

**Government College (Autonomous)
Rajamahendravaram
NAAC Accredited at 'A+' Grade**



DEPARTMENT OF STATISTICS

B.A.(V&VI) SEMESTERS

SYLLABUS & MODEL PAPERS

2024-2025

GOVERNMENT COLLEGE (A) RAJAMAHENDRAVARAM

DEPARTMENT OF STATISTICS

B.A (E.S.C)

PROGRAM CODE: E.S.Comm:1103

S.NO	SEMESTER	TITLE OF THE PAPER	COURSE CODE
1	V	LONG TERM INTERNSHIP	----
2	VI	Paper VI-A1-Operation Research	STT306
3	VI	Paper VII-A2- Demography	STT309
4	VI	Paper VI-B1- Actuarial Statistics	STT308
5	VI	Paper VII-B2-Official Statistics and Design of Experiments	STT307
6	VI	Paper VI C1-Quality & Reliability	STT310
7	VI	C2-Statistical Computer Applications	STT311

B.A (E.S.C)
STRUCTURE OF B.A STATISTICS

Semester	Paper	Subject	Hrs.	Credits	IA	ES	Total	
THIRD YEAR								
Semester V (OR) Semester VI	Paper VI	A1-Operation Research	4	3	50	50	100	
	Paper VI	Practicals	2	2	0	50	50	
	Paper VII	A2- Demography	4	3	50	50	100	
	Paper VII	Practicals	2	2	0	50	50	
	OR							
	Paper VI	B1-Actuarial Statistics	4	3	50	50	100	
	Paper VI	Practicals	2	2	0	50	50	
	Paper VII	B2- Official Statistics and Design of Experiments	4	3	50	50	100	
	Paper VII	Practicals	2	2	0	50	50	
	OR							
	Paper VI	C1-Quality & Reliability	4	3	50	50	100	
	Paper VI	Practicals	2	2	0	50	50	
	Paper VII	C2-Statistical Computer Applications	4	3	50	50	100	
	Paper VII	Practicals	2	2	0	50	50	

Department of Statistics


B.A. (E.S.C)

PROGRAM EDUCATIONAL OBJECTIVES:

- **To prepare students for lifelong learning and successful careers using their statistical skills**
- **To make the students to know about survey**
- **To teach basic concepts of mathematics based on statistics**
- **To create awareness on Opportunities in statistics**
- **To train students thoroughly in methods of analysis**

PROGRAM OUTCOMES:

- After completion of the course, the student would be able to**
- ✓ **Use Statistical knowledge to analyze solve the problems**
 - ✓ **Analyze the data effectively in different areas**
 - ✓ **Use tools and applications of Statistics in various s disciplines**
 - ✓ **Know application of statistics based on day to day life**
 - ✓ **Develop good skills in solving the problems**

	Government College (Autonomous) Rajahmundry	Program & Semester III BA.(VI Sem) Paper-VI			
Course Code STT306	TITLE OF THE COURSE Operations Research Paper –VI-A1				
Teaching	Hours Allocated: 60 (Theory)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	4	3	3

Course Objectives:

After completion of this students would be able to learn different applications statistics.

Outcomes:

On Completion of the course, the students will be able to-	
CO1	Learn about Operation Research
CO2	Learn about Game theory
CO3	Learn about Transportation Problems
CO4	Learn about Assignment Problems
CO5	Learn about sequencing Problems

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

Unit-I:

Operations Research: Definition and scope of operations research, phases and models in OR, Linear programming problems, formulation of LPP, solving the LPP by graphical method.

Additional Inputs:Simplex method &Artificial Variable Technique methods

Unit-II:

Game theory:Definition,types of games, characteristics.Two person games, pure and mixed strategies, zero sum games finding solutions in 2x2,2xM games and Nx2 games.

Unit-III:

Transportation problem: Definition of transportation problem, TPP as a special case of LPP, feasible solutions by North-West, Matrix minimum and VAM methods.

