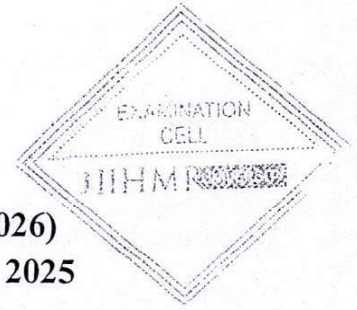




School of Development Studies

MBA Development Management Batch-4th (2024-2026)
First Year, Term 2 End Term Examinations, March 2025

CC – 663 Statistics for Social Science Research



Time - 3 Hour

Maximum Marks: 50 (Minimum Marks: 20)

Part A

(Maximum Marks: 1 x 5 = 5)

Q1. Fill in the blanks for a & b. Select the most appropriate answer for c to e (1 mark each):

- a) The assumption that states equality of all population means under consideration is called hypothesis.
- b) As per $\geq 88.9\%$ population lies in the range of $\mu \pm 3sd$.
- c) $1 - R^2_{1.23} = (1 - r^2_{12})(1 - r^2_{13.2})$ is
 - a. Multiple Regression
 - b. Multiple Correlation
 - c. Relationship between Multiple and Partial Correlation
 - d. Relationship between Multiple and Simple Correlation
- d) σ^2 between / σ^2 within is
 - a. z value
 - b. T value
 - c. χ^2 value
 - d. F value
- e) $\mu_d / (s\sqrt{n})$ is
 - a. Independent T-test
 - b. One tailed T-test
 - c. Paired T Test
 - d. Two tailed T-Test

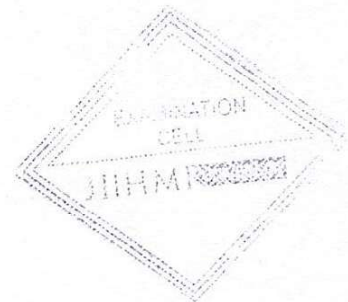
Part B**(Maximum Marks: 15)****Write Short Notes or Answer any three of the following questions (5 marks each):****Q2.** Measures of central tendency**Q3.** Prepare a less than type and a more than type Ogive for the following distribution.

Number		Cumulative
Grains	Plants	Plants
17-19	8	8
20-22	15	23
23-25	18	41
26-28	21	62
29-31	26	88
32-34	19	107

Q4. T test**Q5.** Weighted Price Index**Q6.** In an experiment on immunization of cattle from tuberculosis, the following results were obtained:

	Affected	Not Affected
Inoculated	20	30
Not inoculated	26	6

Calculate the χ^2 and discuss the effect of vaccine in controlling susceptibility to tuberculosis.
 (Table value of $\chi^2_{(1, \alpha=0.05)} = 3.84$)



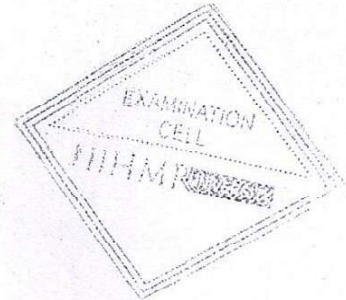
Part C**(Maximum Marks: 30)****Answer any two of the following questions in detail (15 marks each):**

- 10 Determine the regression equation for the following tables of two variables and find out the simple correlation and the r^2 .

x	y
42.00	56.00
44.00	49.00
58.00	53.00
55.00	58.00
89.00	65.00
98.00	76.00
66.00	58.00

- 11 From the given distribution, find out the Mean, Median, Variance and Standard Deviation:

Pods/Plant	Plants (f)
15-17	2
18-20	2
21-23	4
24-26	5
27-29	7
30-32	9
33-35	6
36-38	4
39-41	3
42-44	2
Total	44



- 12 Shown is production volume (in '000 tonnes) for a product. Use these data to compute a 3-year moving average for all available years. Also determine the trend and short term error.

Year	Production (Y) in Quintal
2005	21
2006	22
2007	23
2008	25
2009	24
2010	22
2011	25
2012	26
2013	27
2014	26