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RVE-005

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

Term-End Examination

December, 2024

RVE-005 : RESEARCH METHODOLOGY-II

Time : 3 Hours

Maximum Marks : 100

Note : (i) Attempt any **five** questions.

(ii) All questions carry equal marks.

(iii) Simple calculator will be allowed to the students.

1. (a) Explain the various steps involved in carrying out Research and Data analysis. Give examples. 10
- (b) Explain 'Variation' and its use with the help of an example. Describe any *two* frequently used measures of variation. 10

2. (a) Calculate mean marks for a class of 100 students in vocational skills with an assumed mean of '55'. Lowest marks obtained were '31' and highest '78'. Assume equal distribution of students in each class interval. 10
(**Hint** : Construct a table of continuous series).
- (b) Calculate standard deviation for the above mentioned data and interpret the result along with the mean. 10
3. Briefly explain any *two* of the following with suitable examples : $2 \times 10 = 20$
- (i) Sampling error
 - (ii) Report writing
 - (iii) Confidence level and P-value
4. Given ahead are the test scores of 10 candidates before and after the training in plumbing job skills. Assuming normal distribution, find out if there is any impact of training on the job skills : 20

Candidates	Skills Score (Before Training)	Skills Score (After Training)
1	3	9
2	6	4
3	2	10
4	7	3
5	0	10
6	6	8
7	5	10
8	6	2
9	2	8
10	5	5

(**Note** : Table value of the test statistic at 1% significance level and 9 d.f. is 2.821.)

5. Distinguish between the following : $6+6+8=20$
 - (i) Parametric and Non-parametric tests
 - (ii) Correlation and Regression
 - (iii) Mean, Median and Mode
6. Given below is the data of seven households annual income in lakhs of Rupees (x) and average weight of family members (y). Find out if there exists any relationship between the two with the help of Spearman's formula and interpret the results : 20

x	y
10	30
20	40
30	50
30	60
40	80
45	80
50	80

7. Research was done on 250 patients suffering from a disease. A new treatment was given to some patients while others followed the conventional treatment. Data below gives the number of patients showing favourable and unfavourable response. Find out if the new treatment is superior to the conventional : 20

Treatment	Number of Patients	
	Favorable	Unfavourable
New	140	30
Conventional	60	20

(Given : Value of test statistic at 5% and '1' d.f. = 3.84.)

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