solve the problems.

**CO4:** understands the role of industries in the development of the nation.

**CO5:** acquire knowledge of infrastructure development in the country.

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcome.

SEMESTER - III	COURSE CODE: AEBM303				COURSE TITLE: Indian Economy				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.



**UNIT I: Introduction****15 HOURS**

Economic Growth and Economic Development-Concept and Difference –Features of a Developing Economy – Determinants of Development and Growth-Obstacles to Economic Development.

**UNIT II: National Income****15 HOURS**

**National Income- Concepts**-Estimates of National Income – Methods of Calculating National Income – Difficulties in the Calculation of National Income – Causes for Slow Growth of National Income – Structural Changes in Indian Economy as Seen in the National Income Data.

**UNIT III: Problems of the Indian Economy****15 HOURS**

Major Problems of the Indian Economy: Poverty - Inequality –Unemployment –Present status of Indian agriculture-**Food Self-sufficiency** and Food Security in India - Measures to Reduce Poverty –**Employment Generation Schemes.**

**UNIT IV: Industrial Sector****15 HOURS**

Industrialization -Role-Pattern-Effects of Industrialization-Large Scale Industries-Iron and Steel Industry-Cotton Industry-Sugar Industry-Cement industry-Petro chemical Industry-Automobile Industry-Growth of IT industry in India-Role of Small Scale industries in India-**SIPCOT-TIDCO-SIDCO-TIIC-DIC.**

**UNIT V: Infrastructure for Economic Development****15 HOURS**

Infrastructure –Concept-Recent measures to develop Infrastructure-Energy-  
-Classification of Energy-Communication- Health-Education.

**Text Books:**

1. I.C. Dingra , Indian Economy, Sultan Chand and Sons, New Delhi.
2. RuddarDutt and K.P. M. Sundharam, Indian Economy, S. Chand and Co.Pvt. Ltd (Recent edition), New Delhi.

**Reference Books:**

1. A. N. Agarwal, IndianEconomy: Problems of Development and Planning, Wishwaprakashan, New Delhi.
2. S.K.Misra and V.K. Puri, Indian Economy: Its Development Experience, Himalaya Publishing House, Mumbai.
3. S.Sankaran, Indian Economy, Margham publication, Chennai

<b>II-B.A (HISTORY)</b>	<b>INDIAN MACRO ECONOMIC ENVIRONMENT</b>	<b>21AEHI33</b>
<b>SEMESTER – III</b>		<b>HRS/WK – 6</b>
<b>ALLIED-3</b>		<b>CREDIT –5</b>

### OBJECTIVES

1. To impart the students with the basic principles and concepts of the Indian Environment.
2. To provide knowledge on socially relevant environment.

### COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** Understand the concepts of Economic Growth and Development.

**CO2:** acquires awareness about the population and its effects on India.

**CO3:** understands the concept unemployment, poverty & Employment programs to remove poverty.

**CO4:** gains knowledge of Monetary Policy in India.

**CO5:** understands the Fiscal Policy of India.

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes.

SEMESTER-III	COURSE CODE: 21AEHI33				COURSE TITLE: Indian Macro Economic Environment				HOURS:6	CREDITS:5
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	4	4	4	4	5	5	5	5	4.5	
CO3	4	4	4	4	4	4	4	4	4	
CO4	5	5	5	5	5	5	5	5	5	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

**UNIT I: Economic Growth and Economic Development** **18 HOURS**

Meaning and Measurement of Economic Growth – Growth Vs. Development – Indicators of Growth – Determinants of Economic Development – Economic Growth in India – The Twelfth Five Year Plan.

**UNIT II: Demographic profile of India** **18 HOURS**

Malthusian theory of population-The Demographic Theory of Transition – Demographic Trends in India-Causes for Growth of Population in India & its Effect on Economic Development –Demographic Profile of India 2011-National Population Policy 2000.

**UNIT III: Unemployment and Poverty** **18 HOURS**

Unemployment – Meaning & Definition- Types of Unemployment – Causes of Unemployment – Extent of unemployment in India – Poverty-Absolute Poverty-Relative poverty- Causes of Poverty –Government Programs for Poverty alleviation.

**UNIT IV: Monetary Policy** **18 HOURS**

Monetary Policy: Meaning and Objective of Monetary Policy – Instrument of Monetary Policy – Monetary Policy in India.

**UNIT V: Fiscal Policy** **18 HOURS**

Fiscal Policy: Meaning of Fiscal Policy – Objectives of Fiscal Policy – Tools of Fiscal Policy – Fiscal Policy in India – Public Revenue in India – Tax Revenue – Tax Structure in India – Tax Reforms in India-Non Tax Revenue.

**Text Books:**

1. RuddarDutt&Sundharam P, 2000, Indian Economy, Sultan Chand & Sons, New Delhi.
2. Diwedi DN,2002, Indian Economy, Vikas Publishing House (P) Ltd, New Delhi.

**Reference Books:**

1. M.L. Jinghan, 2000, Development Economics, Sultan Chand and Sons, New Delhi.
2. Francis Cherunilam, Indian Economy, Himalaya Publishing House, New Delhi.

<b>II-B. Com</b>	<b>INDIAN ECONOMY</b>	<b>AECM403S</b>
<b>SEMESTER –IV</b>		<b>HRS/WK – 5</b>
<b>ALLIED -3</b>		<b>CREDIT –4</b>

### OBJECTIVES

1. To help the students understand the nature of economy that India is.
2. To have an all-around information about the varied sectors of the Indian Economy.

### COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** knowledge about the developing nations and its obstacles of economic development.

**CO2:** understands national income concepts, computation of the National income & constraints faced while calculating the National Income.

**CO3:** knowledge of various problems of Indian economy and measures to solve the problems.

**CO4:** understands the role of industries in the development of the nation.

**CO5:** acquire knowledge of infrastructure development in the country.

**Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes...**

SEMESTER- IV	COURSE CODE: AECM403S				COURSE TITLE: Indian Economy				HOURS:5	CREDIT S:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome.

**UNIT I: Introduction****15 HOURS**

Economic Growth and Economic Development –Concept and Difference -Features of a Developing Economy – Determinants of Development and Growth-Obstacles to Economic Development.

**UNIT II: National Income****15 HOURS**

**National Income- Concepts**-Estimates of National Income – Methods of Calculating National Income – Difficulties in the Calculation of National Income – Causes for Slow Growth of National Income – Structural Changes in Indian Economy as Seen in the National Income Data.

**UNIT III: Problems of the Indian Economy****15 HOURS**

Major Problems of the Indian Economy: Poverty - Inequality –Unemployment –Present status of Indian agriculture-**Food Self-sufficiency** and Food Security in India - Measures to Reduce Poverty –**Employment Generation Schemes.**

**UNIT IV: Industrial Sector****15 HOURS**

Industrialization -Role-Pattern-Effects of Industrialization-Large Scale Industries-Iron and Steel Industry-Cotton Industry-Sugar Industry-Cement industry-Petro chemical Industry-Automobile Industry-Growth of IT industry in India-Role of Small Scale industries in India-**SIPCOT-TIDCO-SIDCO-TIIC-DIC.**

**UNIT V: Infrastructure for Economic Development****15 HOURS**

Infrastructure –Concept-Recent measures to develop Infrastructure-Energy-  
-Classification of Energy-Communication- Health-Education.

