Paper Code	BAS	2	0	3

Roll No													

BANSAL INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow)

Internal Examination (TEST–1 Odd sem. 2024-25)

Programme: B. Tech.	**Semester: II**	**M.M.20**
Section: (A1+A2+A3+C1)	**Subject: Engineering Mathematics-II**	
Date: 28/04/2025	**Time:** 1Hour	
Knowledge Level (KL)	KL1- Remembering	KL4- Analyzing
	KL2- Understanding	KL5- Evaluating
	KL3- Applying	KL6- Creating

Part A- Answer Any TWO Questions **(5X2=10 Marks)**

1.	**Solve** $(D^2 - 2D + 4)y = e^x \cos x + \sin x \cos 3x$.	**CO1**	KL1
2.	**Solve** $x^3 \frac{d^3y}{dx^3} + 2x^2 \frac{d^2y}{dx^2} + 2y = 10\left(x + \frac{1}{x}\right)$.	**CO1**	KL1
3.	**Solve by method of variation of parameter** $\frac{d^2y}{dx^2} + a^2y = \sec ax$..	**CO1**	KL1

Part B - Answer Any TWO Questions **(5X2=10 Marks)**

1.	**Solve simultaneous differential eqns.** $\frac{dx}{dt} + 5x - 2y = t$; $\frac{dy}{dt} + 2x + y = 0$ **being given that x=0, y=0 when t=0**	CO1	KL1
2.	**Obtain general solution of** $x^2y'' + xy' - y = x^3e^x$.	CO1	KL5
3.	**Solve by changing the independent variable** $x\frac{d^2y}{dx^2} + (4x^2 - 1)\frac{dy}{dx} + 4x^3y = 2x^3$.	CO1	KL5