

$$Q: 2x^2 + 2y^2 + y - 3z^3 + 5 = 0$$

$$\text{or point } f(x, y, z) = 2x^2 + 2y^2 + y - 3z^3 + 5$$

$$\frac{df}{dx} = 4x \quad ; \quad \frac{df}{dy} = 4y + 1 \quad ; \quad \frac{df}{dz} = -9z^2$$

$$\text{At } \frac{df}{dx}(1, -1, 2) = 4 \quad ; \quad \frac{df}{dy}(1, -1, 2) = -4 + 1 = -3$$

$$\text{At } \frac{df}{dz}(1, -1, 2) = -9 \times 2^2 = -36$$

$$\text{At (I): } 4(x-1) - 3(y+1) - 36(z-2) = 0$$

$$(I): 4x - 4 - 3y - 3 - 36z + 72 = 0$$

$$\boxed{(I): 4x - 3y - 36z + 65 = 0}$$