Unit-IV:

Assignment problem: Formulation and description of assignment problem and its variations, Assignment problem, traveling salesman problem, Electively solution using Hungarian method.

Unit-V:

Sequencing Problem : Elements of sequencing problem with jobs on two and three machines and their solution.

Textbooks:

1. Hamdy A. Taha (1987): Operations Research – An Introduction, 4/e, Prentice Hall of India, Private Ltd, New Delhi.
2. Hillier F S and Libermann G J(2002): Introduction to Operations Research, 7th Edition, McGraw Hill
3. Kanti Swarup, P.K. Gupta and Man Mohan(2004): Operations Research, Sultan Chand and Sons, New Delhi.

Reference books:

1. Operations Research, S. Kalavathi, Vikas publishing house Pvt Ltd.


Web Links

1. <https://youtu.be/BGE5Y6TXPUQ>
2. <https://youtu.be/jkfwVH0foMw>

CO-PO Mapping:

(1:Slight[Low]; 2:Moderate[Medium]; 3:Substantial[High], '-':No Correlation)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
CO1	2	2	2	3	2	2	3	2	3	2	2	2	2
CO2	2	3	3	2	2	2	2	3	2	3	2	2	2
CO3	2	2	2	2	3	2	2	2	2	3	1	2	2
CO4	2	2	3	2	2	2	2	2	3	2	2	1	2
CO5	3	2	2	3	2	2	2	2	2	3	2	2	2

	Government College (Autonomous) Rajahmundry	Program & Semester III BA (VI Sem) Paper-VI			
Course Code STT305	TITLE OF THE COURSE Operations Research Paper –VI-A1				
Teaching	Hours Allocated: (Lab)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	0	3	2

Objectives

List of Experiments/Syllabus: Practical's-Semester-IV

Conduct any 6 Practical's Practicals:

1. Solving LPP by graphical method
2. Solving the TP by NWCR, matrix minimum and VAM methods
3. Game theory – obtaining saddle point and pure mixed strategies
4. Finding solution for 2x2 and 2xm games
5. Optimal solution for assignment problem
6. Solving sequencing problem for jobs on two machines.

Reference books:

1. Operations Research, S. Kalavathi, Vikas publishing house Pvt Ltd.

Virtual Lab Links:

1. <https://youtu.be/BGE5Y6TXPUQ>
2. <https://youtu.be/jkfwVH0foMw>

Government College [A+] Rajamahendravaram
CBCS SYLLABUS (Semester Wise) 2024-25
III B.A Statistics/Semester-VI
Operations Research Paper –VI-A1

MODEL QUESTION PAPER (THEORY)

Time: 2 1/2 hrs

Max Marks: 50

SECTION-A

Answer any **FIVE** questions.

5 x 4= 20M

1. Explain the formulation of LPP
2. Explain general LPP
3. Explain the standard form of LPP?
4. Define feasible solution in a Transportation problem
5. Define unbalanced Assignment problem
6. How do you obtain a sequence?
7. Explain Assignment problem as a special case of TP
8. Explain Travelling salesman problem

SECTION-B

Answer any **THREE** questions.

3 x 10 = 30M


9. Describe the definition and scope of Operation Research
10. Solve the following LPP by using Graphical method

$$\begin{aligned} \text{Maximize } Z &= 45X_1 + 80X_2 \\ \text{Subject to const: } & 5X_1 + 20X_2 \leq 400 \\ & 8X_1 + 15X_2 \leq 432 \\ & X_1, X_2 \geq 0 \end{aligned}$$

11. Explain Two person games and zero sum games with example
12. Solve the following Transportation Problem by using LCM.