**Text Books:**

3. I.C. Dingra , Indian Economy, Sultan Chand and Sons, New Delhi.
4. RuddarDutt and K.P. M. Sundharam , Indian Economy, S. Chand and Co.Pvt. Ltd (Recent edition), New Delhi.

**Reference Books:**

4. A. N. Agarwal, Indian Economy: Problems of Development and Planning, Wishwaprakashan, New Delhi.
5. S.K.Misra and V.K. Puri, Indian Economy: Its Development Experience, Himalaya Publishing House, Mumbai.
6. S.Sankaran, Indian Economy, Margham publication, Chennai.

<b>II-B.A (HISTORY)</b>	<b>INTERNATIONAL ECONOMICS</b>	<b>22AEHI44</b>
<b>SEMESTER – IV</b>		<b>HRS/WK – 6</b>
<b>ALLIED-4</b>		<b>CREDIT –5</b>

## OBJECTIVES

1. To provide knowledge on the present international environment.
2. To impart the knowledge of World Trade Organization and International Financial organizations.

## COURSE OUTCOMES (CO's):

**At the end of the Course the students should be able to exhibit the following;**

**CO1:** Knowledge about International Trade.

**CO2:** Understands India's Balance of Payment & Balance of trade,

**CO3:** Knowledge about Globalization merits & demerits of Globalization.

**CO4:** Understands World Trade Organization, TRIPS and TRIMS.

**CO5:** gains Knowledge about International Financial organizations.

**Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes.**

SEMESTER-IV	COURSE CODE: 22AEHI44				COURSE TITLE: International Economics				HOURS:6	CREDITS:5
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome

**UNIT I: International Trade****18 HOURS**

International Trade- Meaning- Importance of International Trade in Economic Development- Terms of Trade – Causes of unfavorable Terms of trade for Developing Countries- Composition of India's Foreign Trade – Pattern of Imports — **Pattern of Exports** – Direction of Foreign Trade.

**UNIT II: Balance of Trade and Balance of Payment****18 HOURS**

Balance of Trade and Balance of Payment – Meaning –Components of BOP-Trends in Balance of Payments in India after 1991– Measures to overcome unfavorable BOP- **Foreign Trade Policy** 2015-2020– Make in India Scheme and its implications.

**UNIT III: India and the World Economy****18 HOURS**

Meaning of Globalization – Merits and Demerits of Globalization –Effect of Globalization on Indian Economy.

**UNIT IV: World Trade Organization****18 HOURS**

Historical growth of WTO – Structure of WTO – Objectives of WTO – Functions of WTO – WTO and India-Meaning and Importance of **TRIPS** and **TRIMS**-Implications of TRIPS and TRIMS on India.

**UNIT V: International Financial Organizations****18 HOURS**

**International Monetary Fund**-Functions – Operations of the IMF – Special Drawing Rights – World Bank- Objectives – Functions – Asian Development Bank- Objectives – functions – BRICS- Objectives – Functions.

**Text Books:**

1. Dominic Salvatore, 2008 Ed, International Economics, ESS PEE KAY Publishing House.
2. M.L.Jhingan, 2016, International Economics, Vrindha publication (P) Ltd, Delhi.

**Reference Books:**

1. K. C.Rana, K.N.Verma, International Economics, Vishal Publishing House, New Delhi.
2. Sundaram KPM&Sundaram EN, 2000, Business Economics, Sultan Chand and Sons, New Delhi.
3. Cherunilam, Francis, Business Environment, Himalaya Publishing House, New Delhi.
4. S. Sankaran, Indian Economy, Margham Publication, Chennai.

<b>I-M.Com</b>	<b>MANAGERIAL ECONOMICS</b>	<b>EPCM705A</b>
<b>SEMESTER - I</b>		<b>HRS/WK – 6</b>
<b>Elective-1</b>		<b>CREDIT –4</b>

## OBJECTIVE

1. To introduce the concepts in Economics & Circular Economy which focuses on increasing productivity in terms of more efficient utilization of resources required for Managers.

### COURSE OUTCOMES (CO's):

At the end of the Course the students should be able to exhibit the following;

**CO1:** Understands the Meaning, Definitions, Features, Scope of Managerial Economics, and understand the role of Managerial Economist towards society

**CO2:** knowledge about the fundamental concepts which help Managerial Economist in Decision making process.

**CO3:** Understands different pricing methods, cost functions, Revenue functions, Break even analysis.

**CO4:** Knowledge of different methods of appraising profitability

**CO5:** Understands meaning & difference between linear economy and circular economy & importance of Circular economy for managerial Economist

### Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes.

SEMESTER-I	COURSE CODE: EPCM705A				COURSE TITLE: Managerial Economics				HOURS:6	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	5	5	5	5	5	5	5	5	5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	4	4	4	4	5	5	5	5	4.5	
<b>Mean Overall Score</b>									<b>4.5</b>	

**Result: The score of this course is 4.5 (Very High)**

Association	1 %-20 %	21 %-40 %	41 %-60 %	61 %-80 %	81 %-100 %
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome



**UNIT I: Managerial Economics - Introduction** **18 HOURS**

Managerial Economics-Meaning-Definition-Features-Scope of Managerial Economics –Role of Managerial Economist - Objectives of a Firm- **Social Responsibility of Business.**

**UNIT II: Fundamental Concepts that Aid Decision Making** **18 HOURS**

Production Possibility Frontiers-Accounting profit and Economic Profit-Opportunity-Cost Principle- Incrementalism and Marginalism-Time Perspective-Discounting Principle- Equi-Marginal Principle-Concept of Efficiency-Types of Efficiency-Case Study Method- Decision making process.

**UNIT III: Pricing Practices** **18 HOURS**

Cost oriented Pricing – Competition oriented Pricing -**Pricing a New product**- Peak-load pricing-**International price discrimination and dumping** - Cost Function – Revenue Function – Break-Even Analysis –Determination of **Break-Even point** –Uses and Limitations of Break-Even Analysis

**UNIT IV: Project Profitability** **18 HOURS**

Traditional Methods of Appraising Profitability-Pay Back Method-Rate of Return- Time Adjusted Methods -Discounted Cash Flow Method- Net Present Value -Internal Rate of Return-Profitability Index.

