



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	4th

Chapter-5

Sr No	Question	COs	B.T
1	Form forward difference table for $f(x)=x^3$ at $x=0,1,2,3$.	5	2
2	Use Newton Forward to find $f(1.4)$ for given table.	5	3
3	Use Newton Backward to estimate $f(5.2)$ for $x=3,4,5,6$.	5	3
4	Use Divided Difference for points $(2,4),(3,9),(5,25)$.	5	4
5	Construct Lagrange polynomial for $(1,2),(2,5),(4,17)$.	5	6
6	Convert forward to backward differences (prove relation).	5	2
7	Estimate value using Newton's Divided Difference formula for 4 nodes.	5	4
8	Explain central difference operators with example.	5	2
9	Interpolate missing value using given table.	5	5
10	Compare interpolation using Newton vs Lagrange.	5	2