

CARMEL COLLEGE OF ARTS, SCIENCE AND COMMERCE, NUVEM-GOA

M.A. (PSYCHOLOGY) EXAMINATION, JULY 2021

PLC 104: ADVANCED STATISTICS FOR PSYCHOLOGY

Date: 09/07/2021

Total Marks: 40

Instructions: 1) Read each question carefully.

2) Write the correct question number.

3) Each question carries 10 marks.

Q.NO.I)

A) Critically evaluate measures of central tendency and variability.

OR

B) The methods of extraction and rotation are central to Factor Analysis.
Elucidate.

Q.NO.II)

A) Determine the correlation coefficient using the Rank difference method for the data given below:

Ratings by one observer	18	14	15	17	15	13	10	7	5	6
Ratings by another observer	15	16	13	13	9	10	8	5	11	6

OR

B) Calculate the coefficient of correlation between price and quantity. Comment on the value obtained.

Price	9	12	8	10	9	10	5	8	12	6	10	8
Quantity	69	78	52	56	57	77	68	55	69	63	72	82

Q.NO.III)

A) Memory capacity of students was tested before and after training. State whether the training was effective or not from the following scores. Analyze the given data by using an appropriate parametric test. (Table value = 2.26)

Before training	12	14	11	8	7	10	3	0	5	6
After training	15	16	10	7	5	12	10	2	3	8

OR

B) A researcher wishes to test the effects of alcohol and expectation of alcohol on aggression. Analyze the data shown below using an appropriate parametric test (Table value = 4.11).

		EXPECTATION	
		Expect alcohol	Do not expect alcohol
EFFECTS OF ALCOHOL	Received alcohol	6	6
		8	3
		5	4
		8	2
		7	4
		8	6
		4	2
		9	3
		6	5
		5	3
	Did not receive alcohol	5	5
		7	3
		6	1
		5	4
		6	4
		8	3
		4	3
		4	1
		6	5
		8	4

Q.NO.IV)

A) A psychologist is interested in determining whether left-handed and right handed people differ in spatial ability. She randomly selects left-handers and right-handers from the students enrolled in the university and administers a test that measures spatial ability. The following are the scores. Compute the Mann-Whitney test (Critical value = 20).

Left-handers	87	94	56	72	98	83	95	84	76	
Right-handers	45	68	92	73	71	80	55	61	75	85

OR

B) The time (in minutes) that rats took to go through a maze was noted for three groups of rats. Using an appropriate non-parametric test, test whether there are differences between the groups. (Critical Value = 5.991).

Untreated	Stimulant	Hallucinogen
1	8	19
8	16	18
23	9	15
20	3	19
22	6	27
7	6	24