**UNIT V: Managerial practices-A shift from Linear Economy to Circular** **18 HOURS**

Linear Economy – Meaning – Disadvantages - Circular Economy-Meaning-Need-Benefits-Principles-Reasons for Global Attention-Application of Circularity-Limitations of Circular Economy- Circular Economy & Business decisions in India

**Text Books:**

1. R. L. Varshney & K. L. Maheshwari, Managerial Economics, Sultan Chand and Sons, New Delhi.
  2. P. L. Mehta, Managerial Economics, S Chand and Co ltd, New Delhi.
- Reference Books:**
1. Dominick Salvatore, Managerial Economics, Schaum's outline series, McGraw-Hill Book company New Delhi.
  2. H. L. Ahuja, Managerial Economics, S Chand and Co ltd, New Delhi.
  3. **T. Arymala**, Managerial Economics, Vijay Nicole Imprints Private limited, Chennai.

Websites for Reference:

<https://www.civildaily.com/rstv-archive-circular-economy-concept-challenges/>

[https://en.wikipedia.org/wiki/Circular\\_economy](https://en.wikipedia.org/wiki/Circular_economy)

<b>YEAR – I</b>	<b>ALLIED STATISTICS – I</b>	<b>18SMT101</b>
<b>SEMESTER – I</b>		<b>HRS/WEEK – 6</b>
<b>ALLIED</b>		<b>CREDITS – 4</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand the Definition, Uses, Merits and demerits, relationship of Location, Dispersion, Skewness and Kurtosis
- CO2: Understand the concept of Probability and its related theorem
- CO3: Know the concept of random variables and its use in various density functions
- CO4: Understand the concept of Mathematical Expectation its properties and Chebychev's inequality
- CO5: Understand the concept of Correlation and Regression and its uses in various fields.

SEMESTER- I	COURSE CODE: 18SMT101				TITLE OF THE PAPER: ALLIED STATISTICS – I				HOURS:6	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Measures of Central tendency: Arithmetic Mean, Median, Mode, Harmonic Mean and Geometric Mean. Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation. Measures of Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness and Kelly's coefficient of Skewness. Kurtosis.

**UNIT – II**

Probability: Basic definitions – Axiomatic approach to Probability – Basic theorems on Probability – Addition theorem on probability and related problems Conditional probability – Multiplication theorem of probability and related problems – Independent events – Pair wise independent events (definition only) – Baye's theorem and related problems.

**UNIT – III**

Random Variable – Distribution function and their properties - Discrete random Variable – Probability mass function and simple problems - Continuous random variable – Probability density function and simple problems – Two dimensional random variables – Joint probability mass function, Joint probability density function and simple problems.

**UNIT – IV**

Mathematical Expectations: Properties of Expectations – Variance, Covariance and their properties. Moment generating function – Characteristics function - Cumulates – Chebychev's inequality (only theorem)

**UNIT – V**

Correlation: Scatter diagram, Karl Pearson's Coefficient of correlation, Spearman's rank correlation - Partial and Multiple correlations (3 variables only). Regression analysis: Simple regression equations.

**Text Books:**

1. "Fundamentals of Mathematical Statistics" (11<sup>th</sup> edition – 2002), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.
2. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.

**Reference Books:**

1. "Mathematical Statistics" (1<sup>st</sup> edition – 2002), Vittal. P. R., Margham Publications, Chennai-17.
2. "Introduction to Probability and Statistics" (2<sup>nd</sup> edition – 1939), Vijay Rohatgi. K. and Ehsanes Saleh. A. K., John Wiley & Sons, Inc., New York.
3. "Introduction to Theory of Statistics" (3<sup>rd</sup> edition - 2001), Alexander M. Mood, Franklin A. Graybill and Duance C Boes, Tata McGraw Hill Publishing Company Ltd., New Delhi.
4. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.

<b>YEAR – I</b>	<b>ALLIED STATISTICS – II</b>	<b>18SMT202</b>
<b>SEMESTER – II</b>		<b>HRS/WEEK – 4</b>
<b>ALLIED</b>		<b>CREDITS – 2</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand the Discrete distribution & definition, derivation of Mean and variance for each distribution and its moment generating functions.
- CO2: Understand the Continuous distribution and definition, derivation of Mean and variance for each distribution, concept of sampling distribution and its relationship.
- CO3: Know the concept of tests of significance (small sample) test and how to apply in real life situation.
- CO4: Understand the concept of large sample test and its proportion, mean and Standard deviation of correlation coefficients.
- CO5: Understand the concept of Analysis of variance and its uses, whereas learn how to classify and analyze the problems in various fields.

SEMESTER-I	COURSE CODE: 18SMT202				TITLE OF THE PAPER: ALLIED STATISTICS – II				HOURS:4	CREDITS:2
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Discrete distributions: Binomial distribution, Poisson distribution and Geometric distribution – Derivations of mean, variance and moment generation functions.

**UNIT – II**

Continuous distributions: Uniform (mean, variance and m. g. f.), Exponential (mean, variance and m. g. f.) and Normal distributions (m. g. f., characteristics and area problems). Sampling distributions: Student's t, F and  $\chi^2$  distributions (derivations only) and their relationships.

**UNIT – III**

Tests of Significance (small samples) based on t and F distributions with respect to mean, variance and correlation coefficient. Chi-Square distribution: Test for independence of attributes.

**UNIT – IV**

Tests of significance (large samples) – Proportion, Mean, Standard deviation and Correlation Coefficient.

**UNIT – V**

Analysis of Variance: One way and Two way classifications. Design of experiments: CRD, RBD and LSD.

**Text Books:**

1. "Fundamentals of Mathematical Statistics" (11<sup>th</sup> edition – 2002), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.
2. "Fundamentals of Applied Statistics" (2<sup>nd</sup> edition – 1978), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.

**Reference Books:**

1. "Mathematical Statistics" (1<sup>st</sup> edition – 2002), Vittal. P. R., Margham Publications, Chennai - 17
2. "Introduction to Probability and Statistics" (2<sup>nd</sup> edition – 1939), Vijay Rohatgi. K. and Ehsanes Saleh. A. K., John Wiley & Sons, Inc., New York.
3. "Introduction to Theory of Statistics" (3<sup>rd</sup> edition - 2001), Alexander M. Mood, Franklin A. Graybill and Duane C Boes, Tata McGraw Hill Publishing Company Ltd., New Delhi.
4. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.

<b>YEAR – I</b>	<b>ALLIED STATISTICS PRACTICAL</b>	<b>18SMP201</b>
<b>SEMESTER – I &amp; II</b>		<b>HRS/WEEK – 2</b>
<b>ALLIED</b>		<b>CREDITS – 2</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand how to solve measures of Location, Dispersion, Skewness and Kurtosis problems.
- CO2: Understand how to solve Karl Pearson's coefficients of correlation, Rank correlation and two regression equations.
- CO3: Set up the hypothesis for small sample test problems and goodness of fit.
- CO4: Set up the hypothesis for large sample test problems and its mean, proportions.
- CO5: Solve and analyze ANOVA for One way classifications, Two way classifications CRD, RBD and LSD.

SEMESTER-I	COURSE CODE: 18SMP201				TITLE OF THE PAPER: ALLIED STATISTICS PRACTICAL				HOURS:2	CREDITS:2
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Measures of Central tendency: Arithmetic Mean, Median, Mode, Harmonic Mean and Geometric Mean. Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation. Measures of Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness and Kelly's coefficient of Skewness. Kurtosis.

