Q. 05 *Work done by a force* **F** *on a b*

displacement of body. Given that under a force

displaced from position vector $r_1 = (2\hat{i} + 3\hat{j} + \hat{k}$

$r_2 = (\hat{i} + \hat{j} + \hat{k})$ *m. Find the work done by this f*

Solution The body is displaced from r_1 to r_2. There

$$s = r_2 - r_1 = (\hat{i} + \hat{j} + \hat{k}) - (2\hat{i} + 3\hat{j} + \hat{k}$$

Now, work done by the force is $W = F \cdot s$

$$= (2\hat{i} + 3\hat{j} + 4\hat{k}) \cdot (-\hat{i}$$

$$= (2)(-1) + (3)(-2) \cdot$$