

Sig. of Supdt.

KT-XII-14(A)
STATISTICS - (Part-II)
 Paper - I

Roll No.

Fig. No.

Fig. No.

Time Allowed : 3 Hrs.

Total Marks : 75

Note: There are three sections of this paper, A, B, & C. Carefully read the instructions for each section and attempt accordingly.

Time Allowed : 20 Mins.

SECTION - A

Total Marks : 15

Note: Use this sheet for this section. No. mark will be awarded for cutting, erasing or over writing.

Q. 1 Insert the correct option (a, b, c, d) in the empty box opposite to each part. Each part carries one mark. Any kind of Mark Left / Written is strictly prohibited. Mobile Phone is strictly prohibited in Examination Hall.

- i) The mathematical form of the probability distribution of the normal variable depends upon
 - (a) μ
 - (b) σ
 - (c) μ and σ
 - (d) None of these
- ii) The probability distribution of the sample mean is called
 - (a) Sampling error
 - (b) Standard error
 - (c) Sampling distribution of mean
 - (d) None of these
- iii) The expected value of random variable \bar{x} is
 - (a) Standard error
 - (b) The sample size
 - (c) The size of the population
 - (d) None of these
- iv) A hypothesis that does not completely specify the values of population parameters is referred to as
 - (a) Simple hypothesis
 - (b) Alternative hypothesis
 - (c) Composite hypothesis
 - (d) Null hypothesis
- v) Level of significance refers to
 - (a) Probability of type-I error
 - (b) Probability of the type-II error
 - (c) Power of the test
 - (d) None of these
- vi) A variable about which prediction or estimates are made is called the
 - (a) Dependent variable
 - (b) Discrete variable
 - (c) Independent variable
 - (d) None of these
- vii) What kind of relationship exists if Y decreases as X increase
 - (a) Inverse
 - (b) Direct
 - (c) No relationship
 - (d) None of these
- viii) Relationship between two categorical variables is called
 - (a) Correlation
 - (b) Regression
 - (c) Association
 - (d) None of these
- ix) For 3x4 contingency table the degree of freedom for the Pearson's X^2 test is
 - (a) 3
 - (b) 4
 - (c) 6
 - (d) 12
- x) $\mu - \delta$ to $\mu + \delta$ Contains approximately area
 - (a) 50%
 - (b) 95%
 - (c) 68%
 - (d) 99.7%
- xi) Given the numbers 2,6,1,5 a moving average of order 3 is given as
 - (a) (3,5)
 - (b) (4,5)
 - (c) (3,4)
 - (d) None of these
- xii) The smooth and regular movements is called
 - (a) Secular trend
 - (b) Irregular movement
 - (c) Cyclical movement
 - (d) None of these
- xiii) The odd order moments about mean for a normal dist are all
 - (a) One
 - (b) Zero
 - (c) Two
 - (d) None of these
- xiv) Which one is input devices?
 - (a) Key board
 - (b) Floppy disk
 - (c) Magnetic tape
 - (d) All of these
- xv) One GB is equal to
 - (a) 1000 MB
 - (b) 1000 KB
 - (c) 1024 MB
 - (d) 1024 KB

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STATISTICS - (Part-II)
Paper – I

Time Allowed : 2:40 Hrs.

Section – B

Marks : 36

Note : Mobile Phone is strictly banned in Examination Hall.

Q. 2 Write a short answer of any NINE of the following parts. Each part carries equal marks.

- (i) Rang the given data 23, 36, 24, 25, 33, 36, 40, 25, 27, 19, 25, 33.
- (ii) Convert the following into the required bases
(a) $(117)_{10} = (?)_2$ (b) $(367)_{10} = (?)_8$
- (iii) Explain sample and population.
- (iv) What is meant by sampling distribution of sample mean?
- (v) Define Null and Alternative Hypothesis.
- (vi) Define one tailed and two tailed tests.
- (vii) Define level of significance and level of confidence.
- (viii) What is meant by least square Method.
- (ix) What is scattered diagram?
- (x) What is categorical data.
- (xi) What is two way classification.
- (xii) Write the components of time series.

Section – C

Marks : 24

NOTE: Attempt any three questions. Each question carries equal marks.

Q. 3 Calculate three years average for the following time series.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Vales	90	95	99	98	104	96	99	113	114	126	128

Q. 4 Determine the coefficient of correlation for the following.

X	12	2	6	9	7	2	8	4	10	5
Y	4	10	8	5	5	8	3	8	2	5

Q. 5 Sample of 400 male students is found to have a mean height of 171.38 cm. Can it responsibly be regarded as a sample from a large population with mean height 171.17 cm and S.D 3.30 cm.

Q. 6 A population consists of three housing unit, were the value of X the number of rooms for rent in each unit are 2, 3 and 4. Draw a random sample of size 2 with replacement from this population and find their means. Construct the sampling distribution of sample mean and verity that

$$E(\bar{X}) = \mu \text{ and } \sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$$

KT-XII-14(A)
STATISTICS - (Part-II)
Paper – II

Time Allowed : 2:00 Hrs.

Marks :25

Note : Mobile Phone is strictly banned in Examination Hall.

Note : Attempt any two questions. Each question carries equal marks.

Q. 1 Fit a second degree parabola to the following data.

Year	1993	1994	1995	1996	1997	1998	1999	2000
Production (in Tons)	80	90	92	83	94	99	92	110

Q. 2 A population consists of three housing units, where the value of X , the number of rooms for rent in each unit are 2, 3 and 4 draw a random sample of size 2 with replacement from this population. Find

i) The sampling distribution of \bar{X} verify the relations $E(\bar{X}) = \mu$ and $\sigma_{\bar{X}} = \frac{\sigma}{\sqrt{n}}$ and

Q. 3 Given the bivariate data.

X	1	5	3	2	1	1	7	3
Y	6	1	0	0	1	2	1	5

Find

a) Regression b) Correlation coefficient