**UNIT – II**

**Correlation:** Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation.

**Regression analysis:** Simple regression equations.

**UNIT – III**

Tests of Significance (Small samples) based on  $F$  and  $\chi^2$  distributions with respect to Mean and Variance. Test for independence of attributes. Fitting of Binomial, Poisson and Normal distributions (area method only) and test for goodness of fit.

**UNIT – IV**

Tests of significance (large samples) based on Mean and Proportions.

**UNIT – V**

Analysis of Variance: One way and two way classifications. Design of experiments: CRD, RBD and LSD.

**Text Books:**

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.
2. "Fundamentals of Applied Statistics" (2<sup>nd</sup> edition – 1978), Gupta. S. C. and Kapoor. V.K., Sultan Chand & Sons, New Delhi.

**Reference Books:**

1. "Mathematical Statistics" (1<sup>st</sup> edition– 2002) Vittal. P. R., Margham Publications, Chennai - 17
2. "Introduction to Probability and Statistics" (2<sup>nd</sup> edition – 1939), Vijay Rohatgi. K. and Ehsanes Saleh. A.K., John Wiley & Sons, Inc., New York.
3. "Introduction to Theory of Statistics" (3<sup>rd</sup> edition - 2001), Alexander M. Mood, Franklin A. Graybill and Duance C Boes, Tata McGraw Hill Publishing Company Ltd., New Delhi.
4. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M.K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.

**Question Paper Pattern****Time: 3 hours****Marks: 60****Part – A: (3 x 20 = 60 marks)**

Answer any **Three** questions out of Five questions (with open choice)

<b>YEAR – II</b>	<b>STATISTICAL METHODS FOR COMPUTER APPLICATIONS –I</b>	<b>19ASCS31</b>
<b>SEMESTER–III</b>		<b>HRS/WEEK – 8</b>
<b>ALLIED</b>		<b>CREDITS – 6</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand the Scope and limitation of Statistical methods, diagrammatic and graphical representation of data, Merits and demerits.
- CO2: Understand the concept of measures of Location, Dispersion, Absolute and relative measures.
- CO3: Know the concept of measures of skewness and learn how to measure the samples by the following methods Karl Pearson's, Bowley's, Kelly's coefficient of Skewness and kurtosis.
- CO4: Understand the concept of Probability and its related theorem
- CO5: Know the concept of random variables and its use in various density functions understand the concept of Mathematical Expectation its properties and Chebychev's inequality.

SEMESTER-III	COURSE CODE: 19ASCS31				TITLE OF THE PAPER: STATISTICAL METHODS FOR COMPUTER APPLICATIONS – I				HOURS:8	CREDITS:6
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High



### UNIT – I

Introduction – Scope and limitations of Statistical methods – Classification of data – Tabulation of data – Diagrammatic and Graphical representation of data – Graphical determination of Percentiles and Quartiles.

### UNIT – II

Measures of Central tendency: Arithmetic Mean, Median, Mode, Harmonic Mean and Geometric Mean. Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation.

### UNIT – III

Measures of Skewness: Karl Pearson's, Bowley's, Kelly's Coefficient of Skewness. Kurtosis based on Moments.

### UNIT – IV

Sample Space – events – definition of Probability, Addition and Multiplications theorems – simple problems. Conditional probability – Baye's theorem (proof only).

### UNIT –V

Concept of Random Variable – Probability mass function, Probability density function and Distribution function. Mathematical Expectation: Properties of expectations, Chebychev's inequality (only theorem).

#### Text Books:

1. "Fundamentals of Mathematical Statistics" (11<sup>th</sup> edition – 2002), Gupta. S.C. and Kapoor. V.K., Sultan Chand & Sons, New Delhi.
2. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S.P., Sultan Chand & Sons, New Delhi.

#### Reference Books:

1. "Statistics (Theory and Practice)" (3<sup>rd</sup> edition - 1993), Pillai. R. S. N. and Bagavathi. V. Sultan Chand & Sons, New Delhi.
2. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
3. "Mathematical Statistics" (1<sup>st</sup> edition – 2002), Vittal. P. R., Margham Publications, Chennai – 17.

<b>YEAR – II</b>	<b>STATISTICAL METHODS FOR COMPUTER APPLICATIONS – II</b>	<b>19ASCS42</b>
<b>SEMESTER – IV</b>		<b>HRS/WEEK – 8</b>
<b>ALLIED</b>		<b>CREDITS – 6</b>

**OBJECTIVE:**

To motivate the students to understand the theoretical concepts in statistics and make them to apply the concepts in their respective major subjects.

**Course Outcomes:**

At the end of the Course the students will be able to

- CO1: Understand the concept of Correlation and Regression and its uses in various fields
- CO2: Understand the definition of Binomial, Poisson and Normal distributions and derivation of Mean and variance for each distribution.
- CO3: Know the concept of tests of significance (small sample) test. Understand the concept of large sample test and its proportion, mean and Standard deviation of correlation coefficients.
- CO4: Understand the concept of Analysis of variance, basic principles of design of experiments and problems related to CRD, RBD and LSD.
- CO5: Understand the diagrammatic representation of data, average, median, mode, STDEV, VAR, skewness and kurtosis functions using MS- Excel.

<b>SEMESTER: IV</b>	<b>COURSE CODE: 19ASCS42</b>				<b>TITLE OF THE PAPER: STATISTICAL METHODS FOR COMPUTER APPLICATIONS –II</b>				<b>HOURS: 8</b>	<b>CREDITS: 6</b>
<b>COURSE OUTCOMES</b>	<b>PROGRAMME OUTCOMES(PO)</b>				<b>PROGRAMME SPECIFIC OUTCOMES(PSO)</b>				<b>MEAN SCORE OF CO'S</b>	
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
<b>Mean Overall Score</b>									<b>4.5</b>	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

<b>Association</b>	<b>1%-20%</b>	<b>21%-40%</b>	<b>41%-60%</b>	<b>61%-80%</b>	<b>81%-100%</b>
<b>Scale</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Interval</b>	<b>0&lt;=rating&lt;=1</b>	<b>1.1&lt;=rating&lt;=2</b>	<b>2.1&lt;=rating&lt;=3</b>	<b>3.1&lt;=rating&lt;=4</b>	<b>4.1&lt;=rating&lt;=5</b>
<b>Rating</b>	<b>Very Poor</b>	<b>Poor</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>

**UNIT – I**

Correlation: Scatter diagram, Karl Pearson's, Spearman's rank and Concurrent deviation methods. Regression Analysis: Simple regression equations.

**UNIT – II**

Standard distributions: Binomial (mean and variance), Poisson (mean and variance) and fitting of these distributions. Normal distributions (characteristics and area problems).

**UNIT – III**

Concept of Sampling distributions – Standard Error – Tests of Significance based on t, Chi – Square and F distributions with respect of Mean, Variance and Correlation coefficient. Chi – Square test for independence of attributes. Goodness of fit. Large sample test based on Mean and Proportions.

