

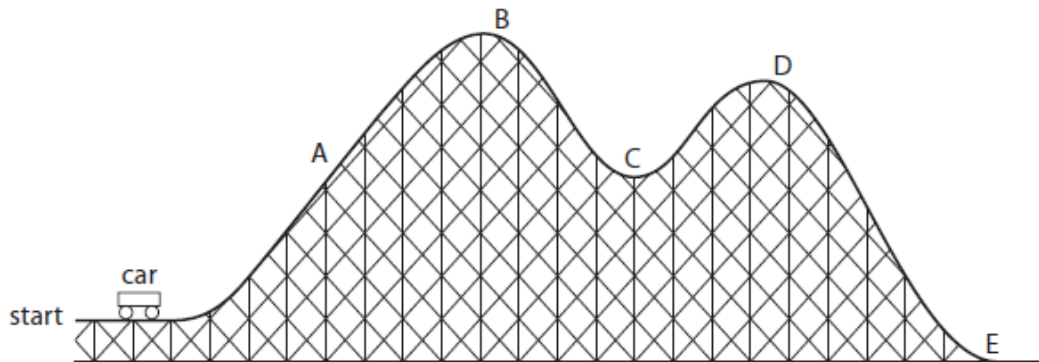
**Class IX Physics**

**Worksheet**

**Work, Energy & Power**

1. The diagram shows a roller coaster ride

The car is pulled slowly from the start to point B and then released.



a. Choose letters from the diagram to complete this sentence.

The car has the most gravitational potential energy at point..... and it goes fastest at point.....

b. The mass of the car is 900kg. The max speed of the car is 15m/s.

Calculate the max Kinetic energy of the car.

c. State the max gravitational potential energy

.....

d. Find the height of point B

2. A shopping center has escalators to move people between floors.

(a) A man of mass 78kg steps on to an escalator.

The escalator lifts him a height of 5m.

i. State the equation linking GPE, mass, g and height.

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ii. Show that the GPE gained by the man is about 4000J

iii. State the work done on the man and give the unit.

Work done=.....Unit.....

(b) The escalator is powered by a 7.5kW electric motor. The escalator lifts 30 people each minute. Each person has a mass of 78 kg. Calculate the efficiency of the escalator.