	Parul University **Faculty of Engineering and Technology** **Parul Institute of Engineering and Technology** **Department: AI-ML/AI-RO/AI/AI-DS/CSE/MICRO/SAP/QUICK/ORACLE/IT/AERO**			
Subject Name	**PROBABILITY, STATISTICS AND NUMERICAL METHOD**	**A.Y**	**2025/2026**	
Subject Code	**303191251**	**Semester**	**4^{th}**	
Assignment-1				
Sr No	**Question**	**COs**	**B.T**	**Competence**
1	For the information given below, find product moment correlation coefficient and comment on its value. n = 8, Σx = 40, Σy = 88, Σxy = 404, Σx^2 = 520, Σy^2 = 1058	1	3	Apply
2	The following calculations are available for 20 pairs of observations on x and y. Σx = 100, Σy = 80, Σxy = 406, Σx^2 = 220, Σy^2 = 1058. It was later found that one of the pair of observation was wrongly copied as (5,4), while the correct value was (4,5). Find the correct value of correlation coefficient.	1	4	Analyse
3	Given r = 0.5, cov(x, y) = 4, s. d. (x) = 2.5, $E(y^2)$ = 192.4, n = 10. Find mean of y.	1	3	Apply
4	If the rank correlation coefficient is 0.5 and sum of squares of differences between the ranks is 10, find number of observations used in calculating rank correlation coefficient.	1	2	Understand
5	The following data shows number of calls made by 10 sales representatives and the number of machines sold. Obtain Karl Pearson's correlation coefficient and comment on its value. No. of sales calls: 20, 40, 20, 30, 10, 10, 20, 20, 20, 30 No. of machines sold: 30, 60, 40, 60, 30, 40, 40, 50, 30, 70	1	3	Apply