**UNIT – IV**

Analysis of Variance: One way and two way classifications. Basic principles of design of experiments: Randomization, Replication and Local Control – CRD, RBD and LSD.

**UNIT – V**

Introduction to MS- Excel and its usage in data analysis – representations of statistical data by using diagrams (column diagram, bar diagram, line diagram, scatter diagram and pie-diagram). Excel functions regarding descriptive statistics (average, median, mode, STDEV, VAR, skewness and kurtosis functions)

**Text Books:**

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.
2. Statistical analysis with excel for dummies, (2<sup>nd</sup> edition- 2009), Joseph Schmuller. Wiley Publishing inc., Canada.

**Reference Books:**

1. "Fundamentals of Mathematical Statistics" (11<sup>th</sup> edition–2002), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.
2. "Statistics (Theory and Practice)" (3<sup>rd</sup> edition - 1993), Pillai. R. S. N. and Bagavathi. V., Sultan Chand & Sons, New Delhi.
3. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
4. "Statistical analysis Microsoft Excel 2000", Conrad Carlberg . Pearson Education Inc., USA.

<b>YEAR – II</b>	<b>STATISTICAL METHODS FOR COMPUTER APPLICATIONS PRACTICAL</b>	<b>ASCSP402T</b>
<b>SEMESTER – III &amp; IV</b>		<b>HRS/WEEK –2</b>
<b>ALLIED</b>		<b>CREDITS – 2</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Construct Univariate and Bivariate frequency distributions, represent the statistical data and frequency distributions diagrammatically and graphically.
- CO2: Solve measures of Location, Dispersion, Skewness and Kurtosis problems.
- CO3: Solve Curve fitting, Karl Pearson's coefficients of correlation, Rank correlation and two regression equations problems.
- CO4: Solve fitting of Binomial, Poisson, Normal distributions (Area Method) and testing its goodness of fit. Set up the hypothesis for small sample test and large sample test problems and its mean, proportions problems and Chi square distributions.
- CO5: Solve and analyze ANOVA for CRD, RBD and LSD.

SEMESTER- III & IV	COURSE CODE: ASCSP402T				TITLE OF THE PAPER: STATISTICAL METHODS FOR COMPUTER APPLICATIONS PRACTICAL				HOURS:2	CREDITS:2
	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)					
COURSE OUTCOMES	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Construction of Univariate and Bivariate frequency distributions with samples of size not exceeding 50. Diagrammatic and Graphical representation of various statistical data and frequency distributions. Cumulative frequency curve and Lorenz curve.

**UNIT – II**

Measures of Central tendency: Arithmetic Mean, Median, Mode, Harmonic Mean and Geometric Mean. Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation. Measures of Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness and Kelly's coefficient of Skewness. Kurtosis based on moments.

**UNIT – III**

Curve fitting by the method of least squares, fitting of Straight line, fitting of Second degree polynomial, fitting of Power curve and fitting of Exponential curves. Computation of Karl-Pearson's Correlation coefficient, Rank Correlation Coefficient. Simple regression equations.

**UNIT – IV**

Fitting of Binomial, Poisson, Normal distributions (Area Method) and testing its goodness of fit. Exact tests based on t and F distributions with regard to Mean, Variance and Correlation Coefficient. Large sample tests: Based on Mean and Proportions. Chi-Square distribution: Test for independence of attributes.

**UNIT – V**

Design of Experiments: CRD, RBD and LSD.

**Text Books:**

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.
2. "Practical Statistics" (2<sup>nd</sup> edition – 2003), Pillai. R.S.N and Bagavathi, Sultan Chand & Sons, New Delhi.

**Reference Books:**

1. "Fundamentals of Applied Statistics" (2<sup>nd</sup> edition – 1978), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.
2. "Statistics (Theory and Practice)" (3<sup>rd</sup> edition - 1993), Pillai. R. S. N. and Bagavathi. V. Sultan Chand & Sons, New Delhi.
3. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
4. "Business Statistics" (1<sup>st</sup> edition – 2008), Bharat Jhunjunwala, S. Chand & Company Ltd.
5. "Mathematical Statistics" (1<sup>st</sup> edition – 2002), Vittal. P. R., Margham Publications, Chennai – 17

**Question Paper Pattern**

**Time:3hours**

**Marks:60**

**Part – A: (3 x 20 = 60 marks)**

Answer any **Three** questions out of Five questions (with open choice)

<b>YEAR – I</b>	<b>STATISTICAL METHODS</b>	<b>ASCA202T</b>
<b>SEMESTER – II</b>		<b>HRS/WEEK – 5</b>
<b>ALLIED</b>		<b>CREDITS– 4</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand the Definition, Uses, Merits and demerits of Central tendency, Measures of Dispersion
- CO2: Understand the Definition, Uses, Merits and demerits of Skewness and Kurtosis
- CO3: Understand the concept of Correlation and Regression and its uses in various fields
- CO4: Know the concept of tests of significance (small sample) test and how to apply in real life situation
- CO5: Understand the concept of large sample test and its proportion, mean and Standard deviation of correlation coefficients.

SEMESTER-II	COURSE CODE: ASCA202T				TITLE OF THE PAPER: STATISTICAL METHODS				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Measures of Central tendency: Arithmetic Mean, Median, Mode, Harmonic Mean and Geometric Mean. Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation.

**UNIT – II**

Measures of Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness and Kelly's coefficient of Skewness. Kurtosis

**UNIT – III**

Correlation analysis: Karl Pearson's coefficient of correlation, Spearman's rank correlation coefficients. Regression analysis: Simple regression equations.

**UNIT – IV**

Tests of Significance (small samples) based on t, F distributions with respect of Mean, Variance and Correlation coefficient. Test of Significance based on Chi- Square test: Test for Independence of attributes.

**UNIT –V**

Test of Significance (large samples) based on Population Proportion, Mean, Variance and Correlation coefficient.

**Text Books:**

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.
2. "Fundamentals of Mathematical Statistics" (11<sup>th</sup> edition - 2002), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.

**Reference Books:**

1. "Fundamentals of Applied Statistics" (2<sup>nd</sup> edition - 1978), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.
2. "Statistics (Theory and Practice)" (3<sup>rd</sup> edition - 1993), Pillai. R. S. N. and Bagavathi. V. Sultan Chand & Sons, New Delhi.
3. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
4. "Business Statistics" (1<sup>st</sup> edition - 2008), Bharat Jhunjhunwala, S. Chand & Company Ltd.
5. "Mathematical Statistics" (1<sup>st</sup> edition - 2002), Vittal. P. R., Margham Publications, Chennai - 17



<b>YEAR – II</b>	<b>BUSINESS STATISTICS</b>	<b>ASBM 301Q /ASCM 301Q</b>
<b>SEMESTER – III</b>		<b>HRS/WEEK – 5</b>
<b>ALLIED</b>		<b>CREDITS – 4</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand Statistics, Collection of various data methods and classification of data into table form and measures of central tendency
- CO2: Understand the concept of measures of dispersion
- CO3: Understand the concept of Correlation and Regression and its uses in various fields
- CO4: Understand the concept of index number, constructing, trending, learning and predicting situation based on period
- CO5: Understand the concept of time series, Formation of trend, and planning trend line, learning measures of seasonal variation time

SEMESTER-III	COURSE CODE: ASBM 301Q /ASCM 301Q				TITLE OF THE PAPER: BUSINESS STATISTICS				HOURS:5	CREDITS:4
	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
COURSE OUTCOMES	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Introduction: Collection of data – Primary data and Secondary data – Different methods of collecting primary data – Classification and Tabulation of Statistical data. Frequency distribution: Simple and Cumulative. Measures of Central value: Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean.

