	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 METHODS**	**A.Y**	**2025/2026**
Subject Code	**303191251**	**Semester**	**4^{th}**
Chapter-1			
Sr No	**Question**	**COs**	**B.T**
1	**Calculate Karl Pearson's correlation for X= (2,4,6,8) and Y= (3,7,9,12).**	**1**	**3**
2	**Compute rank correlation for ranks (1,4,3,2,5) and (2,3,1,5,4).**	**1**	**3**
3	**Fit a straight line y=a+bx for points (1,2), (2,5), (3,6), (4,8).**	**1**	**4**
4	**Fit a parabola $y = a + bx + cx^2$ to data (1,2), (2,6), (3,12), (4,20).**	**1**	**6**
5	**Find regression of Y on X for X=(10,20,30) and Y=(6,15,25).**	**1**	**4**
6	**For given data X=(2,3,5,6) and Y=(4,5,7,10), find covariance.**	**1**	**2**
7	**Use least squares to fit y = mx to data x=(1,2,3), y=(2,4,5).**	**1**	**5**
8	**Find regression coefficients bxy and byx for given summary data.**	**1**	**4**
9	**Explain when correlation is zero but variables are not independent (conceptual).**	**1**	**2**
10	**Check whether linear curve fitting or quadratic curve fitting is more suitable for dataset: (1,2),(2,4),(3,9),(4,16).**	**1**	**5**