

Q20

1)

$$r = v^2 i + (u+u)j + u^2 k$$

$$r_u = 0i + 1j + 2uk \rightarrow 0i + 1j + 2k$$

$$r_v = 2vi + 1j + 0k \rightarrow 2i + 1j + 0k$$

$$r = 2i - (-1)j + (-2k) = -2i + 1j - 2k$$

$$r = -2(x-1) + (y-1) + (z-2) = 0$$

$$-2x + 2 + y - 1 + z - 2 = 0 \rightarrow -2x + y + z = 1$$