Yakeen NEET 2.0 2026

Physics by Saleem Sir

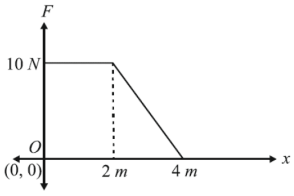
Work, Energy and Power

DPP: 1

Q1 A force $\overrightarrow{F} = \left(2\hat{i} + 3\hat{j} + 2\hat{k}\right) N$ acts on a particle of mass *m*. The particle starts from points *A* (1, 2,1) and moves to point *B* (3, 4, 3). What is the total work done by the force on the particle?

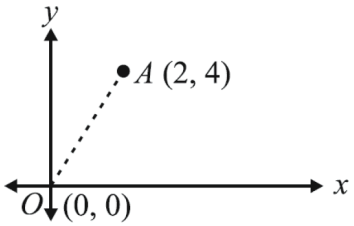
(A) 14 J (B) 12 J
(C) 16 J (D) 10 J

Q2 Find the work done by the force by the force till $4\ \text{m}$ in the given graph



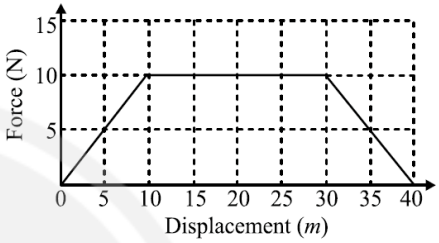
(A) $30\ \text{J}$
(B) $10\ \text{J}$
(C) $15\ \text{J}$
(D) $20\ \text{J}$

Q3 A force, $\vec{F} = 2\hat{i} + 3\hat{j}$ acts on a particle. The particle starts from point $O(0, 0)$ and moves to point $A(2, 4)$. Find the total work done by force F on the particle.



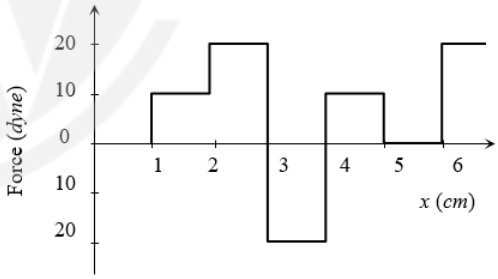
(A) $16\ \text{J}$
(B) $12\ \text{J}$
(C) $10\ \text{J}$
(D) $0\ \text{J}$

Q4 Adjacent figure shows the force displacement graph of a moving body, the work done in displacement body from $x = 0$ to $x = 35\ \text{m}$ is equal to



(A) $50\ \text{J}$ (B) $25\ \text{J}$
(C) $287.5\ \text{J}$ (D) $200\ \text{J}$

Q5 The relationship between force and position is shown in the figure given (in one dimensional case). The work done by the force in displacing a body from *x* = 1 cm to *x* = 5 cm is:



(A) 20 erg (B) 60 erg
(C) 70 erg (D) 700 erg

Q6 A body of mass 6 kg is under a force which causes displacement in it given by $S = \frac{t^2}{4}$ metres where t is time. The work done by the force in 2 seconds is:

(A) 12 J (B) 9 J
(C) 6 J (D) 3 J

Q7 A body contained to move in y-direction is subjected to a force given by

$\vec{F} = (-2\hat{i} + 15\hat{j} + 6\hat{k})N$. The work done by this force in moving the body a distance of $10\ \text{m}$ along the y-axis is

(A) $20\ \text{J}$
(B) $150\ \text{J}$
(C) $160\ \text{J}$
(D) $190\ \text{J}$

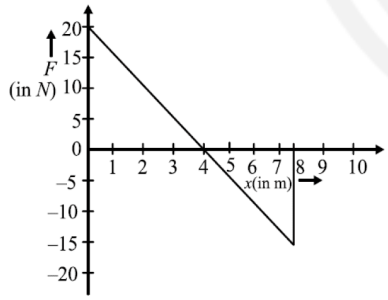
Q8 A force $F = (5\hat{i} + 3\hat{j})$ newton is applied over a particle which displaces it from its origin to the point $r = (2\hat{i} - 1\hat{j})$ metres. The work done on the particle is

(A) -7 joules (B) +13 joules
(C) +7 joules (D) +11 joules

Q9 Due to the force $\vec{F} = (4\hat{i} + 4\hat{j})\text{N}$ a body shifted from origin to the point $(5\ \text{m}, 6\ \text{m})$. The work done by the force is

(A) $44\ \text{J}$
(B) $22\ \text{J}$
(C) $4\ \text{J}$
(D) Zero

Q10 A force F acting on an object varies with distance as shown in the figure. The work done by the force in moving the object from $x = 0$ to $x = 8\ \text{m}$ is.



(A) $10\ \text{J}$ (B) $80\ \text{J}$
(C) $-40\ \text{J}$ (D) $40\ \text{J}$

Q11 A $2\ \text{kg}$ mass lying on a table is displaced in the horizontal direction through $50\ \text{cm}$. The work done by the normal reaction will be -

(A) 0 (B) 100 joule
(C) 100 erg (D) 10 joule

Answer Key

Q1	(A)
Q2	(A)
Q3	(A)
Q4	(C)
Q5	(A)
Q6	(D)
Q7	(B)
Q8	(C)
Q9	(A)
Q10	(A)
Q11	(A)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