	D ₁	D ₂	D ₃	Supply
O ₁	32	30	220	1
O ₂	90	45	170	3
O ₃	400	200	32	5
Demand	5	2	2	9

13. Give an algorithm for n job-2 machines problem

	Government College (Autonomous) Rajahmundry	Program & Semester III BA.(VI Sem) Paper-VII			
Course Code STT309	TITLE OF THE COURSE PAPER -VII DEMOGRAPHY-A2				
Teaching	Hours Allocated: 60 (Theory)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	4	3	3

Course Objectives:

After completion of this students would be able to learn different applications statistics.

Outcomes:

On Completion of the course, the students will be able to-	
CO1	Learn about Rates and Ratios
CO2	Learn about Select rates
CO3	Learn about Graduation
CO4	Learn about Rate selection
CO5	Learn about Insurance

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

Unit-I

Population Theories:

Introduction to Population Studies and Theories related Demography and Vital statistics and Sources of Vital Statistics and Various World Population conferences and Various Surveys of population. Errors of Age correction of Data

Unit-II

Measurement of Mortality:

Crude Death Rate (CDR), Specific death rate (SDR), Infant mortality, Rate(IMR) and Standardised death rates .Under five death rates and their importance. Stationary and Stable population, Central Mortality Rates and Force of Mortality, Life (Mortality) tables, Assumption, Description, Construction of life tables and use of life tables.

Unit -III

Measurement of Fertility:

Abridged life tables: Concept and construction of abridged life tables by Reed-Merrell method, Greville's method and King's method, Measurement of Fertility, Crude Birth Rate (CBR), General Fertility Rate (GFR), Specific Fertility Rate(SFR) and Total Fertility Rate(TFR)

Unit-IV

Reproduction Rates:

Measurement of population growth, crude rate of natural increase, Pearl's Vital index, Gross reproductive rate (GRR) and Net reproductive rate (NRR).Life table,types and its construction

Unit-V

Migration and Urbanization

Migration definition, causes and Concepts and numerous types of Migration, Popular theories . Concepts, definitions of urban, trends and patterns of urbanization in India.

Textbooks:

1. Mukhopadhyaya. Applied Statistics, Books and Allied(P) Ltd
2. Tools and Techniques of Demography by Pathak


Reference books:

1. Asha Bendekar :Demography

Web Links

CO-PO Mapping:

	(1:Slight[Low];			2:Moderate[Medium];				3:Substantial[High],			'-':No Correlation)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
CO1	2	2	2	3	2	2	3	2	3	2	2	2	2
CO2	2	3	3	2	2	2	2	3	2	3	2	2	2
CO3	2	2	2	2	3	2	2	2	2	3	1	2	2
CO4	2	2	3	2	2	2	2	2	3	2	2	1	2
CO5	3	2	2	3	2	2	2	2	2	3	2	2	2

	Government College (Autonomous) Rajahmundry	Program & Semester III BA (VI Sem) Paper-VII			
Course Code STT309	TITLE OF THE COURSE PAPER -VII DEMOGRAPHY-A2				
Teaching	Hours Allocated: (Lab)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	0	3	2

Objectives

List of Experiments/Syllabus: Practical's-Semester-IV

Conduct any 6 Practical's

1. Age corrections
2. Birth rates
3. Death Rates
4. Reprduction rates
5. Life tables
6. Life tables-2

Reference books:

1. Mukhopadhyaya. P (1999) Applied Statistics, Books and Allied(P) Ltd
2. Tools and Techniques of Demography by Pathak

Virtual Lab Links:

Government College [A] Rajamahendravaram
CBCS SYLLABUS (Semester Wise) 2024-25

III B.A Statistics/Semester-VI

Paper - VII - DEMOGRAPHY-A2
MODEL QUESTION PAPER (THEORY)

Time: 2 1/2 hrs

Max Marks: 50

SECTION-A

Answer Any FIVE questions.

