GOVERNMENT ARTS COLLEGE (AUTONOMOUS)

Re-Accredited (II cycle) with 'A' Grade by NACC

KUMBAKONAM-600 002

ALLIED SYLLABUS (2023-24) ONWARDS
SEMESTER- WISE DISTRIBUTION OF PAPERS

DEPARTMENT OF STATISTICS

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Mathematics)

Title of the subject	**Statistics for mathematics-I**	**credits**	**: 4**
Subject code	**: 23U1MST1**	**Marks**	**: 75**
Semester	**: I**		

OBJECTIVES

- To study in detail about various types of classification and tabulation.
- To study in detail about various types of Diagrams and graph.
- To know the problem in the Descriptive Measures.

UNIT – I

Classification –Definition, Types of Classification. Tabulation – Definition, Rules for tabulation, parts of table, type of tables. Difference between classification and tabulation. Forming frequency distributions (Simple Problems).

UNIT – II

Diagrammatic representation – Definition and Difference types of bar diagram and pie diagram .Graphic representation – Histogram, Frequency polygon, frequency curve and Ogives.

UNIT – III

Measures of Central Tendency – Mean, Median, Mode, Harmonic mean and Geometric mean – Definition and its merits and demerits (simple problem).

UNIT – IV

Measures of Dispersion -Range, Quartile Deviation, Mean Deviation, Standard Deviation and Co – efficient of Variation and its Merits and demerits (Simple problems).

UNIT – V

Skewness– Definition – Bowley's and Karl Pearson's Coefficient of Skewness (Simple problems).moments and kurtosis-Definition (Simple problems).

Course Outcomes:

- Know the uses of Statistics in Society.
- Understand the method of data collection.
- Learn the types of statistical diagrams.
- Applications of pie chart in news papers.

Reference Text Books:

1. Statistics (Theory and practice) -R.S.N. Pillai and V. Bagavathi, Chand& company LTD, New Delhi.
UNIT – I- chapter 6 page no.50-73
UNIT – II chapter 7 page no.81-89, chapter 8 page no, 100-108
UNIT – III chapter 9 page no..125-179
UNIT –VI chapter 10 page no 241-267
UNIT – V chapter 11 page no 338-371

Question Paper Pattern

Maximum Marks: 75

Exam duration: Three Hours

Part A Answer **ALL** Questions (Two questions from each unit) (10x2=20)

Part B Answer **ALL** Questions (Either or type-Two questions from each unit) (5x5=25)

Part C Answer Any **THREE** Questions (One question from each unit) (3x10=3

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Mathematics)

Title of the subject	**Statistics for mathematics-I**	**credits**	**: 4**
Subject code	**: 23U1MST1**	**Marks**	**: 75**
Semester	**: I**		

அலகு-I

வகைப்படுத்துதல்– வரையறை மற்றும் வகைகள். அட்டவணையிடுதல்-வரையறை , முக்கியத்துவம், அட்டவணையின் பகுதிகள், அட்டவணையின் வகைகள். வகைபடுத்துதலுக்கும் அட்டவணைபடுத்துதலுக்கும் உள்ள வேறுபாடு . அலைவெண் பரவல் – சிறிய கணக்குகள் .

அலகு–II

விளக்கப்படம் மற்றும் வரைபடம் –வரையறை மற்றும் வேறுபாடு-பட்டை விளக்கப்படம் -தனிப்பட்டை ,கூட்டுப்படை ,கூறுபட்டை மற்றும் வட்டவிளக்கபடம் -பரவல் செவ்வகம், அலைவெண் பல்கோணம்,அலைவெண் வளைகோடு,ஒகைவ் வளைவு.

அலகு-III

மையநிலைப் போக்கு அளவைகள் - கூட்டுசராசரி ,இடைநிலை, முகடு, இசைச்சராசரி –வரையறை,சிறப்பியல்புகள் மற்றும் குறைபாடுகள். (சிறிய கணக்குகள்)

அலகு-IV

சிதறல் அளவைகள் - வீச்சு, வீச்சுக்கெழு,கால்ம விலக்கம்,கால்ம விலக்கக்கெழு, சராசரி விலக்கம் ,திட்டவிலக்கம் மற்றும் மாறுவிகிதக்கெழு-சிறப்பியல்புகள் மற்றும் குறைபாடுகள் .(சிறிய கணக்குகள்

அலகு-V

கோட்ட அளவைகள் – வரையறை –கார்ல்பியர்சன் மற்றும் பௌலி கோட்டளவை (சிறிய கணக்குககள்). தட்டை அளவைகள் , திருப்புத்திறன் –வரையறை .

