

X	7	5	4
Y	3	3	3
Z	8	7	4

Q-3 Attempt all questions (14)
 a. Explain sampling techniques in details. 14

OR

Q-3 a. Discuss various elements of decision theory problems. (in details) 7

SECTION – II

Q-4 Attempt the Following questions (07)

- a. What is the table value in z test at 5% level of significance? 1
- b. t-test paired use for _____ situation. 1
- c. When is one tail hypothesis used? 1
- d. What are the properties of a good estimator? 1
- e. First type of error is denoted by..... 1
- f. Probability of any event always lies between..... 1
- g. If $A=U$ then, $P(A) = \dots\dots\dots$ 1

Q-5 Attempt all questions (14)
 a. Calculate t-test using the following details (5% level of significance) 7

Student	1	2	3	4	5	6	7	8	9
Before	10	15	9	3	7	12	16	17	4
After	12	17	8	5	6	11	18	20	3

b. Explain data collection and collection of secondary data. 7

OR

Q-5 Attempt all questions (7)
 a. Setup an analysis of variance table for the following data. 7

Variety of Wheat		
A	B	C
6	5	5
7	5	4
3	3	3
8	7	4

b. Discuss interview methods of data collection and its merits and demerits. 7

Q-6 Attempt all questions (14)
 a. Explain measures of central tendency with their formulas. 7

b. Test the hypothesis at 5% level of significance, that there is no difference between monthly earnings of workers in two cities. 7

City	Mean of monthly earnings	S.D. of sample data	Sample Size
A	695	40	200
B	710	60	175



OR

Q-6

Attempt all Questions

- a. Explain addition and multiplication theorems of probability.
- b. $n = 59, \hat{p} = 0.24, p = 0.25, q = 0.75, (0.24 \leq \hat{p} \leq 0.27) = ?$

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7

