Guru Nanak Dev Engineering College, Ludhiana			
Department of CSE			
Program	B.Tech.CSE(A/B)	**Semester**	3
Subject Code	BSCS-101	**Subject Title**	Mathematics-III
Mid Semester Test (MST) No.	1	**Course Coordinator(s)**	Sukhminder singh
Max. Marks	24	**Time Duration**	2 Hours
Date of MST	29-10-2021	**Roll Number**	

Note: Attempt all questions.

Q. No.	Question	COs, RBT level	Marks
Q1	Discuss the analyticity of the function: $f(z) = \cosh z$	CO2, L2/L5	2
Q2	Write algorithm for Straight line fit of a curve.	CO5, L1	2
Q3	Apply Gauss Elimination method to solve the equations : $x + 2y + 3z - u = 10$, $2x + 3y - 3z - u = 1$, $2x - y + 2z + 3u = 7$, $3x + 2y - 4z + 3u = 2$.	CO6, L3	4
Q4	Given that $u = e^{-2xy} \sin(x^2 - y^2)$. If $f(z) = u + iv$ is an analytic function , find $f(z)$ in terms of z.	CO2, L5	4
Q5	Solve the system of equations by Gauss Jordan method : $x + 2y - z = 3$, $3x - y + 2z = 1$, $2x - 2y + 3z = 2$.	CO6, L3	4
Q6	The following table gives the results of the measurements of train resistances ; V is the velocity in miles per hour, R is the resistance in pounds per ton : <table><tr><td>V</td><td>20</td><td>40</td><td>60</td><td>80</td><td>100</td><td>120</td></tr><tr><td>R</td><td>5.5</td><td>9.1</td><td>14.9</td><td>22.8</td><td>33.3</td><td>46.0</td></tr></table> If R is related to V by the relation $R = a + bV + cV^2$, find a, b and c.	CO5, L5	8

Course Outcomes (CO)
Students will be able to

CO2	Understand Analytic functions and evaluation of derivative of functions of complex variable.
CO5	Fit the given data into best fit curve.
CO6	Apply statistical methods for analyzing experimental data.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating