

A particle is acted upon by constant forces  $4\hat{\mathbf{i}} + \hat{\mathbf{j}} - 3\hat{\mathbf{k}}$  and  $3\hat{\mathbf{i}} + \hat{\mathbf{j}} - \hat{\mathbf{k}}$  which displace it from a point  $\hat{\mathbf{i}} + 2\hat{\mathbf{j}} + 3\hat{\mathbf{k}}$  to the point  $5\hat{\mathbf{i}} + 4\hat{\mathbf{j}} + \hat{\mathbf{k}}$ . The work done in standard units by the forces is given by [AIEEE 2004]

- (a) 40 units  
(c) 25 units

- (b) 30 units  
(d) 15 units

*Exp.* (a)