

TEST-2

TIME: 2hr

Q1) Solve $(D^2 - 4D + 13)y = 0$

Q2) Solve $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = 4x^2$

Q3) Find the P.I of $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - 3y = 2e^x - 10\sin x$

Q4) Find the C.F of $(D^3 + 2D^2 - 3D - 4)y = 0$

Q5) Find the P.I of $(D^2 + 2D + 1)y = \cos^2 x$

Hint:- Apply formula for $\cos^2 x$

Q6) Solve $(D^2 + 2)y = x^2 e^{3x}$

Q7) $x^3 \frac{d^3y}{dx^3} + 3x^2 \frac{d^2y}{dx^2} + x \frac{dy}{dx} + 8y = 13 \cos(\log x)$

Hint:- Take $\log x = t$

Solve

Q8) $(3x+2)^2 \frac{d^2y}{dx^2} + 3(3x+2) \frac{dy}{dx} - 36y = 3x^2 + 4x + 1$