குறிப்பேடுகள்:

1) புள்ளியியல்– டாக்டர். மா. பா. குருசாமி, பேரா. மு. கம்ஸாமுகைதீன்,
பேரா. மா. கமல்ராஜ். (வண்ணன் வெளியீடு – ஜூன் 2002)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Mathematics)

Title of the subject	**Statistics for mathematics-II**	**credits**	**: 4**
Subject code	**: 23U1MST1**	**Marks**	**: 75**
Semester	**: II**		

OBJECTIVES

- To know the basic special probability and random variable
- To understand the problem in correlation, regression

Unit – I

Probability –Trial –sample space –event –mutually Exclusive event-Definition and Axiomatic approach-properties of probability, theorems on probability-Baye's theorem (simple problems).

Unit –II

Random Variables – Univariate, Discrete random variables- Probability mass function, Continuous random Variables– Probability density function. Distribution function –Properties (simple problems).

Unit –III

Mathematical Expectation of Random Variables – Properties. Moments-Variance- Properties-Covariance (Simple Problems).

UNIT – IV

Correlation –Definition, Types, methods-scatter diagram, Karl Pearson's co – efficient of correlation, Rank correlation –Properties and uses. (Simple problems)

UNIT – V

Regression –Definition, Properties of Regression co-efficient, Regression equations (two variables- Simple problems). Difference between Correlation and Regression.

Course Outcomes:

- Conduct random experiments in real life data.
- Understand the Axioms of probability.
- Create the Mathematical Expectation of Random Variables.
- Obtain the cumulate generating functions and its properties.

Reference Text Books:

1. Fundamentals of Mathematical Statistics, Gupta S.C. and V.K. Kapoor Sultan & Sons, New Delhi
   UNIT -II chapter 5 page no 5.2-5.14
   UNIT -III chapter 6 page no 6.2- 6.11
2. Statistics (Theory and Practice) R.S.N. Pillai and V. Bagavathi - Chand& company LTD, New Delhi.
   UNIT –I chapter 18 page no 737-757
   UNIT –IV –chapter 12 page no 396-407
   UNIT- V- chapter 13 page no 465-499

Question Paper Pattern

Maximum Marks: 75

Exam duration: Three Hours

Part A Answer **ALL** Questions (Two questions from each unit) (10x2=20)

Part B Answer **ALL** Questions (Either or type-Two questions from each unit) (5x5=25)

Part C Answer Any **THREE** Questions (One question from each unit) (3x10=30)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Mathematics)

Title of the subject	**Statistics for mathematics-II**	**credits**	**: 4**
Subject code	**: 23U1MST1**	**Marks**	**: 75**
Semester	**: II**		

அலகு-I

நிகழ்தகவு– கணித மற்றும் புள்ளியியல் நிகழ்தகவு –நிகழ்தகவின் வெளிப்படை உண்மைகள்– கூட்டல் மற்றும் பெருக்கல் தேற்றம் (இரு மாறிகள் மட்டும்) - பேயிஸ் தேற்றம் (சிறிய கணக்குகள்).

அலகு–II

சமவாய்ப்பு மாறிகள் –தொடார்ச்சியற்ற மற்றும் தொடர்ச்சியான சமவாய்ப்பு மாறிகள் (சிறிய கணக்குகள்). பரவல் சார்பு மற்றும் பண்பளவைகள் (நிரூபணம் இல்லை).

அலகு –III

கணக்கியல் எதிர்பார்க்கதக்க அளவு- வரையறை மற்றும் பண்பளவைகள்.

அலகு –IV

ஒட்டுறவு –வரையறை ,வகைகள் - சிதறல் விளக்கப்படம், கார்ல் பியார்சனின் ஒட்டுறவு கெழு – ஸ்பியர்மன் தரவரிசை ஒட்டுறவு கெழு. (சிறிய கணக்குகள்)

அலகு –V

தொடர்புபோக்கு –வரையறை,பண்பளவைகள் மற்றும் பயன்கள்,தொடர்புக்போக்கு கோடுகள் (இரண்டு மாறி மட்டும்)– சிறிய கணக்குகள். ஒட்டுறவுக்கும், தொடர்புப்போக்குக்கும் உள்ள வேறுபாடுகள்.