5 x 4 = 20M


- 1. What are the errors that occur in the census and registration data**
- 2. Explain about population composition**
- 3. Distinguish between Stationary and Stable population**
- 4. Mention the uses of life tables**
- 5. Explain Crude rate of natural increase**
- 6. What are the uses of vital statistics**
- 7. What are the assumptions of life table**
- 8. Explain Demography**

SECTION-B

Answer Any THREE question

3x 10= 30M

- 9. Explain the sources of collecting data in Vital Statistics**
- 10. Explain the Various Mortality Rates**
- 11. Explain measures of population growth**
- 12. Describe the Description and Construction of life tables**
- 13. Describe any types of Migration**

	Government College (Autonomous) Rajahmundry	Program & Semester III BA.(VI Sem) Paper-VI			
Course Code STT308	TITLE OF THE COURSE Actuarial Statistics Paper –VI-B1				
Teaching	Hours Allocated: 60 (Theory)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	4	3	3

Course Objectives:

After completion of this students would be able to learn different applications statistics.

Outcomes:

On Completion of the course, the students will be able to-	
CO1	Learn about Rates and Ratios
CO2	Learn about Select rates
CO3	Learn about Graduation
CO4	Learn about Rate selection
CO5	Learn about Insurance

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

Unit-I:

Rates and Ratio's in Mortality- Exposed to Risk Aggregate Rates- Life Year and other rate Intervals

Unit-II

Statistics

Select Rates – Multiple Decrement Tables – Its role in Actuarial

Unit-III

**Principles and Purposes of Graduation – The Graphic Method -
Graduation by reference to a Standard table.**

Unit-IV

**Compression of Rates of Selection – Social and Economic factors in
Mortality – Population Structures and Projections – Age Sex Pyramid**

Unit-V

**U.K. Assured lives and Annuitants Mortality.- The English life Tables –
Individual Policy Sickness Experience – Indian Assured Lives Mortality.**

Textbooks:

1. Benjamin, B and Pollard: Analysis of Mortality and other Actuarial Sciences Published by Heinemann
2. Special Note: Exposed to Risk using the Direct and Census methods including mortality rates by age and Multiple Decrements.
3. Special Note: Population Structures and Projections -1990 Edition


Reference books:

4. Special Note: Exposed to Risk using the Direct and Census methods including mortality rates by age and Multiple Decrements.
5. Special Note: Population Structures and Projections -1990 Edition

Web Links

CO-PO Mapping:

	(1:Slight[Low];		2:Moderate[Medium];				3:Substantial[High],				'-':No Correlation)		
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CO1	2	2	2	3	2	2	3	2	3	2	2	2	2
CO2	2	3	3	2	2	2	2	3	2	3	2	2	2
CO3	2	2	2	2	3	2	2	2	2	3	1	2	2
CO4	2	2	3	2	2	2	2	2	3	2	2	1	2
CO5	3	2	2	3	2	2	2	2	2	3	2	2	2

	Government College (Autonomous) Rajahmundry	Program & Semester III BA (VI Sem) Paper-VI			
Course Code STT308	TITLE OF THE COURSE Actuarial Statistics Paper –VI-B1				
Teaching	Hours Allocated: (Lab)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	0	3	2

Objectives

List of Experiments/Syllabus: Practical's-Semester-IV

Conduct any 6 Practical's

1. Rates and Ratios in Mortality
2. Multiple Decrement Tables
3. Graphic Method
4. Age Sex Pyramid
5. Annuity Mortality
6. Insurance models

Reference books:

1. Benjamin, B and Pollard: Analysis of Mortality and other Actuarial Sciences Published by Heinemann

Virtual Lab Links:

Government College [A] Rajahmahendravaram
CBCS SYLLABUS (Semester Wise) 2024-25
III B.A. Statistics/Semester-VI
(Non-Mathematics Combination
Actuarial Statistics Paper –VI-B1

Time; 2 1/2hrs

MODEL PAPER

Max Marks: 50

SECTION-A

Answer any FIVE questions:

5 x4 = 20M


1. Explain about life year and other rate intervals?
2. Explain about Select Rates?
3. Explain the Graphic Method?
4. Explain Age Sex Pyramid?
5. Describe about English Life tables?
6. Explain about Mortality?
7. Explain the need of Actuarial Statistics?
8. Explain about Risk Aggregate Rates?

