MEGA LECTURE

IGCSE Mocks 2019

Physics Multiple Choice Questions

28:

An object is released from rest and falls to Earth. During its fall, the object is affected by air resistance. The air resistance eventually reaches a constant value.

Which description about successive stages of the motion of the object is correct?

A   constant acceleration, then constant deceleration

B   constant deceleration, then zero acceleration

C   decreasing acceleration, then constant deceleration

D   decreasing acceleration, then zero acceleration

29:

A concrete post is carried up a very high mountain. At the top of the mountain, the gravitational field is slightly weaker than at the bottom.
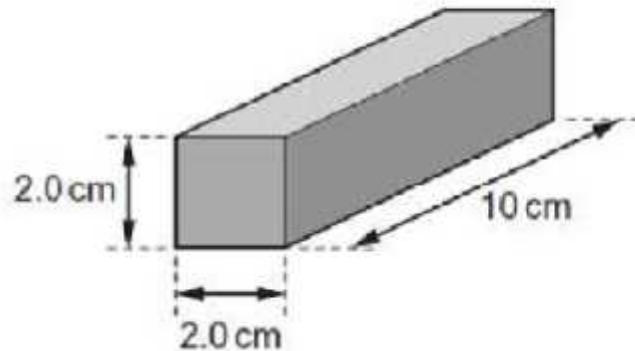
What is the effect of this weaker field on the mass and on the weight of the post at the top of the mountain?

	mass	weight
A	is less	is less
B	is less	is unchanged
C	is unchanged	is less
D	is unchanged	is unchanged

30:

The diagram shows a cuboid block made from a metal of density 2.5g/cm³.

2.0 cm

10 cm

2.0 cm

What is the mass of the block?

A   8.0g   B   16g   C   50g   D   100g   ⬅

31:

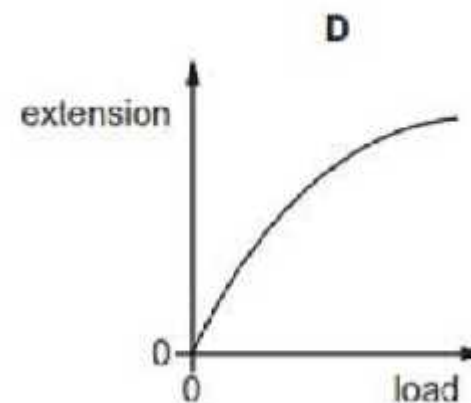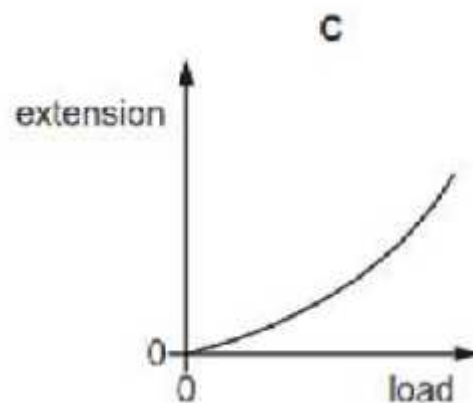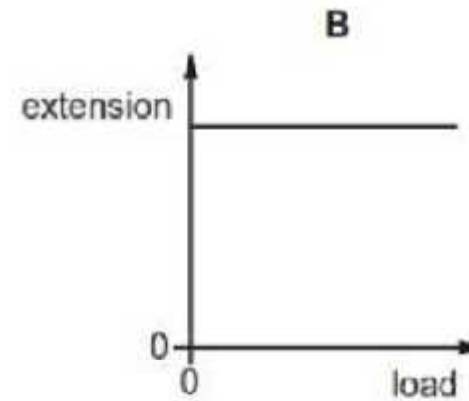A weight-lifter raises a 2000N weight through a vertical height of 2.0m in 0.80s.

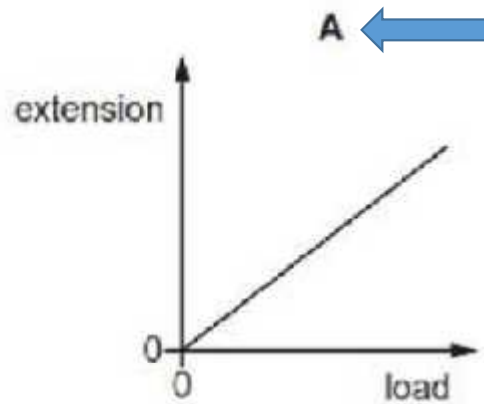What useful power does he develop in doing this?

