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RPC-002

Ph.D. PROGRAMME IN PSYCHOLOGY (PHDPC)

00266

Term-End Examination

June, 2015

RPC-002 : ADVANCED PSYCHOLOGICAL STATISTICS

Time : 3 hours *Maximum Marks : 100*

Note : *All sections are **compulsory**. Read the instructions carefully before attempting each section. Use of simple calculator is permitted.*

SECTION A

*Answer any **ten** of the following questions in about 50 words each. All questions carry equal marks.* *10×4=40*

1. Interval and Nominal scale *4*

2. Mode and Median *4*

3. Frequency distribution *4*

4. Percentile rank *4*

5. Range and Mean Deviation *4*

6. Standard error *4*

7. Kurtosis *4*

8. Regression *4*

9. Variance *4*

10. Pie Diagram *4*

11. Null hypothesis *4*

SECTION B

*Answer any **five** of the following questions in about 200 words each. All questions carry equal marks.* *5×6=30*

12. Discuss correlation. Calculate Spearman Rank Coefficient Correlation for the following data : *2+4*

Data 1	5	4	3	5	1	2
Data 2	6	1	4	6	2	3

13. Explain Regression equation. Determine regression equations for the following data : *2+4*

Marks obtained in Economics (X)	Marks obtained in Psychology (Y)
$M_X = 70{\cdot}00$	$M_Y = 75{\cdot}00$
$\sigma_X = 8{\cdot}00$	$\sigma_Y = 6{\cdot}00$

$r = 0{\cdot}72$.

14. What is goodness of fit test ? Sixty individuals belonging to low Socio Economic Status (SES) and hundred individuals belonging to high Socio Economic Status were asked to select one of the five products. The choices are given in the table below. Determine whether the choice of the individuals is associated with their SES. *2+4*

		Product					
		A	B	C	D	E	Total
SES	Low	15	15	5	15	10	60
	High	10	25	10	30	25	100

15. The following are the scores obtained by educated and uneducated on an attitude scale. Find out whether the two educational statuses differ significantly on attitude. *6*

Uneducated : 117, 112, 109, 112, 115

Educated : 102, 112, 97, 111, 105, 95, 112, 110.

16. Discuss with suitable examples and diagram how grouped data can be graphically presented. Discuss the advantages of graphical presentation. *4+2*

17. Differentiate between descriptive and inferential statistics with suitable examples. *6*

SECTION C

*Answer any **two** of the following questions in about 500 words each. All questions carry equal marks. 2×15=30*

18. Compare between parametric and non-parametric statistics. Discuss any two parametric and related non-parametric methods with suitable examples. *8+7*

19. Discuss the assumptions of analysis of variance. Three groups of employees were trained using three different techniques. The performance scores are given below. Test the difference in performance score amongst the groups. *4+11*

Group 1 : 12, 9, 12, 13, 11, 10, 15, 19, 8, 14

Group 2 : 10, 7, 8, 6, 5, 7, 9, 13, 11, 8

Group 3 : 6, 10, 9, 7, 10, 8, 11, 11, 10, 12

20. Discuss the procedure for Mann-Whitney U test. A researcher was interested in studying the self-concept of children from rural and urban areas. Find out the difference in self-concept of the two groups with the help of Mann-Whitney U test. *5+10*

Rural areas : 116, 110, 99, 112, 118, 97, 110, 90, 94, 115

Urban areas : 100, 112, 116, 108, 104, 105, 98, 108, 121, 125, 110, 117, 106, 116, 118, 120