GOVERNMENT COLLEGE (A) RAJAMAHENDRAVARAM
CBCS SYLLABUS (Semester Wise) 2020-21
Descriptive Statistics and Probability
MODEL QUESTION PAPER

Time: 2 1/2 hrs.   **Max Marks: 50**

SECTION-A

Answer any SIX questions.   **6X3= 18M**

1. Distinguish between Primary and Secondary data.
2. What is Sheppard's correction? What will be the corrections for the first four moments?
3. Write short note on Diagrams and its types?
4. Explain types of classification
5. Explain Conditional Probability
6. In a frequency distribution, the co-efficient of skewness based upon the quartiles is 0.6. If the sum of the upper and lower quartiles is 100 and median is 38, find the value of the upper and lower quartiles.
7. Explain pmf and pdf
8. Explain Booles inequality
9. Explain Kurtosis
10. Explain Standard deviation

SECTION – B

Answer Any FOUR questions.   **4 x8=32M**

11. What do you understand by collection of data? What are its objectives? Discuss different methods
12. Describe the different measures of central tendency and discuss their Merits and demerits.
13. Explain the methods of measuring skewness and kurtosis of a frequency Distribution.
14. Define the raw and central moments of a frequency distribution. Derive the Relationship between them.
15. Explain MGF and its properties.

16. A random variable X has the following probability function

X	0	1	2	3	4	5	6	7
P(X)	0	K	2K	2K	3K	K^2	$2K^2$	$7K^2+K$

     (i)Find K
    And (ii) $P(X < 6)$, $P(X \geq 6)$ and $P(0 < X < 5)$.

17. Explain $E(X+Y)=E(X)+E(Y)$
               $E(XY)=E(X)E(Y)$

GOVERNMENT COLLEGE (A) RAJAMAHENDRAVARAM
II B.Sc. Statistics (Semester-III) 2020-21
(With Mathematics Combination)
Statistical Methods
MODEL QUESTION PAPER (THEORY)

Time: 2 ½ Hrs.   **Max Marks: 50**

SECTION-A

Answer any SIX questions   **6 x 3 = 18M**

1. Derive the limits for Karl Pearson's correlation coefficient.

2. Explain the concept of correlation ratio.

3. Explain the method of least squares.

4. Explain the Scatter Diagram.

5. State the properties of X^2, t and F distributions.

6. Give the properties of spearman's rank correlation coefficient.

7. Explain about regression.

8. Explain about Coefficient colligation.

9. Write short note on attributes.

10. What is Partial Correlation?

SECTION-B

Answer Any FOUR questions   **4 x 8 = 32M**

11. Define Correlation. Explain different types of correlation and its properties

12. Define Rank correlation. Derive the limits for rank correlation coefficient.

13. Derive the equation of regression lines of X on Y and Y on X.

14. Explain the differences between Correlation and Regression.

15. Explain the method of fitting a power curve $y = ab^x$ for a given data.

16. Explain the method of fitting of an exponential curve $y = ae^{bx}$ for a given data.

17. Write the consistency conditions for a given data for (i) single attributes (ii) two Attributes and (iii) three attributes.

GOVERNMENT COLLEGE (A) RAJAMAHENDRAVARAM
III B.Sc. Statistics (Semester-V) 2020-21
(With Mathematics Combination)
Sampling Techniques & Design of Experiments
MODEL QUESTION PAPER (THEORY)

Time: 3 hrs.   Max Marks: 60

SECTION-A

Answer any FIVE questions.   5 x 4 = 20M

1   Distinguish between census survey and sample surveys.

2   Define SRSWR and SRSWOR.

3   Explain Systematic Sampling.

4   Explain the purpose of ANOVA.

5   Explain about CRD

6   What are different types of sampling

7   Explain types of allocation in stratified sampling.

8   Systematic Sampling VS Stratified Sampling

SECTION-B

Answer any FIVE questions.   5 x 8 = 40 M

9   What are principal steps in a sample survey.

10   Discuss Sampling and non-sampling errors.

11   Derive the variance of the sample mean in SRSWOR.

12   What are simple random samples? Explain the methods of selecting simple
    random samples.

13   If the population consists of linear trend, then prove that
    $V(Y_{st}) \leq V(Y_{sys}) \leq V(Y_n)_R$

14   Discuss about basic principles of experimentation

15   Explain the analysis of RBD with one missing observation.

16   Explain LSD and merits, demerits of LSD

GOVERNMENT COLLEGE (A) RAJAMAHENDRAVARAM
CBCS SYLLABUS (Semester Wise) 2020-21
III B.Sc. Statistics (Semester-V)
(With Mathematics Combination)
Quality & Reliability
MODEL QUESTION PAPER (THEORY)

Time: 3hrs.   Max Marks: 60

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 FIVE questions   5 x 8=40M

9. Define SQC? Explain its usage in industry.

10. Explain Six-Sigma and their importance in industry

11. Explain the construction of X and R charts.

12. Explain the construction of p and np charts.

13. Explain the concepts AQL and LTPD

14. What are SSP and DSP? Write their merits demerits

15. Define O.C. and A.S.N functions with respect to single sampling plan for Attributes.

16. Explain the method of system reliability in series configuration.