

2026

PSYCHOLOGY — HONOURS**Paper : DSCC-7****(Statistical Methods for Psychological Research - 1)****Full Marks : 75***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words
as far as practicable.*

1. Write short notes on **any five** (word limit **250** words in each) : 5×5

- (a) Skewness
- (b) Random sampling
- (c) Degrees of freedom
- (d) Goodness of fit
- (e) Standard score
- (f) Hypothesis testing
- (g) Dichotomous variable
- (h) Contingency co-efficient.

2. Write **any two** from the following (word limit **700** words in each) :

- (a) Define sampling. Discuss, in detail, about the probability sampling techniques. 3+7
- (b) Write the assumptions biserial and point-biserial correlation. 5+5
- (c) Write down the properties of normal probability curve with a suitable diagram. 7+3
- (d) The marks obtained by 10 students in two subjects, History and Civics are given below. Find out whether there is any significant correlation between the 'Ranks' obtained by them in these two subjects. 10

Individuals	:	1	2	3	4	5	6	7	8	9	10
Marks in History	:	12	15	24	20	8	15	20	20	11	26
Marks in Civics	:	21	25	35	24	16	18	25	16	16	38

Critical value

	0.05	0.01
df = 8	0.632	0.765
df = 9	0.602	0.735

- (e) What do you understand by non-parametric statistics? Write the uses of chi-square test. 4+6

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3. Write **any two** from the following (word limit **1000** words in each) :

- (a) The following table represents number of boys and girls who choose each of the five possible answers to an item in an attitude scale. Find out whether there is a significant sex difference in attitude toward this question. 15

	Approve Strongly	Approve	Indifferent	Disapprove	Strongly disapprove
Boys	25	30	10	25	10
Girls	10	15	05	15	15
Critical value	0.05	0.01			
df = 4	9.488	13.277			
df = 5	11.070	15.086			

- (b) Define statistical inference. Explain the steps involved in drawing statistical inference. 3+12
- (c) Explain the assumptions of Product Moment correlation co-efficient. Assuming normality, find out the correlation between the scores of Bengali and Mathematical tests of 8 students. Comment on the results. 5+10

Bengali test scores	80	64	78	49	82	77	69	75
Mathematical test scores	90	80	70	92	80	79	70	80
Critical values	0.05	0.01						
df = 6	0.78	0.83						
df = 7	0.67	0.80						

- (d) What do you understand by correlation coefficient? Explain the different types of correlation. Discuss the properties of correlation. 3+6+6
- (e) The HIV negative-positive variable and the pregnant – non-pregnant variable are represented respectively along columns and rows of a 2×2 fold contingency table. The HIV positive class and the pregnant class are considered the positive classes of the respective variables and represented along the right column and the top row respectively. The frequencies of cases are entered in the cells according to the classes of the two variables to which each case belongs. The column total and the row total are computed respectively. Compute the appropriate correlation and check the significance. 15

	HIV – negative	HIV – positive	Total
Pregnant	28	12	40
Non-pregnant	36	24	60
Total	64	36	100(n)

Critical value	0.05	0.01
$\chi^2 = df = 1$	3.84	6.64