குறிப்பேடுகள்:

1) கணிதப்புள்ளியியல்– துரை. இரத்தினசபாபதி. (தமிழ்நாடு அரசு பாடநூல் நிறுவனம்)

கூறுபரவல்களும் பயன்முறைகளும் – செ. அரங்கநாதன் (தமிழ்நாடு பாடநூல் நிறுவனம்

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Mathematics)

Title of the subject	**Statistics for mathematics-Practical**	**credits**	**: 2**
Subject code	**: 23U1MSTP1**	**Marks**	**: 60**
Semester	**: II**		

OBJECTIVES

- To know the problem in the Descriptive Measures, Skewness, kurtosis, moments.
- To understand the problem in correlation, regression and Test of significance for large and small samples.

Unit: I

Diagrammatic representation – Bar diagram and pie diagram .Graphic representation – Histogram, Frequency polygon, frequency curve and Ogives.

Unit: II

Measures of central tendency - Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean. (Numerical problems only).Measures of Dispersion -Quartile Deviation, Mean Deviation, Standard Deviation and Co-efficient of variation. (Numerical problems only)

Unit: III

Karl Pearson's and Bowley's Co-efficient of Skewness, kurtosis and moments (Numerical problems only)

Unit: IV

Probability- Random variable and mathematical expectation (Numerical problems only)

Unit: V

Karl Pearson's co-efficient of correlation, Spearman's rank correlation co-efficient, Regression lines (Numerical problems only) Chi-square test Goodness of fit.

NOTE: First THREE Units to be covered in Semester –I and remaining THREE Units in Semester – II

Reference Text Books

Practical statistics -R.S.N. Pillai and V. Bagavathi - -Chand& Co

Question Paper Pattern

Maximum Marks: 60

Exam duration: 3 HoursAnswer Any FOUR out of six Question. (One Question from each Unit)(4x15=60)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Geography)

Title of the subject	**Statistics for Geography-I**	**credits**	**: 4**
Subject code	**: 23U1GST1**	**Marks**	**: 75**
Semester	**: I**		

OBJECTIVES

- To know the basic concepts of statistics.
- To study in detail about various types of classification and tabulation. The structure of forming frequency tabulation.
- To know the problem in the Descriptive Measures.

UNIT – I

Classification –Definition, Types of Classification. Tabulation – Definition, Rules for tabulation, parts of table, type of tables. Difference between classification and tabulation. Forming frequency distributions (Simple Problems)

UNIT – II

Diagrammatic and Graphic representation – Definition and Difference – Bar diagram – Simple, Component, multiple and pie diagram – Histogram, Frequency polygon, frequency curve and ogives.

UNIT – III

Measures of Central Tendency – Mean Median, Mode and Quartiles-Definition, merits and demerits (simple problem)

UNIT – IV

Measures of dispersion – Range, co efficient of Rang, Quartile deviation, co efficient of Q.D, Standard deviation and Co - efficient of variation – Definition, merits and demerits. (Simple problems)

UNIT – V

Skewness– Definition – Bowley's and Karl Pearson's Coefficient of Skewness and Karl Pearson's Empirical method kurtosis-Definition (Simple problems).

Course Outcomes:

- Know the uses of Statistics in Society.
- Understand the method of data collection.
- Learn the types of statistical diagrams.
- Applications of pie chart in news papers.

Reference Text books:

1. Statistics (Theory and practice) -R.S.N. Pillai and V. Bagavathi, Chand& company LTD, New Delhi.

UNIT – I- chapter 6 page no.50-73
UNIT – II chapter 7 page no.81-89, chapter 8 page no, 100-108
UNIT – III chapter 9 page no.125-179
UNIT –VI chapter 10 page no 241-267
UNIT – V chapter 11 page no 338-371

Question Paper Pattern

Maximum Marks: 75
Exam duration: Three Hours

Part A Answer **ALL** Questions (Two questions from each unit) (10x2=20)
Part B Answer **ALL** Questions (Either or type-Two questions from each unit) (5x5=25)
Part C Answer Any **THREE** Questions (One question from each unit) (3x10=30)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Geography)

