



LORDS INSTITUTE OF ENGINEERING AND TECHNOLOGY
(UGC Autonomous)

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B.E-I SEMESTER, CONTINUOUS INTERNAL EVALUATION-I, Nov,2023

MATHEMATICS-I

(Common for All Branches)

Time: 60 min

23-11-2023(FN)

Max. Marks: 20

Instructions to the Students:

- Question No. 1 is Compulsory
- Answer any 2 Questions from Q.No.2 - Q. No4

			CO	BTL
1	a.	Test the convergence of series $\sum \frac{\cos n\pi}{(n^2+1)}$	[2] CO2	BTL3
	b.	Write the expression for Taylor's series and Maclaurin's series	[2] CO3	BTL1
	c.	If $u = \log \left(\frac{x^2+y^2}{x+y} \right)$ then prove that $xu_x + yu_y = 1$	[2] CO4	BTL3
2		Test for convergence of the series $\frac{x}{1.2} + \frac{x^2}{3.4} + \frac{x^3}{5.6} + \dots$	[7] CO2	BTL3
3		State and prove Lagrange's Mean value theorem	[7] CO3	BTL4
4		If $u = \frac{2yz}{x}$, $v = \frac{3zx}{y}$, $w = \frac{4xy}{z}$ find $\frac{\partial(x,y,z)}{\partial(u,v,w)}$	[7] CO4	BTL3