

Hall Ticket No: 160923733152

Course Code: U23MA201



# LORDS INSTITUTE OF ENGINEERING AND TECHNOLOGY

## (UGC Autonomous)

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**B.E-II SEMESTER, CONTINUOUS INTERNAL EVALUATION-I, JUNE, 2024**

## MATHEMATICS -II

(Common for CIVIL/MECH/CSE/CSD)

Time: 60 min.

Date: 13-06-2024 FN

Max. Marks :20

Instructions to the Students:

- Question No. 1 is Compulsory
- Answer any 2 Questions from Q.No.2 –Q.No.4

			CO	BTL
1.	a.	Discuss the nature of quadratic form $x^2 - y^2 + 4z^2 + 2yz + 6zx + 4xy$ .	[2]	CO2 BTL2
	b.	Find the orthogonal trajectories of the family of curves $r = c\theta^2$	[2]	CO1 BTL2
	c.	Find complimentary function of $(D^2 + D + 1)^2 y = e^x \tan x$ .	[2]	CO4 BTL2
2.	Find the Eigen values and corresponding Eigen vectors of $A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$		[7]	CO2 BTL2
3.	Solve $y(2x^2y + e^x)dx = (e^x + y^3)dy$ .		[7]	CO3 BTL3
4.	Solve $(D + 2)(D - 1)^2 y = e^{-2x} + 2\sinh x$		[7]	CO4 BTL3

### Bloom's Taxonomy Levels (BTL)

I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
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