Title of the subject	**Statistics for Geography-I**	**credits**	**: 4**
Subject code	**: 23U1GST1**	**Marks**	**: 75**
Semester	**: I**		

அலகு-I

வகைப்படுத்துதல் –வரையறை மற்றும் வகைகள்.அட்டவணையிடுதல் -வரையறை ,முக்கியத்துவம், அட்டவணையின் பகுதிகள், அட்டவணையின் வகைகள். வகைபடுத்துதலுக்கும்அட்டவணைபடுத்துதலுக்கும் உள்ள வேறுபாடு . அலைவெண் பரவல் – சிறிய கணக்குகள் .

அலகு–II

விளக்கப்படம் மற்றும் வரைபடம் –வரையறை மற்றும் வேறுபாடு-பட்டை விளக்கப்படம் -தனிப்பட்டை ,கூட்டுப்படை ,கூறுபட்டை மற்றும் வட்டவிளக்கபடம் -பரவல் செவ்வகம், அலைவெண் பல்கோணம்,அலைவெண் வளைகோடு,ஒகைவ் வளைவு.

அலகு-III

மையநிலைப் போக்கு அளவைகள் - கூட்டுசராசரி ,இடைநிலை, முகடு, கால்மம் –வரையறை,சிறப்பியல்புகள் மற்றும் குறைபாடுகள். (சிறிய கணக்குகள்)

அலகு-IV

சிதறல் அளவைகள் - வீச்சு, வீச்சுக்கெழு,கால்ம விலக்கம்,கால்ம விலக்கக்கெழு,திட்டவிலக்கம் மற்றும் மாறுவிகிதக்கெழு-சிறப்பியல்புகள் மற்றும் குறைபாடுகள் .(சிறிய கணக்குகள்)

அலகு-V

கோட்ட அளவைகள் – வரையறை –கார்ல்பியர்சன் மற்றும் பௌலி கோட்டளவை (சிறிய கணக்குககள்). தட்டை அளவைகள் , திருப்புத்திறன் –வரையறை

குறிப்பேடுகள்:

1) புள்ளியியல்– டாக்டர். மா. பா. குருசாமி, பேரா. மு. கம்ஸாமுகைதீன்,
பேரா. மா. கமல்ராஜ். (வண்ணன் வெளியீடு – ஜூன் 2002)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024

Title of the subject	**Statistics for Geography-II**	**credits**	**: 4**
Subject code	**: 23U1GST2**	**Marks**	**: 75**
Semester	**: II**		

OBJECTIVES

- To understand the problem in correlation and regression.
- To study in detail about various types of sampling.
- To understand Indian statistics.

UNIT – I

Correlation – Definition, Types – Scatter diagram, Karl Pearson's Coefficient of Correlation – Spearman's Rank Correlation coefficient. (Simple problems)

UNIT – II

Regression –Definition. Regression lines (Two variables only, Simple Problems). Difference between Correlation and Regression.

UNIT – III

Time series –definitions-component-Measurement of long term trend: Graphical method, Semi average method, Moving averages method for 3&5 years –merits and demerits. (Simple problems).

UNIT –IV

Index Numbers – definitions and uses -Problems of construction – Price relatives – simple Aggregate and simple Average of price relatives method, Weighted index number – Laspeyre's Paaschey's and Fisher's Ideal Index number. (Simple problems)

UNIT –V

Association of Attributes – Class frequencies – Order of frequencies – (2X2) Contingency table – Finding missing frequencies – Yule's coefficient of Association and Coefficient of Colligation. (Simple problems)

Course Outcomes:

- Understand and various methods of calculating correlation
- Understand and apply the Regression equation.
- Understand and various techniques of time series analysis
- Understand and apply the various types of index number.