A   800W   B   3200W   C   4000W   D   5000W   ⬅

32:

A spring obeys Hooke's law.

Which graph is obtained by plotting the extension of the spring against the load applied?

A

extension | load

B

extension | load

C

extension | load

D

extension | load

33:

A force acts on an area to produce a pressure.

Which changes produce the same pressure?

A double the area and double the force

B double the area and halve the force

C double the area and make the force four times bigger

D halve the area and double the force

34:

In an experiment, a liquid is heated at a constant rate.

The temperature of the liquid increases and eventually becomes constant.
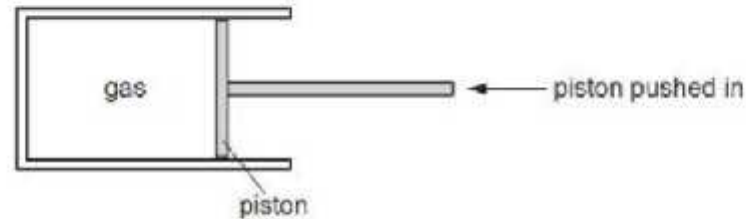
Which statement about the experiment is correct?

A Boiling occurs at all temperatures but only on the liquid surface.

B Boiling occurs throughout the liquid but only at the constant temperature.

C Evaporation occurs throughout the liquid and at all temperatures.

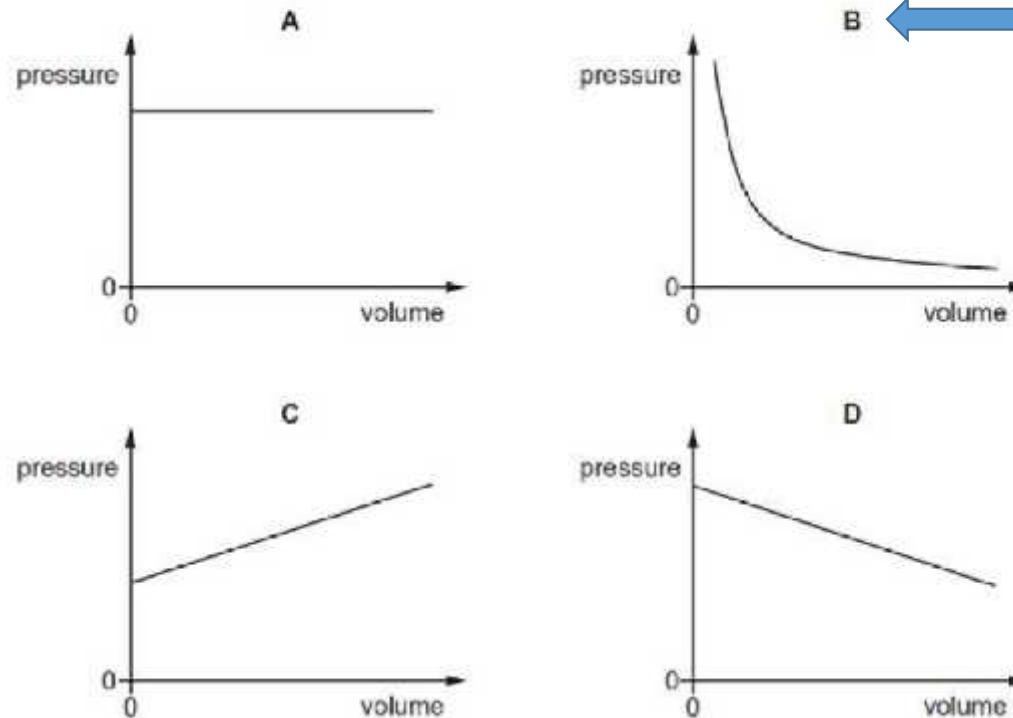D Evaporation occurs only at the constant temperature and only on the liquid surface.

35:

The diagram shows a quantity of gas trapped in a cylinder. The piston is pushed in slowly and the gas is compressed. The temperature of the gas does not change.
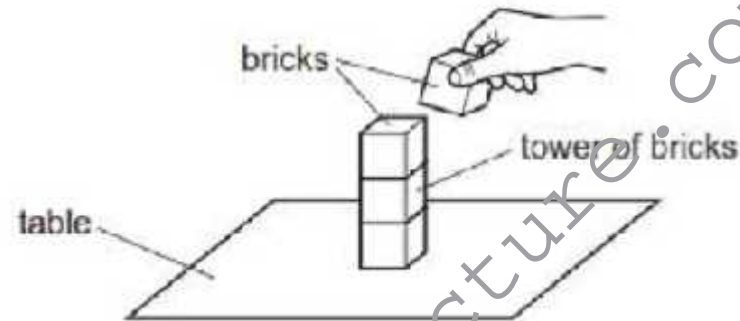

gas ← piston pushed in

piston

Which graph shows the relationship between the pressure and the volume of the gas?

