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**RVE–005**

**Ph. D. IN VOCATIONAL EDUCATION  
AND TRAINING (PHDVET)**

**Term-End Examination**

**December, 2023**

**RVE-005 : RESEARCH METHODOLOGY–II**

*Time : 3 Hours*

*Maximum Marks : 100*

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**Note :** *Attempt any **five** questions. All questions carry equal marks. Simple calculator will be allowed to students.*

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1. (a) Define ‘Statistics’ and its types. Briefly describe the five stages in a ‘Statistical Investigation.’ 15
- (b) Define ‘Sampling Error’ with the help of an example relevant to your research area. 5

**P. T. O.**

2. (a) Calculate mean for the following frequency distribution : 10

Marks	No. of Students
0 – 10	5
10 – 20	7
20 – 30	8
30 – 40	14
40 – 50	10
50 – 60	6

- (b) Calculate the standard deviation from the following data set : 10

X	30	25	40	55	80	70
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3. Briefly explain any **four** of the following :  $5 \times 4 = 20$

- (i)  $p$ -Value
- (ii) Parametric and Non-Parametric Tests
- (iii) Dependent and Independent Variables
- (iv) Skewness
- (v) Regression Analysis
- (vi) Report Writing

4. Calculate Rank Correlation Co-efficient from the given data and interpret the obtained result. 20

$x$	$y$
78	125
89	137
97	156
69	112
59	107
79	136
68	124

5. (a) Describe the steps involved in testing of hypothesis. 10
- (b) With the help of an example explain any *two* statistical tests for testing of hypothesis. Give formulas for their calculation. 10
6. Ten students were given coaching in Statistics and the difference in their test marks before and after coaching are given below : 20

Roll No.	Increase in Marks
1	6
2	- 2
3	8
4	- 4

5	10
6	2
7	5
8	- 4
9	6
10	0

Assuming that increment in marks follows Normal distribution. Does the data indicate that students have gained knowledge from the coaching at 1% level of significance ?

(Note : Table Value of  $t_{(q)0.01}$  is 2.821)

7. (a) List the different types of diagrams used for graphical presentation of data. Describe any *two* with the help of suitable examples and pictorial presentation. 10
- (b) With the help of suitable example explain the strategy for choosing the appropriate statistical test for analysing the following situations : 10
- (i) Comparing two groups means.
  - (ii) Comparing more than two groups means with quantitative data.