Q NO: 2

MT-224

CAL - 2

Shoaib Akhtar

20P-0147

$$y = e^{3x} \cos x$$

$$y' = -\sin x\, e^{3x} + 3 e^{3x} \cos x$$

$$y'' = -\cos x\, e^{3x} - 3\sin x\, e^{3x} - 3\sin x\, e^{3x} + 9\cos x\, e^{3x}$$

Now multiply -6 with y'

$$-6y' = 6\sin x\, e^{3x} - 18 e^{3x} \cos x$$

Now Multiply 13 with y

$$13y = 13 e^{3x} \cos x$$

Add y'', $-6y'$, $13y$ and result will be zero

$$8\cos x\, e^{3x} - 6\sin x\, e^{3x} + 6\sin x\, e^{3x} - 18 e^{3x}\cos x + 13 e^{3x}\cos x = 0$$

The above function is not verify the differential equation so, it is not particular solution of D.E