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MASTER OF ARTS (PSYCHOLOGY)

Term-End Examination

December, 2015

MPC-006 : STATISTICS IN PSYCHOLOGY

Time : 2 hours   *Maximum Marks : 50*

*Note : All sections are **compulsory**. Use of simple calculator is permitted.*

SECTION A

*Answer any **two** of the following questions in about 500 words each :*   *2x10=20*

1. What is hypothesis testing ? Discuss the steps involved in setting up the level of significance with suitable examples.   *4+6*

2. Define Correlation. Find out if relationship exists between the two data given below with the help of Spearman's Rank coefficient of correlation :   *2+8*

   Data 1 :   20, 31, 42, 60, 51, 77, 62, 45, 50, 59

   Data 2 :   21, 34, 39, 59, 53, 79, 61, 47, 48, 58

3. Differentiate between parametric and non-parametric statistics. Compute chi-square for the following data : 3+7

For the following question 'Whether cancer is contagious?', the replies given by individuals belonging to low and high Socio-Economic Status (SES) is given below :

	Response		
	Yes	No	Total
Low SES	72	48	120
High SES	34	46	80

Critical value : 0·01, level of significance = 6·635

4. Explain the term variance. A research was carried out to study the effectiveness of three different methods in enhancing mathematical performance of students. The data based on the performance test is given below. Find out if significant difference exists in the performance of the students with the help of ANOVA. 3+7

Group A (Method 1)	Group B (Method 2)	Group C (Method 3)
6	12	10
10	9	7
9	12	8
7	13	6
10	11	5
8	10	7
11	15	9
11	18	13
10	8	11
12	14	8

Critical value = 0·01, level of significance = 5·49.

SECTION B

*Answer any **four** of the following questions in about 300 words each :* 4×6=24

5. Differentiate between descriptive and inferential statistics. 6

6. Compute the regression equation with the help of the following data : 6

   X : 7, 6, 10, 7, 10

   Y : 9, 7, 10, 4, 5

7. Calculate Mann-Whitney U test with the help of the following data : 6

   Data 1 : 20, 27, 30, 31, 32, 25

   Data 2 : 26, 33, 40, 36, 28, 21

8. Explain divergence in normality with the help of a suitable diagram. 6

9. Discuss the merits and demerits of Two-way ANOVA. 6

SECTION C

*Write short notes on any **two** of the following in about 100 words each :* $2 \times 3 = 6$

10. Levels of Significance $\quad$ 3

11. Linear Relationship $\quad$ 3

12. Degree of Freedom $\quad$ 3

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