SECTION-B

Answer any THREE questions:

3x10=30M

9. Explain about Rates and Ratio's in Mortality?
10. Explain about life year and other rate intervals?
11. Explain Multiple Decrement Tables
12. What is the role of Multiple Decrement Tables in Actuarial Statistics?
13. Explain the Principles and Purposes of Graduation?

	Government College (Autonomous) Rajahmundry	Program & Semester III BA.(VI Sem) Paper-VII			
Course Code STT307	TITLE OF THE COURSE Official Statistics and Design of Experiments Paper –VII-A2				
Teaching	Hours Allocated: 60 (Theory)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	4	3	3

Course Objectives:

After completion of this students would be able to learn different applications statistics.

Outcomes:

On Completion of the course, the students will be able to-	
CO1	Learn about Official Statistics
CO2	Learn about divisions of Statistics
CO3	Learn about Analysis of variance
CO4	Learn about Principles of design of experiments
CO5	Learn about Missing plot techniques

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

Unit-I:

Official Statistics: National income, methods to estimate national income, problems involved in estimating national income, agricultural statistics.

Additional Inputs: Consumption and Production

Unit-II

Area, yield of statistics, Functions and organization of CSO, NSSO

Unit-III **Analysis of variance: Meaning, definition, assumptions, one way and two way classifications.**

Unit-IV **Principles of design of experiments: Principles of experiment, Completely Randomized design, Randomized block design and Latin square design. Missing plot techniques**

Unit-V Factorial Experiments: Concept and Definition,uses and drawbacks of Factorial experiments, $2^2,2^3$ experiments and examples

Textbooks:

1. Fundamentals of Statistics: Goon Gupta, Das Gupta
2. Applied Statistics-Parimal Mukhopadhyaya

Reference books:


1. Design of Experiments by Gupta Kapoor:
2. Applied Statistics-V.K.Kapoor & S.C.Gupta
3. Anuvarthitha Sankyaka Sastramu – Telugu Academy book.

Web Links

1. <https://youtu.be/BGE5Y6TXPUQ>
2. <https://youtu.be/jkfwVH0foMw>

CO-PO Mapping:

	(1:Slight[Low];		2:Moderate[Medium];				3:Substantial[High],				'-':No Correlation)		
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CO1	2	2	2	3	2	2	3	2	3	2	2	2	2
CO2	2	3	3	2	2	2	2	3	2	3	2	2	2
CO3	2	2	2	2	3	2	2	2	2	3	1	2	2
CO4	2	2	3	2	2	2	2	2	3	2	2	1	2
CO5	3	2	2	3	2	2	2	2	2	3	2	2	2

	Government College (Autonomous) Rajahmundry	Program & Semester III BA (VI Sem) Paper-VII			
Course Code STT307	TITLE OF THE COURSE Official Statistics and Design of Experiments Paper –VII-B2				
Teaching	Hours Allocated: (Lab)	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical inference	0	0	3	2

Objectives

List of Experiments/Syllabus: Practical's-Semester-IV

Conduct any 6 Practical's Practicals:

1. ANOVA-equal one way classifications
2. ANOVA-unequal one way classifications
3. ANOVA-Two way classifications
4. CRD
5. RBD
6. LSD

Reference books:

1. Design of Experiments by Gupta Kapoor:
2. Applied Statistics-V.K.Kapoor & S.C.Gupta
3. Anuvarthitha Sankyaka Sastramu – Telugu Academy book.

Virtual Lab Links:

GOVERNMENT COLLEGE (A+) , RAJAHMAHENDRAVARM
III B.A. SEMESTER:VI CBCS-2024-25
Official Statistics and Design of Experiments
Paper-VII-B2

Time; 2 1/2hrs

MODEL PAPER

Max Marks: 50

SECTION-A

Answer any FIVE of the following questions.