Reference Text books

1. Statistics (Theory and Practice) R.S.N. Pillai and V. Bagavathi - Chand& company LTD, New Delhi.
   UNIT –I–chapter 12 page no 396-407
   UNIT- II- chapter 13 page no 465-499
   UNIT- III Chapter: 15 page no 591-601
   UNIT –IV chapter 14 page no 526-539
   UNIT –V chapter 17 page no 690-705

Question Paper Pattern

Maximum Marks: 75

Exam duration: Three Hours

Part A Answer **ALL** Questions (Two questions from each unit) (10x2=20)

Part B Answer **ALL** Questions (Either or type-Two questions from each unit) (5x5=25)

Part C Answer Any **THREE** Questions (One question from each unit) (3x10=30)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM2023-2024
(Allied for B.Sc Geography)

Title of the subject	**Statistics for Geography-II**	**credits**	**: 4**
Subject code	**: 23U1GST2**	**Marks**	**: 75**
Semester	**: II**		

அலகு-I

ஒட்டுறவு –வரையறை ,வகைகள் - சிதறல் விளக்கப்படம், கார்ல் பியார்சனின் ஒட்டுறவு கெழு – ஸ்பியர்மன் தரவரிசை ஒட்டுறவு கெழு. (சிறிய கணக்குகள்)

அலகு–II

தொடர்புபோக்கு –வரையறை,பண்பளவைகள் மற்றும் பயன்கள்,தொடர்புக்போக்கு கோடுகள் (இரண்டு மாறி மட்டும்)– சிறிய கணக்குகள். ஒட்டுறவுக்கும், தொடர்புப்போக்குக்கும் உள்ள வேறுபாடுகள்.

அலகு-III

காலம்சார் தொடர் வரிசை –வரையறை, இனங்கள்– நீண்டகாலப்போக்கை அளவிடுதல் – எளிய வளை கோட்டு முறை,பாதிசராசரி,நகரும் சராசரி (3&5 ஆண்டுகள் மட்டும்)–சிறப்பியல்புகள் மற்றும் குறைபாடுகள் .

அலகு-IV

குறியீட்டெண்கள் –வரையறை மற்றும் பயன்கள்,கணக்கிடும் முறைகள் – விலைசார்பிகள்-எளிமையான கூட்டல் முறை மற்றும் எளிமையான சராசரி விலைசார்பிகள் முறை,எடையிட்ட குறியீட்டெண்கள் – இலாஸ்பியர் ,பாஸிஸ் மற்றும் பிஸ்சரின் குறியீட்டெண்கள் .

அலகு-V

பண்புகளின் சேர்க்கை - வகுப்பு அலைவெண், வரிசை அலைவெண் - யூலின் சேர்க்கைக்கெழு -கணக்கீடுகள்

குறிப்பேடுகள்:

1) புள்ளியியல்– டாக்டர். மா. பா. குருசாமி, பேரா. மு. கம்ஸாமுகைதீன், பேரா. மா. கமல்ராஜ். (வண்ணன் வெளியீடு – ஜூன் 2002)
2) கணிதப்புள்ளியியல்(அலகு-IV)– துரை. இரத்தினசபாபதி. (தமிழ்நாடு அரசு பாடநூல் நிறுவனம்)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Sc Geography)

Title of the subject	**Statistics for Geography-Practical**	**credits**	**: 2**
Subject code	**: 23U1GSTP1**	**Marks**	**: 60**
Semester	**: II**		

OBJECTIVES

- To know the basic concepts of Association of attributes.
- To know the scope of time series, index number and spatial statistics.

UNIT – I

Frequency distributions, Diagrammatic representation –Bar and pie diagrams, –Histograms. Graphical representations, frequency curve Frequency polygon, gives. (Simple problems)

UNIT – II

Mean Median, Mode, Harmonic mean, Quartile deviation, mean deviation, standard deviation, co efficient of variation. (Simple problems)

UNIT – III

Measures of skewness-Bowley's & Karl Pearson methods. Association of attributes

UNIT – IV

Computation of Karl Pearson's Co-efficient of correlation and spearman's Rank correlation, Regression equation (two variables only)- (Simple problems)

UNIT – V

Time series –Measurement of long term trend: Graphical method, Semi average method, Moving averages method for 3&5 years only. Index Numbers - simple Aggregate and simple Average of price relatives method, Weighted index number – Laspeyre's Paaschey's and Fisher's Ideal Index number.

Reference Text books

Statistics (Theory and Practice) R.S.N. Pillai and V. Bagavathi - Chand& company LTD, New Delhi

Question Paper Pattern

Maximum Marks: 60

Exam duration: 3 Hours

Answer Any FOUR out of six Questions. (One Question from each Unit)(4x15=60)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for BCA)

Title of the subject	**: Applied Statistics-I**	**credit**	**: 4**
Subject code	**: 23U1CAST1**	**Marks**	**: 75**
Semester	**: I**		

OBJECTIVE

- To know the basic special discrete and continuous probability distribution.
- To understand the problem in correlation, regression and Association of Attributes.

