

JEE MAIN WORK, ENERGY AND POWER — KINETIC ENERGY AND WORK–ENERGY THEOREM — PYQS

Max. Marks: 16
Questions: 4

Section A (MCQ) — 4 questions

- Q.1** The rain drop of mass 1 g, starts with zero velocity from a height of 1 km. It hits the ground with a speed of 5 m/s. The work done by the unknown resistive force is _____ J.
(take $g = 10 \text{ m/s}^2$)

[JEE Main 2026 (Online) 6th April Morning Shift]

- (1) -8.75 (2) -8.35 (3) -9.55 (4) -9.98

Scan or tap for the
full solution



- Q.2** A body of mass 1 kg moves along a straight line with a velocity $v = 2x^2$. The work done by the body during displacement from $x = 0$ to 5 m is _____ J.

[JEE Main 2026 (Online) 6th April Evening Shift]

- (1) 0 (2) 250 (3) 1250 (4) 1000

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full solution



- Q.3** A spherical ball of mass 2 kg falls from a height of 10 m and is brought to rest after penetrating 10 cm into sand.

The average force exerted by sand on the ball is _____ N.

(Take $g = 10 \text{ m/s}^2$)

[JEE Main 2026 (Online) 2nd April Evening Shift]

- (1) 1980 (2) 2020 (3) 2000 (4) 1000

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full solution



- Q.4** A body of mass 2 kg is moving along x-direction such that its displacement as function of time is given by $x(t) = \alpha t^2 + \beta t + \gamma$ m, where $\alpha = 1 \text{ m/s}^2$, $\beta = 1 \text{ m/s}$ and $\gamma = 1 \text{ m}$. The work done on the body during the time interval $t = 2 \text{ s}$ to $t = 3 \text{ s}$, is _____ J.

[JEE Main 2026 (Online) 21st January Evening Shift]

- (1) 42 (2) 24 (3) 49 (4) 12

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ANSWER KEY

Ques.	1	2	3	4							
Ans.	4	3	2	2							