

JEE MAIN WORK, ENERGY AND POWER — POWER — PYQS
Max. Marks: 12
Questions: 3
Section A (MCQ) — 2 questions

- Q.1** An object of mass 1000 g experiences a time dependent force $\vec{F} = (2\hat{i} + 3t^2\hat{j})$ N. The power generated by the force at time t is:

[JEE Main 2025 (Online) 7th April Morning Shift]

- (1) $(2t^2 + 18t^3)$ W (2) $(3t^3 + 5t^5)$ W
 (3) $(2t^3 + 3t^5)$ W (4) $(2t^2 + 3t^3)$ W

 Scan or tap for the
full solution


- Q.2** A body of mass 4 kg is placed on a plane at a point P having coordinates (3, 4) m. Under the action of force $\vec{F} = (2\hat{i} + 3\hat{j})$ N, it moves to a new point Q having coordinates (6, 10) m in 4 sec. The average power and instantaneous power at the end of 4 sec are in the ratio of :

[JEE Main 2025 (Online) 28th January Evening Shift]

- (1) 4 : 3 (2) 13 : 6 (3) 1 : 2 (4) 6 : 13

 Scan or tap for the
full solution

Section B (Numerical) — 1 question

- Q.3** A body of mass 2 kg begins to move under the influence of time dependent force $\vec{F} = (2t\hat{i} + 6t^2\hat{j})$ N, where $\hat{i}$ and $\hat{j}$ are unit vectors along x and y-axis respectively. The power produced by the force at $t = 2$ s is _____ W.

[JEE Main 2026 (Online) 4th April Morning Shift]

 Scan or tap for the
full solution

ANSWER KEY
Section A (MCQ) — 2 questions

Ques.	1	2									
Ans.	3	4									

Section B (Numerical) — 1 question

Ques.	3								
Ans.	200								