UNIT-I

Measures of Central Tendency- Mean Median, Mode- definition, merits and demerits (simple problem).

UNIT-II

Measures of Dispersion- Range, co efficient of Range, Quartile Deviation, Co-efficient of Q.D, Standard deviation - Definition, merits and demerits. (Simple problems)

UNIT – III

Skewness– Definition, Karl Pearson's Co - efficient of Skewness, Bowley's Co - efficient of Skewness – simple problems. , Kurtosis and Moments-Definition only

UNIT-IV

Probability –Definition, Statistical and Mathematical Probability, Axiomatic Probability. Addition, Multiplication. (Simple problems)

UNIT-V

Random Variables – Discrete and Continuous random variables (simple problems). Distribution function (Discrete and continuous) and its properties. Mathematical Expectation- Definition-. (Simple Problems).

Course Outcomes:

- Know the uses of Statistics in Society.
- Understand the Measures of Central Tendency.
- Conduct random experiments in real life data.
- Understand the Axioms of probability.
- Obtain the distribution functions and its properties.

Reference Text Books:

1.Statistics (Theory and practice) -R.S.N. Pillai and V. Bagavathi, Chand& company LTD, New Delhi.

UNIT – I chapter 9 page no..125-179
UNIT –II chapter 10 page no 241-267
UNIT – III chapter 11 page no 338-371
UNIT –IV chapter 18 page no 737-757

2.Fundamentals of Mathematical Statistics, Gupta S.C. and V.K. Kapoor Sultan & Sons, New Delhi UNIT -V chapter 5 page no 5.2-5.14

Question Pattern

The question paper setter is kindly informed to strictly follow the following question paper pattern

	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-v
Section-A Question no	1&2	3&4	5&6	7&8	9&10
Section-B Question no	11(a&b)	12(a&b)	13(a&b)	14(a&b)	15(a&b)
Section-C Question no	16	17	18	19	20

Section A- 10*2=20 Marks ---all question must be answered)
Section B- 5*5=25 Marks -----Either (a) or (b)
SectionC-3*10=30Marks ---Three out of five questions must be answered

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for BCA)

Title of the subject	**:Applied Statistics-II**	**credits**	**: 4**
Subject code	**: 23U1CAST2**	**Marks**	**: 75**
Semester	**: II**		

OBJECTIVE

- To know the basic special discrete and continuous probability distribution.
- To understand the problem in correlation, regression and Association of Attributes.

UNIT – I

Correlation analysis – Definition and Types of Correlation - Properties, Karl Pearson's coefficient of Correlation and Spearman's Rank Correlation Coefficient.(simple problems only)

UNIT-II

Regression lines and Regression coefficients- Properties (simple problems only). Difference between Correlation and Regression.

UNIT-III

Concept and derivation of partial and Multiple Correlation Coefficients, Multiple Regression (Three variables only) (simple problems only)

UNIT-IV

Curve fitting by the method of least squares: Straight line, Second degree equation (Simple problems only)

UNIT-V

Association of Attributes – Class frequencies – Order of frequencies – (2X2) Contingency table – Finding missing frequencies – Yule's coefficient of Association and Coefficient of Colligation.

Course Outcomes:

Student learns to identify the relationship between two variables using scatter plot. Interpret a sample correlation

Reference Text Books:

1.Statistics (Theory and Practice) R.S.N. Pillai and V.Bagavathi - Chand& company LTD, New Delhi UNIT –I –chapter 12 page no 396-407
UNIT-II- chapter 13, UNIT –V chapter 17

2. Quantitative Techniques Dr. P.R.Vittal, UNIT-III-chapter – 15, UNIT –IV chapter-16

Question Pattern

The question paper setter is kindly informed to strictly follow the following question paper pattern

	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-v
Section-A Question no	1&2	3&4	5&6	7&8	9&10
Section-B Question no	11(a&b)	12(a&b)	13(a&b)	14(a&b)	15(a&b)
Section-C Question no	16	17	18	19	20

Section A- 10*2=20 Marks ---all question must be answered)
Section B- 5*5=25 Marks -----Either (a) or (b)
Section C-3*10=30Marks ---Three out of five questions must be answered

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for BCA)

Title of the subject	**:Applied Statistics-Practical**	**credits**	**: 2**
Subject code	**: 23U1CASTP1**	**Marks**	**: 75**
Semester	**: II**		

OBJECTIVES

- To know the problem in the Measures of central tendency and Measures of Dispersion, the basic concepts of probability and random variable.
- To understand the problem in correlation, regression, Association of Attributes

UNIT: I

Measures of central tendency - Arithmetic Mean, Median, Mode,. (Numerical problems only).