**UNIT – II**

Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation-Combined standard deviation and Coefficient of Variation. Measures of Skewness: Karl Pearson's and Bowley's methods.

**UNIT – III**

Correlation: Karl Pearson's coefficient of correlation, Spearman's rank correlation coefficient and Concurrent deviation method. Regression analysis: Simple regression equations.

**UNIT – IV**

Index numbers–Uses of index numbers–Problems in the Construction of Index Numbers – Methods of Constructing Index Numbers – Simple Aggregative Method – Weighted Aggregative Indices – Laspeyre's, Paasche's, Bowley's and Fisher Ideal Method – Weighted Aggregative Indices – Quantity and value Indices – Tests of adequacy of Index Numbers: Time Reversal test, Factor Reversal test (problems only). Family Budget method.

**UNIT – V**

Time Series – Uses and Components. Measurement of Trend: Semi-average method, Moving Average Method (problems up to 5 yearly) – Least Square Method (Fitting of straight line). Measurement of Seasonal Variation: Method of Simple Averages – Ratio-to-trend Method – Link Relative Method.

**Text Books:**

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.
2. "Business Statistics", Gupta. S. P., Gupta. P. K. and Manmohan.

**Reference Books:**

1. "Index Numbers, Applied Statistics" (2<sup>nd</sup> edition), Mudgett Gupta. O. P. & Ansari. M. A., Kadarnath & Co.
2. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
3. "Business Statistics" (1<sup>st</sup> edition – 2008), Bharat Jhunjhunwala, S. Chand & Company Ltd.

<b>YEAR – I</b>	<b>BUSINESS STATISTICAL METHODS</b>	<b>21ABS22</b>
<b>SEMESTER – II</b>		<b>HRS/WEEK – 5</b>
<b>ALLIED</b>		<b>CREDITS– 4</b>

## Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand Statistics, Collection of various data methods and classification of data into table form and measures of central tendency
- CO2: Understand the concept of measures of dispersion
- CO3: Understand the concept of Correlation and Regression and its uses in various fields
- CO4: Understand the concept of index number, constructing, trending, learning and predicting situation based on period
- CO5: Understand the concept of time series, Formation of trend, and planning trend line, learning measures of seasonal variation time

SEMESTER-II	COURSE CODE: 21ABS22				TITLE OF THE PAPER: BUSINESS STATISTICAL METHODS				HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Introduction: Collection of data – Primary data and Secondary data – Different methods of collecting primary data – Classification and Tabulation of Statistical data. Frequency distribution: Simple and Cumulative. Measures of Central value: Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean.

**UNIT – II**

Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation- Combined standard deviation and Coefficient of Variation. Measures of Skewness: Karl Pearson's and Bowley's methods.

**UNIT – III**

Correlation: Karl Pearson's coefficient of correlation, Spearman's rank correlation coefficient. Regression analysis: Simple regression equations.

**UNIT – IV**

Index numbers – Uses of index numbers – Problems in the Construction of Index Numbers – Methods of Constructing Index Numbers – Simple Aggregative Method – Weighted Aggregative Indices – Laspeyre's, Paasche's, Bowley's and Fisher Ideal Method.

**UNIT – V**

Time Series – Uses and Components. Measurement of Trend: Semi-average method, Moving Average Method (problems up to 5 yearly) – Least Square Method (Fitting of straight line). Measurement of Seasonal Variation: Method of Simple Averages – Ratio-to-trend Method – Link Relative Method.

**Text Books:**

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi.
2. "Statistics" by R.S.N. Pillai and V. Bagavathi (17<sup>th</sup> edition), S. Chand & Company Ltd

**Reference Books:**

1. "Business Statistics", Gupta. S. P., Gupta. P. K. and Manmohan.
2. "Business Statistics" – Kindle Edition by Tulsian P.C. & Jhunjhunwala, S. Chand
3. "Index Numbers, Applied Statistics" (2<sup>nd</sup> edition), Mudgett Gupta. O. P. & Ansari. M. A., Kadarnath & Co.
4. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
5. "Business Statistics" (1<sup>st</sup> edition – 2008), Bharat Jhunjhunwala, S. Chand & Company Ltd.

<b>YEAR – I</b>	<b>QUANTITATIVE TECHNIQUES</b>	<b>PCM701A</b>
<b>SEMESTER – I</b>		<b>HRS/WEEK – 6</b>
<b>ALLIED</b>		<b>CREDITS – 5</b>

Course Outcomes:

At the end of the Course the students will be able to

- CO1: Understand the concept of Probability and Mathematical Expectations.
- CO2: Setup the hypothesis for small and large samples using in t, F and chi- square.
- CO3: Understand the concept of Analysis of variance using CRD, RBD and LSD.
- CO4: Understand the concept of LPP, optimal solution transportation problems using North West, Least cost and Vogel's approximation methods and Non parametric tests.
- CO5: Understand and the concept of inventory model, definition and techniques of inventory control- EOQ model.

SEMESTER-I	COURSE CODE: PCM701A				TITLE OF THE PAPER: QUANTITATIVE TECHNIQUES				HOURS:6	CREDITS:5
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

Result: This Course is having VERY HIGH association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

**UNIT – I**

Sample Space – events – definition of Probability, Addition and Multiplications theorems – Conditional probability – Baye’s theorem – Simple problems.

**UNIT – II**

Tests of Significance (large samples): Based on Mean and Proportions. Tests of Significance (Small Samples): t and Chi-Square tests for testing mean, variance and correlation coefficient. Chi-Square test and test for independence of attributes.

**UNIT – III**

Analysis of Variance: One way and Two way classifications. Design of experiments: Basic principles – CRD, RBD and LSD.

**UNIT – IV**

LPP-feasible and optimal solutions-Graphical method, Transportation problems -North west corner method, least cost method and Vogel’s approximation method (simple problems only). Non parametric tests (Run test – Paired sample sign test -Mann Whitney U test) simple problems only.

**UNIT – V**

Inventory model-General concept and definitions-various cost concepts – the technique of inventory control –EOQ model.

**Text Books:**

1. “Statistical Methods”(32<sup>nd</sup> edition - 2004), Gupta.S. P., Sultan Chand & Sons, New Delhi.
2. “Resource Management Techniques” (Operations Research)(Revised Edition June -2009) A.R. Publications, Chennai.

