



PHYSICS

NCERT - NCERT Physics(Telugu)

WORK AND ENERGY

Example

1. A boy pushes a book kept on a table by applying a force of 4.5 N. Find the work

done by the force if the book is displaced through 30 cm along the direction of push.



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2. Calculate the work done by a student in lifting a 0.5 kg book from the ground and keeping it on a shelf of 1.5 m height.

$$(g = 9.8m / s^2)$$



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3. A box is pushed through a distance of 4m across a floor offering 100N resistance. How much work is done by the resisting force ?



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4. A ball of mass 0.5 kg thrown upwards reaches a maximum height of 5m. Calculate the work done by the force of gravity during this vertical displacement considering the value of $g = 10m / s^2$.





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5. Find the kinetic energy of a ball of 250 g mass, moving at a velocity of 40 cm/s.



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6. The mass of a cyclist together with the bicycle is 90 kg. Calculate the work done by cyclist if the speed increases from 6km/h to 12 km/h.



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7. A block of 2 kg is lifted up through 2m from the ground. Calculate the potential energy of the block at that point.



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8. A book of mass 1 kg is raised through a height h . If the potential energy increased by 49 J, find the height raised.



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9. A person performs 420 J of work in 5 minutes. Calculate the power delivered by him.



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10. A woman does 250 J of work in 10 seconds and a boy does 100 J of work in 4 seconds. Who delivers more power ?



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Let Us Improve Our Learning Application Of Concepts

1. A 10 kg ball is dropped from a height of 10m. Find (a) the initial potential energy of the ball. (b) the kinetic energy just before it reaches the ground, and (c) the speed just before it reaches the ground. (AS_1)



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[Take $g = 9.8m / s^2$]



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