5 x 4 = 20M


1. Explain Uses of National Income
2. Explain Agricultural statistics
3. Explain Yield statistics
4. Write about Design of Experiments.
5. Write Short note On ANOVA
6. Write short note on Missing Plot Technique
7. Explain 2²-experiments
8. Define Treatment and experiment with Examples

SECTION-B

Answer Any THREE questions:

3x10=30M

9. Discuss the problems involved in measuring National Income.
10. Explain the functions of C.S.O
11. Explain principle of Design of Experiments
12. Explain ANOVA Two way classification
13. Explain LSD

	Government College (Autonomous) Rajahmundry	Program & Semester III B.A. (VI Sem) Paper-VI			
Course Code STT310	TITLE OF THE COURSE PAPER-VI-QUALITY AND RELIABILITY-C1				
Theory	Hours Allocated: 30 hrs	L	T	P	C
Pre-requisites:	Basic knowledge in Statistics and its functions	0	4	3	3

Objectives:

The aim of this paper is to understand the purpose and function of statistical quality control and also learn methods of statistical process control and learn the importance of Reliability in Quality Control.

Course Outcomes:

On Completion of the course, the students will be able to-	
CO1	Students would be able to learn about SQC
CO2	Students would be able to know Control charts
CO3	Students would be able to know about Single sampling plans and double sampling plans
CO4	Students must be able to know about Reliability terms
CO5	Students would be able to learn reliability functions

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

Unit-I

SQC: Importance of SQC in industry. Statistical basis of Stewart control charts, uses of control charts, Interpretation of control charts, control limits, Natural tolerance limits and specification limits.

Unit-II

Variable control chart: Construction of control charts for variables (mean, range and standard deviation) and attribute control charts p , np, and c- charts (with fixed and varying sample sizes). Process capability index. Concept of FIVEsigma and its importance

Unit-III

Acceptance sampling plans: Producers risk and consumer's risk. Concept of AQL and LTPD.

Unit-IV

Sampling Plans: Single and Double sampling plans, OC and ASN functions. Design of Single and double sampling plans for attributes using Binomial.

Unit-V

Reliability: Introduction failure rates, Hazard function, estimation of reliability, exponential distribution as life model, its memory less property. System reliability - series, parallel and k out of N systems and their reliabilities.

Textbooks:

1. B.A/B.Sc III Year Paper-III Statistics- Applied Statistics- Telugu Academy by Prof. K. Srinivasa Rao, Dr. D. Giri, Dr. A. Anand, and Dr. V. Papaiah Sastry.
2. K.V.S. Sarma: Statistics made simple: do it yourself on PC. PHI
3. B.A/B.Sc Statistics Applied Statistics, Kalyani Publishers by D.V.L.N. Jogiraju, C. Srikala and L.P. Raj Kumar.

Referencebooks:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Applied Statistics. Sultan Chand
2. Parimal Mukhopadhyay: Applied Statistics. New Central Book agency.
3. S.P.Gupta: Statistical Methods. Sultan Chand and Sons.


WebLinks:

1. <https://conjointly.com/kb/descriptive-statistics/>
2. https://en.wikipedia.org/wiki/Descriptive_statistics
3. <https://www.scribbr.com/statistics/descriptive-statistics/>
4. <https://byjus.com/maths/probability-and-statistics/>

CO-POMapping:

(1:Slight[Low]; 2:Moderate[Medium]; 3:Substantial[High] '-' :No Correlation)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
CO1	1	2	2	1	2	1	3	2	3	2	1	2	1
CO2	2	1	2	2	1	1	2	3	1	2	2	2	2
CO3	2	1	2	3	3	1	2	2	2	3	1	1	2
CO4	2	2	3	2	2	2	1	2	1	2	2	1	2
CO5	1	2	1	1	1	2	2	1	1	1	1	1	2

	Government College (Autonomous) Rajahmundry	Program & Semester III B.A.(V Sem) Paper-VI			
Course Code STT310	TITLE OF THE COURSE PAPER-VI-QUALITY AND RELIABILITY-C1				
Practical	Hours Allocated: 30 hrs	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical functions	0	0	3	3

Objectives:

1. After completion of this paper the students would be able to learn the applied part of statistics in various disciplines and also learn the opportunities of statistician in different fields.