UNIT: II

Measures of Dispersion -Quartile Deviation, Mean Deviation, Standard Deviation and Co-efficient of variation. (Numerical problems only)

UNIT: III

Karl Pearson's and Bowley's Co-efficient of Skewness, Probability and Random variables (Numerical problems only)

UNIT: IV

Karl Pearson's co-efficient of correlation, Spearman's rank correlation co-efficient, Regression lines (Numerical problems only)

UNIT: V

Partial and Multiple Correlation Coefficient, Multiple Regression. Curve fitting by the method of least squares: Straight line. Association of Attributes (Numerical problems only)

Reference Text Books

1.Fundamentals of Mathematical Statistics, Gupta S.C. and V.K. Kapoor Sultan & Sons, New Delhi
2.Practical statistics -R.S.N. Pillai and V. Bagavathi - -Chand& C

Question Paper Pattern

Maximum Marks: 60
Exam duration: 3 Hours

Answer Any FOUR out of six Questions. (One Question from each Unit)(4x15=60)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Course for M.Com)

Title of the subject	**: Advanced statistical techniques**	**credits**	**: 4**
Subject code	**:**	**Marks**	**: 75**
Semester	**: III**		

OBJECTIVES

The techniques in Inferential Statistics by and large depend on Probability concepts To enable the students to frame suitable hypothesis for testing and drawing right inference to solve many social, economic and biological real life problems.

UNIT – I

Probability -Trial – Sample point – Sample space Event, Mutually Exclusive – Definition of probability, and Axiomatic approach , Theorems on Probability – Addition theorem of probability – Conditional probability – Multiplication theorem – Baye's theorem (simple problems)

UNIT – II

Large sample test – Test for single proportion, difference between proportions, single mean, difference between means.(Simple problems)

UNIT –III

Small samples –Definition -Test of Significance for Small Samples –'t' test for Single mean, Difference between two means, F test for equality of variances, Chi – Square test for goodness of fit. (Simple problems).

UNIT –IV

Analysis of Variance: Definition and assumptions. Cochran's theorems (statement only) ANOVA - One way and Two way classifications (with one observation per cell). (Simple problems).

UNIT –V

Binomial, Poisson and Normal Distribution- Definition, Property and Simple Problem.

Course Outcomes

- Conduct probability in real life data.
- Understand the Axioms of probability.
- Know the test of significance for Large and small samples.
- Know the basic principles of experimental design.
- Learn the difference between one way and Two way ANOVA

Books for Study:

1. Gupta.S.C. and Kapoor V.K., Fundamentals of Mathematical Statistics, Sultan Chand & Sons.
2. Gupta,S.C. & Kapoor,V.K (2014), Fundamentals of Applied Statistics, 4th Edition, Sultan Chand & Sons, New Delhi.
3. Kanti Swarup, P.K. Gupta & Man Mohan: Operations research – Sultan Chand & Sons.

QUESTION PATTERN

The question paper setter is kindly informed to strictly follow the following question paper pattern

	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-v
Section-A Question no	1&2	3&4	5&6	7&8	9&10
Section-B Question no	11(a&b)	12(a&b)	13(a&b)	14(a&b)	15(a&b)
Section-C Question no	16	17	18	19	20

Section A- 10*2=20 Marks ---all question must be answered)
Section B- 5*5=25 Marks -----Either (a) or (b)
Section C-3*10=30Marks ---Three out of five questions must be answered

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Course for B.Com)

Title of the subject	**Business Statistics-I**	**credits**	**: 4**
Subject code	**: 23COCO**	**Marks**	**: 75**
Semester	**: I**		

OBJECTIVES

- To know the basic concepts of statistics.
- To study in detail about various types of classification and tabulation. The structure of forming frequency tabulation.
- To know the problem in the Descriptive Measures.