**Reference Books:**

1. “Fundamentals of Applied Statistics” (2<sup>nd</sup> edition – 1978), Gupta. S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.
2. “Business Statistics” (1<sup>st</sup> edition – 2008), Bharat Jhunjunwala, S.Chand& Company Ltd.
3. “Business Statistics and Operations Research”,(2009), P.R.Vittal., Margham Publications.

<b>IM.Sc Microbiology</b>	<b>BIOSTATISTICS</b>	<b>21EPM16A</b>
<b>I SEMESTER</b>		<b>HRS/WEEK – 3</b>
<b>ELECTIVE</b>		<b>CREDITS-2</b>

**OBJECTIVE:**

To apply statistical techniques for interpreting and drawing conclusion for biological research.

**Course Outcomes:**

At the end of the Course the students will be able to

- CO1: Understand the various methods measures of central tendency and dispersion
- CO2: Understand the concept of Correlation and Regression and its uses in various fields.
- CO3: Understand the concept of sampling and non sampling error, advantage and its disadvantages in sampling
- CO4: Setup the hypothesis for small and large samples using in t, F and chi- square.
- CO5: Know the concept of Analysis of variance and Basic principles of design of experiments.

SEMESTER-I	COURSE CODE: 21EPM16A				TITLE OF THE PAPER: BIOSTATISTICS				HOURS:3	CREDITS:2
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)				MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4		
CO1	4	4	4	4	4	4	4	4	4	
CO2	5	5	5	5	5	5	5	5	5	
CO3	4	4	4	4	5	5	5	5	4.5	
CO4	4	4	4	4	4	4	4	4	4	
CO5	5	5	5	5	5	5	5	5	5	
Mean Overall Score									4.5	

**Result:** This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	$0 \leq \text{rating} \leq 1$	$1.1 \leq \text{rating} \leq 2$	$2.1 \leq \text{rating} \leq 3$	$3.1 \leq \text{rating} \leq 4$	$4.1 \leq \text{rating} \leq 5$
Rating	Very Poor	Poor	Moderate	High	Very High

### UNIT – I

Measures of central tendency: Arithmetic Mean, Median, Mode. Measures of Dispersion: Standard Deviation and Coefficient of Variation.

### UNIT – II

Correlation analysis: Karl Pearson's, Spearman's rank and Concurrent deviation methods. Regression Analysis: Simple regression equations.

### UNIT – III

Sampling theory: types of sampling – Sampling and nonsampling error – Advantages and disadvantages in sampling.

### UNIT – IV

Small sample: test of significance based on t, F and Chi-Square distributions with respect of mean, variance and correlation coefficients.

### UNIT – V

Analysis of Variance – One way and Twoway classifications. Basic principles of design of experiments: Randomization, Replication and Local Control.

#### Text Books:

1. "Statistical Methods" (32<sup>nd</sup> edition - 2004), Gupta.S. P., Sultan Chand & Sons, New Delhi.
2. "Fundamentals of Applied Statistics" (2<sup>nd</sup> edition – 1978), Gupta.S. C. and Kapoor. V. K., Sultan Chand & Sons, New Delhi.

#### Reference Books:

1. "Statistics (Theory and Practice)" (3<sup>rd</sup> edition - 1993), Pillai. R. S. N. and Bagavathi. V. Sultan Chand & Sons, New Delhi.
2. "Fundamentals of Statistics – Volume II" (6<sup>th</sup> edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.
3. "Mathematical Statistics" (1<sup>st</sup> edition – 2002), Vittal. P. R., Margham Publications, Chennai –17



**PG Question Paper Pattern**

**Time:3hours**

**Marks:75**

The following procedure may be followed for the end semester question paper.

**Part – A**

Answer **all** the questions (Internal choice, i.e., either or) ( $5 \times 6 = 30$ )

**Part – B**

Answer any **three** questions ( $3 \times 15 = 45$ ) (5 questions may be given)

A question paper must contain 80% problems and 20% theory.

All the units must be occurred in each section.

It should be seen that the average student can easily complete the paper within 3 hours and should be able to pass. The question paper should be neither too easy nor too tough.

**(A question paper must contain 80% problems and 20% theory)**

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**VALUE ADDED COURSE**

<b>HOURS –30</b>	<b>STATISTICAL ANALYSIS USING EXCEL DATA SHEET</b>	<b>VAST01</b>
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**OBJECTIVES**

- To create working knowledge with EXCEL
- To acquire skills in creating data base files and their manipulation using EXCEL data sheet
- Ability to work and analyze with statistical technical tools interpreter with EXCEL data sheet

**UNIT – I GRAPHICAL REPRESENTATION**

Construction of frequency distribution table for raw data .Graphical representation of data - Simple bar diagram , Multiple bar diagram , Pie chart , Histogram .

**UNIT – II MEASURES OF CENTRAL TENDENCY**

Measure of central tendency – Arithmetic Mean, Median and Mode. Measures of Dispersion – Range, Variance, Standard Deviation. Skewness and Kurtosis.

**UNIT – III CORRELATION**

Karl Pearson’s coefficient of Correlation.

**UNIT – IV REGRESSION**

Estimating Regression equations - prediction of variables.

**UNIT – V DESIGN OF EXPERIMENTS**

One way classification - Two way classifications.

**REFERENCES**

1. Statistical analysis with excel for dummies, (2<sup>nd</sup> edition- 2009), Joseph Schmuller. Wiley Publishing inc., Canada.
2. Statistical analysis Microsoft Excel 2000, Conrad Carlberg . Pearson Education Inc., USA.
3. “Statistics (Theory and Practice)” (3rd edition - 1993), Pillai. R. S. N. and Bagavathi. V. Sultan Chand & Sons, New Delhi.
4. “Fundamentals of Statistics – Volume II” (6th edition - 1990), Goon. A. M., Gupta. M. K. and Dass Gupta. B, The World Press Private Ltd., Calcutta.

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<b>HOURS –30</b>	<b>BIOSTATISTICS</b>	<b>VAST02</b>
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**OBJECTIVES**

- To apply statistical techniques for interpreting and drawing conclusion for biological research.
- Ability to work and analyze with statistical technical tools with EXCEL data sheet

**UNIT – I**

One dimensional diagrams – Simple bar diagram, Subdivided bar diagram, Multiple bar diagram and Percentage bar diagram.

**UNIT – II**

Two dimensional diagrams – Pie diagram. Graphs of frequency distribution- Histogram, Frequency polygon and Frequency curve.

**UNIT – III**

Measure of central tendency – Arithmetic Mean, Median and Mode.

**UNIT – IV**

Measures of Dispersion – Range, Variance, Standard Deviation.

**UNIT – V**

Karl Pearson's coefficient of Correlation.

**REFERENCES**

1. Statistical Methods” (32nd edition - 2004), Gupta. S. P., Sultan Chand & Sons, New Delhi
2. Statistical analysis Microsoft Excel 2000, Conrad Carlberg . Pearson Education Inc., USA.