Practical's Semester-V(Paper-V)

1. Construction of X, R Charts
2. Construction of p chart- fixed sample size
3. Construction of np-chart
4. Construction of C-chart
5. MS-Excel methods for the serial numbers 1
6. MS-Excel methods for the serial numbers 2 to 4.

Reference books:

1. Indian Official Statistics- MR Saluja
2. Anuvartita Sankhyaka sastram – Telugu Academy

Virtual Lab Links:

1. <https://conjointly.com/kb/descriptive-statistics/>
2. https://en.wikipedia.org/wiki/Descriptive_statistics
3. <https://www.scribbr.com/statistics/descriptive-statistics/>
4. <https://byjus.com/maths/probability-and-statistics/>

GOVERNMENT COLLEGE (A) RAJAMAHENDRAVARAM
CBCS SYLLABUS (Semester Wise) 2024-25
III B.A. Statistics (Semester-VI)
Paper-VI- Quality & Reliability –C1
MODEL QUESTION PAPER (THEORY)

Time: 2 1/2hrs.

Max Marks: 50

SECTION-A

Answer any FIVE questions.

5 x 4 =20M


- 1. What are 3 sigma limits? Give their importance in S.Q.C**
- 2. Discuss about Process control and Product control**
- 3. Explain the construction of C chart**
- 4. Explain about Acceptance Sampling.**
- 5 Explain Producer's Risk and Consumer's Risk.**
- 6 Explain Bath Tub Curve**
- 7 Explain Hazard function.**
- 8 Explain Reliability function**

SECTION-B

Answer THREE questions

3x 10=30M

- 9. Define SQC? Explain its usage in industry.**
- 10. Explain the construction of X and R charts.**
- 11. Explain the construction of p and np charts.**
- 12. What are SSP and DSP? Write their merits demerits**
- 13. Explain the method of system reliability in series configuration**

	Government College (Autonomous) Rajahmundry	Program & Semester III B.A. (VI Sem) Paper-VII			
Course Code STT311	TITLE OF THE COURSE PAPER-VII-STATISTICAL COMPUTER APPLICATIONS –C2				
Theory	Hours Allocated: 30 hrs	L	T	P	C
Pre-requisites:	Basic knowledge in Statistics and its functions	0	4	3	3

Objectives:

The aim of this paper is to understand the purpose and function of statistics by using computer and also learn statistical features.

Course Outcomes:

On Completion of the course, the students will be able to-	
CO1	Students would be able to learn about SQC
CO2	Students would be able to know Control charts
CO3	Students would be able to know about Single sampling plans and double sampling plans
CO4	Students must be able to know about Reliability terms
CO5	Students would be able to learn reliability functions

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

Unit-I:

Introduction to Operating System: Computer Generations, Structure of an Operating system The purpose of Operating systems –Features of an Operating systems-Types of an Operating Systems –Providing a User interface-Running Programs-managing Hardware-Enhancing an OS utility software.

Unit-II:

MS Word: Starting word, Creating new documents when Word is running, Standard tool bar, Formatting tool bar, File menu, Edit and manipulating text, Page setup, tab keys ,undo and redo commands, bullets and numbered list, Exiting word, Inserting page breaks, Inserting headers and footers, Inserting page numbers.

