

Ph.D PROGRAMME IN PSYCHOLOGY (PHDPC)

Term-End Examination

December, 2014

**RPC-002 : ADVANCED PSYCHOLOGICAL
STATISTICS**

Time : 3 hours

Maximum Marks: 100

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- Note :** (i) *All sections are compulsory.*
(ii) *Use of simple calculator is permitted.*
(iii) *Carefully read the instructions given in each section.*
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Section - A

1. Answer the following questions in 50 words each (Any ten). All questions carry equal marks. $10 \times 4 = 40$
- (a) Ordinal Scale
 - (b) Frequency Polygon
 - (c) Mean
 - (d) Quartile Deviation
 - (e) Degree of Freedom
 - (f) Multiple Regression
 - (g) Kurtosis
 - (h) Canonical Correlation
 - (i) MANCOVA
 - (j) Percentile
 - (k) Eigen Value

Section - B

Answer the following in **200** words each (**Any five**). All questions carry **equal** marks.

1. Calculate correlation coefficient for the following data using Pearson Product Moment Correlation : 6

	Individuals									
	1	2	3	4	5	6	7	8	9	10
Test A	6	2	9	6	12	7	11	3	7	2
Test B	1	4	3	6	6	13	12	10	8	7

2. Describe the process of computing Standard Deviation with regard to grouped and ungrouped data with the help of hypothetical data. 6
3. A study was carried out to find out the preference of two levels of employees, Managerial and Clerical for two types of training programmes. The data is as follows : 6

	Managers	Clerks	Total
Training 'A'	3	12	15
Training 'B'	5	10	15
Total	8	22	30

Find out whether the preference for two types of training is independent of level of employees at 0.01 level of significance.

4. The scores obtained by two groups of students on attitude towards environment are given below. Find out if significant difference exists between two groups : 6

Group A : 5, 6, 12, 11, 8, 8, 7, 6, 8, 9

Group B : 4, 6, 5, 6, 8, 7, 7, 8, 9, 10

5. Define statistics. Differentiate between inferential and descriptive statistics with the help of suitable examples. 2+4=6

6. A group of five individuals obtained the following scores on Test A and Test B. 6

	Individuals				
	1	2	3	4	5
Test A	10	10	20	18	12
Test B	8	9	12	11	10

Determine both regression equations.

Section - C

Answer the following questions in 500 words each (any two). All questions carry equal marks.

1. Differentiate between parametric and non-parametric tests. Discuss any two tests that fall in the above two categories. 8+7=15
2. Explain the meaning and purpose of Analysis of Covariance. Discuss the steps involved in calculating Analysis of Covariance. 7+8=15

3. Explain Mann-Whitney U test. With the help of following data find out if individuals from rural and urban areas differ in their attitude towards education. **5+10=15**

	Attitude towards Education
Rural	53, 63, 63, 58, 60, 62, 66, 65, 64, 68
Urban	59, 60, 61, 64, 63, 51, 52, 55, 53, 57, 56, 54, 52, 64, 56, 54, 58, 56, 62, 60, 57
