Tutorial – 1

Q. Solve the following

1) [2x.logx-xy]dy+2ydx=0

2)$[y(1+\frac{1}{x}) + cosy]dx + (x + logx - x.siny)dy = 0$

3)$xe^x(dx - dy) + e^x dx + ye^y dy = 0$

4)$[y.\sin(xy)+xy^2.cos(xy)]dx +$

$$[x.sin(xy) + x^2y.cos(xy)]dy = 0$$

5)y(x+y)dx-x(y-x)dy=0

MODULE -1 EXAMPLES

Q. Find the integrating factor of

1) $\left(xy^2 - e^{\frac{1}{x^3}}\right)dx - x^2y\,dy = 0$

2)$[3x^2y^4 + 2xy]dx + [2x^3y^3 - x^2]dy = 0$

3) $\{y - xy^2\}dx - \{x + x^2y\}dy = 0$

4) $y[x + y]dx - x[y - x]dy = 0$

5) $\frac{dy}{dx} = \frac{x^2y^3+2y}{2x-2x^3y^2}$