UNIT – I

Classification –Definition, Types of Classification. Tabulation – Definition, Rules for tabulation, parts of table, type of tables. Difference between classification and tabulation. Forming frequency distributions (Simple Problems)

UNIT – II

Diagrammatic and Graphic representation – Definition and Difference – Bar diagram – Simple, Component, multiple and pie diagram – Histogram, Frequency polygon, frequency curve and ogives.

UNIT – III

Measures of Central Tendency – Mean Median, Mode - Definition, merits and demerits (simple problem)

UNIT – IV

Measures of dispersion – Range, co efficient of Range, Quartile deviation, co efficient of Q.D, Standard deviation and Co - efficient of variation – Definition, merits and demerits. (Simple problems)

UNIT – V

Skewness– Definition – Bowley's and Karl Pearson's Coefficient of Skewness and Karl Pearson's method, kurtosis-Definition (Simple problems).

Course Outcomes:

- Know the uses of Statistics in Society.
- Understand the method of data collection.
- Learn the types of statistical diagrams.
- Applications of pie chart in news papers.

Reference Text books:

2. Statistics (Theory and practice) -R.S.N. Pillai and V. Bagavathi, Chand& company LTD, New Delhi.

UNIT – I- chapter 6 page no.50-73
UNIT – II chapter 7 page no.81-89, chapter 8 page no, 100-108
UNIT – III chapter 9 page no.125-179
UNIT –VI chapter 10 page no 241-267
UNIT – V chapter 11 page no 338-371

Question Paper Pattern

Maximum Marks: 75
Exam duration: Three Hours

Part A Answer **ALL** Questions (Two questions from each unit) (10x2=20)
Part B Answer **ALL** Questions (Either or type-Two questions from each unit) (5x5=25)
Part C Answer Any **THREE** Questions (One question from each unit) (3x10=30)

****

GOVERNMENT ARTS COLLEGE (AUTONOMOUS) KUMBAKONAM
DEPARTMENT OF STATISTICS
SYLLABUS FOR THE STUDENTS ADMITTED FROM 2023-2024
(Allied for B.Com students)

Title of the subject	**Business Statistics-II**	**credits**	**: 4**
Subject code	**: 23COCO**	**Marks**	**: 75**
Semester	**: II**		

OBJECTIVES

- To understand the problem in correlation and regression.
- To study in detail about various types of sampling.
- To understand Indian statistics.

UNIT – I

Correlation – Definition, Types – Scatter diagram, Karl Pearson's Coefficient of Correlation – Spearman's Rank Correlation coefficient. (Simple problems)

UNIT – II

Regression –Definition. Regression lines (Two variables only, Simple Problems). Difference between Correlation and Regression.

UNIT – III

Time series –definitions-component-Measurement of long term trend: Graphical method, Semi average method, Moving averages method for 3&5 years –merits and demerits. (Simple problems).

UNIT –IV

Index Numbers – definitions and uses -Problems of construction – Price relatives – simple Aggregate and simple Average of price relatives method, Weighted index number – Laspeyre's Paaschey's and Fisher's Ideal Index number. (Simple problems)

UNIT –V

Association of Attributes – Class frequencies – Order of frequencies – (2X2) Contingency table – Finding missing frequencies – Yule's coefficient of Association and Coefficient of Colligation. (Simple problems)

Course Outcomes:

- Understand and various methods of calculating correlation
- Understand and apply the Regression equation.
- Understand and various techniques of time series analysis
- Understand and apply the various types of index number.

Reference Text books

2. Statistics (Theory and Practice) R.S.N. Pillai and V. Bagavathi - Chand& company LTD, New Delhi.
   UNIT –I–chapter 12 page no 396-407
   UNIT- II- chapter 13 page no 465-499
   UNIT- III Chapter: 15 page no 591-601
   UNIT –IV chapter 14 page no 526-539
   UNIT –V chapter 17 page no 690-705

Question Paper Pattern

Maximum Marks: 75

Exam duration: Three Hours

Part A Answer **ALL** Questions (Two questions from each unit) (10x2=20)

Part B Answer **ALL** Questions (Either or type-Two questions from each unit) (5x5=25)

Part C Answer Any **THREE** Questions (One question from each unit) (3x10=30)

****