09
10 Q6) $f(x,y) = (2x-3y)^3$

11 $= \frac{\partial}{\partial x}(2x-3y)^3$

12

01 Apply chain rule we get

02 $= 3(2x-3y)^2 \frac{\partial}{\partial x}(2x-3y)$

03

04 $= 3(2x-3y)^2 \cdot 2$

05 $= 6(2x-3y)^2$ Ans

Evening

11 THURSDAY
۲۸ جمادی الثانی ۲۳ دلو

12 FRIDAY
۲۹ جمادی الثانی ۲۴ دلو

09 Q8) $f(x,y) = (x^3 + (y/2))^{2/3}$

10

11 $= \frac{2}{3(x^3+y/2)^{1/3}} \cdot \frac{\partial}{\partial x}(x^3 + y/2)$

12

01

02 $= \frac{2}{3(x^3+y/2)^{1/3}} \cdot 3x^2$

03

04

05 $= \frac{2 + 1/3\, x^2}{(2x^3+y)^{1/3}}$ Ans

Evening

Q50) $x \sin y + y \sin x + xy$

$= \frac{\partial}{\partial x}(x \sin y + y \sin x + xy)$

$= \frac{\partial}{\partial y}(y + y \cos x + \sin y)$

$= \frac{\partial}{\partial y} y + \cos x \left(\frac{\partial}{\partial y}(y)\right) + \frac{\partial}{\partial y} \sin y$

$= \cos x \left[\frac{\partial}{\partial y} y\right] + \frac{\partial}{\partial y} \sin y + 1$

Simplify we get

$= 1 + \cos x + 1 \cos(y)$

$= 1 + \cos x + \cos y$ Ans.