at $x=1,\ y=2,\ z=1$

grad div A $= (2(1)) + 1 + 2(1))i + 2(1)j + (1+2(1))k$

grad div A $= 3i + 2j + 3k$

iii, Curl curl A $= \nabla \times (\nabla \times A)$

$$\nabla \times A = \begin{vmatrix} i & j & k \\ d/dx & d/dy & d/dz \\ x^2y & (xy+y^2) & xz^2 \end{vmatrix}$$

$$\nabla \times A = \left[d/dy(xz^2) - d/dz(xy+yz)\right] - j\left[d/dx(x^2z) - d/dz(x^2y)\right] + k\left[d/dx(xy+yz) - d/dy(x^2y)\right]$$

$$\nabla \times A = i\left[0-y\right] - j\left[z^2-0\right] + k(y-x^2)$$

$$\nabla \times A = -yi - z^2j + (y-x^2)k$$

$$\text{Curl curl } A = \begin{vmatrix} i & j & k \\ d/dx & d/dy & d/dz \\ -y & -z^2 & (y-x^2) \end{vmatrix}$$

$$\text{Curl curl } A = i\left[d/dy(y-x^2) - d/dz(-z^2)\right] - j\left[d/dx(y-x^2) - d/dz(-y)\right] + k\left[d/dx(-z^2) - d/dy(-y)\right]$$

$$\text{Curl curl } A = i\left[1+2z\right] - j\left[-2x+0\right] + k\left[0+1\right]$$

$$= (1+2z)i + 2xj + k$$

at $x=1,\ y=2,\ z=1$

Curl curl A $= (1+2(1))i + 2(1)j + k$

Curl curl A $= 3i + 2j + k$