All UG I Year	Value Education	VE101A
SEMESTER – I		HRS/WK – 2
Paper-IV		CREDIT – 2

**Objective:**

- Understand the meaning, concept of value and also enrich the importance of value education in their personal life.
- To understand the formation of attitude, that influences the behaviour.
- To know the impact of positive psychology for healthy well-being.
- To overcome stressful situation through creative problem solving.
- To understand the importance of various soft skill for job placement.

**COURSE OUTCOMES (COs)**

- CO1:** Understand the meaning, concept of value and also enrich the importance of value education in their personal life.
- CO2:** Understand about Attitude and behavior, factors that influence attitude strength, change of attitude to match behavior.
- CO3:** Get knowledge about positive psychology, keys to sustain happiness, identifying positive emotions.
- CO4:** Knowledge about creative problem solving, guidelines for convergent and divergent thinking, advantages and disadvantages of group decision making.
- CO5:** Get knowledge about soft skill, importance of leadership skill, enhancing leadership skill

**Relationship matrix course outcomes and programme outcomes**

SEMESTER I	COURSE TITLE: VALUE EDUCATION					COURSE CODE: VE101A	HOURS: 2	CREDITS: 2
COURSE OUTCOMES	PROGRAMME OUTCOMES (PO)					MEANS CORE OF CO'S		
	PO1	PO2	PO3	PO4	PO5			
CO1	4	4	3	4	4	3.9		
CO2	3	4	3	4	4	3.7		
CO3	4	4	4	3	4	3.8		
CO4	4	3	4	3	3	3.4		
CO5	4	3	4	3	3	3.5		
<b>Mean Overall Score</b>							<b>3.7</b>	

**Result: The Score of this Course is 3.7 (High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **High** association with Programme Outcome.

## **Unit-I Values**

Meaning of values–concept –accomplishment and psychological energy -process of implementing values in our lives - acquiring social values - family in process of value formation-importance of moral values- cultural values - religious values - importance of value education.

## **Unit-II Attitude and Behavior**

Attitude formation- social factors- learning-classical conditioning–operant conditioning- attitude and behavior- Factors that Influence Attitude Strength – Attitudes Can Change to Match Behavior - Learning Theory of Attitude Change

## **Unit-III Positive psychology**

Definition of Positive Psychology - Positive mental Health - The five keys for sustainable happiness - Factors that influence happiness - Seligman's Model of Happiness-Promoting well-being- Practical exercises- Identifying Positive emotions

## **Unit-IV Creative Problem Solving**

Principles of Creative Problem Solving - Divergent and Convergent Thinking -The Dynamic Balance of Creativity – guidelines for Divergent and Convergent Thinking- decision making- decision making process- groups. Individual decision making –Group Decision Making- Advantages and Disadvantages

## **Unit-V Soft skill**

Meaning- characteristics of leadership- importance of leadership skill - Role of the Leader of an Institution. –As a motivator –As moral builder-As a co-coordinator- As a confidence builder-As a professional person-As a human relationship person – enhancing leadership skill

### **Text Book:**

1. Value education and Dynamics of Personality.

### **Reference Books:**

1. Bass, B. (1983) Organizational Decision Making. Illinois: Irwin; March, J. (1994) A Primer on Decision Making: How Decisions Happen. New York: Free Press; Harrison, F. (1994) The Managerial Decision-Making Process. Boston: Houghton Mifflin.
2. Chaiklin H. Attitudes, Behavior, and Social Practice. Journal of Sociology and Social Welfare.2011
3. Cribbin, James J. (1972) Effective Managerial Leadership. New York: AMAC
4. Locke, E., Schweiger, D. and Latham (1986) 'Participation in Decision Making: Should it be Used?', Organization Dynamics14(3),65–79.
5. Osborn, A.F. (1953/1963). Applied imagination: Principles and procedures of creative problem.

All UG I Year	<b>Dynamics of personality</b>	EPD201A
SEMESTER – II		HRS/WK – 2
Paper-IV		CREDIT – 2

**Objective:**

- To make the students to understand the determinants of personality and need for personality development.
- To understand the importance of pro-social behaviour.
- To ensure the importance of mental health for healthy well-being.
- To know the importance of intrinsic motivation for good personality.
- To assess the personality for further development.

**COURSE OUTCOMES (COs)**

- CO1:** Understand the meaning, determinants of personality and need for personality development.
- CO2:** Understands pro-social behavior, factors affecting helping behavior, effects of positive mood.
- CO3:** Get knowledge about factors that influence mental health, ways to enhance mental health.
- CO4:** Knowledge about motivation, classification and sources of motivation, advantages of motivation and goal setting theory.
- CO5:** Understand the importance of personality assessment, various techniques to assess' personality.

**Relationship matrix course outcomes and programme outcomes**

SEMESTER II	COURSE TITLE: DYNAMICS OF PERSONALITY					COURSE CODE: EPD201A	HOURS: 2	CREDITS: 2
COURSE OUTCOMES	PROGRAMME OUTCOMES (PO)					MEANS CORE OF CO'S		
	PO1	PO2	PO3	PO4	PO5			
CO1	4	4	4	4	4	4.0		
CO2	4	3	4	3	4	3.8		
CO3	4	3	3	3	3	3.3		
CO4	3	3	3	3	3	3.3		
CO5	3	3	3	3	3	3.2		
<b>Mean Overall Score</b>							<b>3.5</b>	

**Result: The Score of this Course is 3.5 (High)**

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **High** association with Programme Outcome.

## **Unit-1**

### **Personality**

Meaning – determinants of personality – biological factors – Physical Environment - Psychological factors – familial determinants – cultural factors- Need for Personality Development – Guidelines to Improve Personality

## **Unit-II**

### **Pro-social behaviour**

Introduction – objectives - pro-social behaviour and altruism - pro-social behaviour in emergency situations – factors affecting helping behaviour - effects of positive mood theoretical perspectives

## **Unit-III**

### **Mental Health**

Introduction of Health – definition - nature of mental health - determinants of mental health - biological factors - psychological factors - components of mental health ways to enhance mental health

## **Unit-IV**

### **Motivation**

Definition - characteristics of motivation - classification of motives - sources of motivation - Maslow's hierarchy - goal setting theory - advantages of motivation and goal setting theory

## **Unit-V**

### **Personality assessment**

Meaning - Interview – observation - behavioral assessment – personality inventories - situational test - projective test - Rorschach Inkblot Test – Thematic Apperception Test (TAT)-Word Association Test- Sentence Completion Test.

### **Text Book:**

1. Value education and Dynamics of personality

### **Reference Books:**

1. David D. Burns, M.D.(2011) the feeling good by sage publications,
2. Hall,C.S,&Lindzey.G(1985).Theoriesofpersonality.NewDelhi;Wileyeastern
3. Hurlock,E.B.(1074) Personality Development. New Delhi;Mcgraw Hill
4. Dr. K. Nagarajan, Psychology of Learning and Human development, Ram publishers, Chennai.
5. Barry, C.M., & Wentzel, K.R. (2006). Friend influence on pro social behaviour.