Unit-III:

MS EXCEL: Save and print workbooks, Enter and edit data. Modify a worksheet and workbook. Learn to use functions and formulas. Create and edit charts and graphics, Filter and sort table data and charts. Import and Export data. Excel Basics Work with Cells and Worksheets

Unit-IV:

MS POWER POINT: Basics, Creating presentations-auto content wizard, design template. Working with menus-file menu, edit menu, view menu, insert menu, format menu, tools menu, slide show menu, windows, help Cut, Copy, Paste slides, saving a presentation, closing a presentation, slide numbering, printing presentation. Applying a design to presentation, Slide transition.

UNIT-V:

INTERNET AND ITS APPLICATIONS:

History of Internet, Basics of Internet and its applications, Search Engines definition and its types and their history create Webpage on internet and usage and access of Internet

Textbooks:

1. Advanced Microsoft office 2000 by Meredith Flynn & Nita rutkosky, BPB publications.
2. Fundamentals of computers by V.Rajaraman, PHI
3. Computer System Architecture by M.Morris Mano

Referencebooks:

1. Operating System by Dhumdhare


WebLinks:

1. <https://conjointly.com/kb/descriptive-statistics/>

CO-POMapping:

(1:Slight[Low]; 2:Moderate[Medium]; 3:Substantial[High] '-':No Correlation)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
CO1	1	2	2	1	2	1	3	2	3	2	1	2	1
CO2	2	1	2	2	1	1	2	3	1	2	2	2	2
CO3	2	1	2	3	3	1	2	2	2	3	1	1	2
CO4	2	2	3	2	2	2	1	2	1	2	2	1	2
CO5	1	2	1	1	1	2	2	1	1	1	1	1	2

	Government College (Autonomous) Rajahmundry	Program & Semester III B.A.(VI Sem) Paper-VII			
Course Code STT311	TITLE OF THE COURSE PAPER-VII-STATISTICAL COMPUTER APPLICATIONS -C2				
Practical	Hours Allocated: 30 hrs	L	T	P	C
Pre-requisites:	Basic knowledge in Statistical functions	0	0	3	3

Objectives:

1. After completion of this paper the students would be able to learn the applied part of statistics in various disciplines and also learn the opportunities of statistician in different fields.

Practical's Semester-V(Paper-V)

1. Design a visiting card for a managing director of a company as per the following specification. Size of the visiting card should be $3\frac{1}{2}$ "X2"
2. Name of the company with a big font using word art. Phone number, Fax number and Email address with appropriate left and right margins and page number in the footer and name on top right side.
3. Prepare a resume of an MCA graduate with proper headings, appropriate left and right margins and page number in the footer and name on top right side.
4. Create an interview call letter as the main document and create 8 records for 8 persons. Use mail merge to create letters for 6 selected persons among the 8.
5. Write a macro to format a document as below.
 - i) Line spacing is two
 - ii) Paragraph indent of 0.8
 - iii) Justification formatting style.
 - iv) Arial font of 8 point size.
6. Filter and sort table data and charts.
7. Work with Cells and Worksheets Calculation
8. Make a Presentation of a slide for a given DATA

Reference books:

1. Operating System by Dhumdhare

Virtual Lab Links:

Government College [A+] Rajamahendravaram

CBCS SYLLABUS (Semester Wise) 2024-25

III B.A. Statistics/Semester-VI

Statistical Computer Applications Paper –VII-c2

MODEL QUESTION PAPER (THEORY)

Time: 2 1/2 hrs

Max Marks: 50

SECTION-A

Answer any FIVE of the following questions. :

5 x4=20M

1. Define Operating System and its types?
2. What are the generations of Computer?
3. Write about Headers and Footers?
4. Explain following terms
URL,WWW,HTML,HTTP
5. Write Mathematical tools in MS-Excel?
6. Write tools in MS-PowerPoint?
7. Write about commands in MS-Word?
8. Write about UNDO and REDO

SECTION-B

Answer any THREE of the following questions.

3 x 10 = 30M

9. Write any 10 short cut keys in MS Word?
 10. Write about Search Engines?
 11. Write about the internet its basics?
 12. Write briefly about concept of MACRO
 13. Explain the concept of Operating system through Diagram.
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