A
pressure
0
0   volume

B
pressure
0
0   volume

C
pressure
0
0   volume

D
pressure
0
0   volume

36:

Identical toy bricks are placed one on top of another to make a tower on a table.

bricks

tower of bricks

table

Which graph shows the relationship between the pressure P that the tower exerts on the table and the weight W of the tower?

A

B

C

D
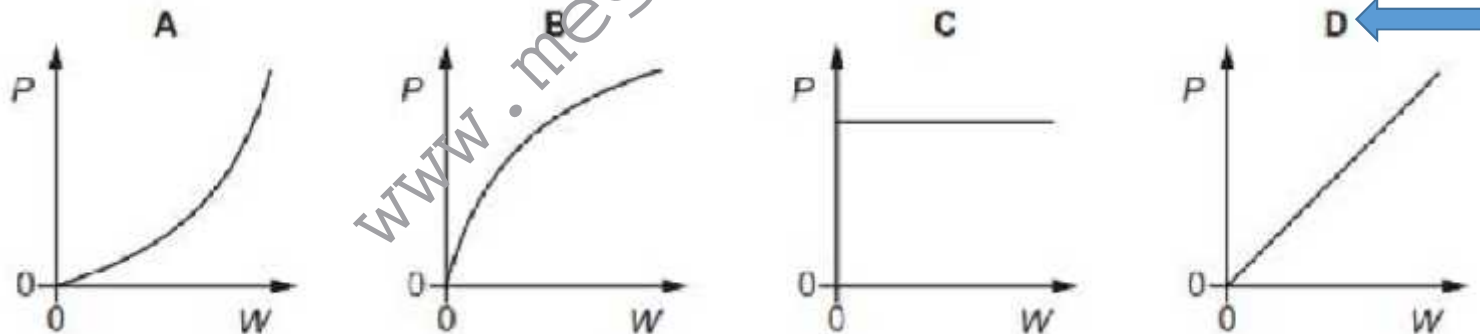
P37:

One end of a copper rod is heated.

What is one method by which thermal energy is transferred in the copper rod?

A Free electrons transfer energy from the cooler end to the hotter end.

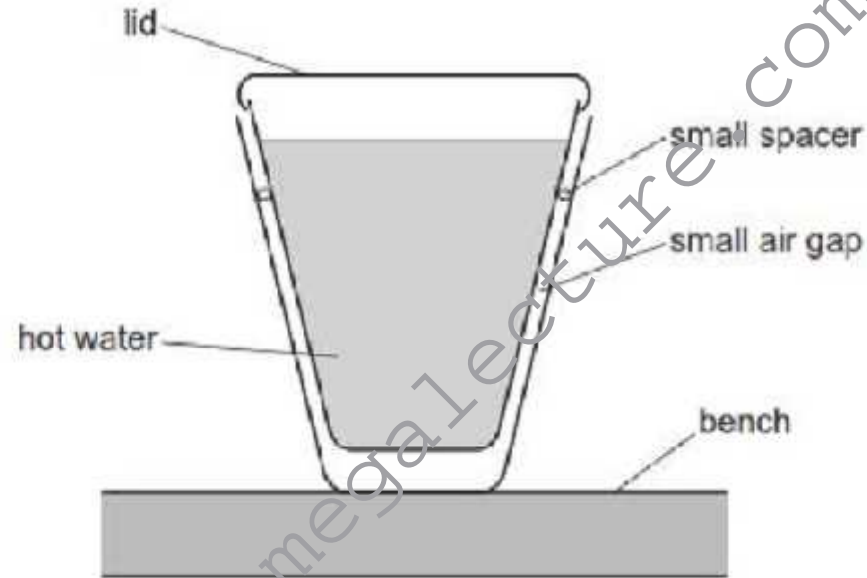B Free electrons transfer energy from the hotter end to the cooler end. ⬅

C Molecules of copper move from the cooler end to the hotter end.

D Molecules of copper move from the hotter end to the cooler end.

P38:

Two plastic cups are placed one inside the other. A small spacer keeps the two cups separated.

Hot water is poured into the inner cup and a lid is put on top, as shown.

Which statement is correct?

A   The bench is heated by convection from the bottom of the outer cup.

B   The lid reduces the energy lost by convection.

C   There is no thermal conduction through the sides of either cup.

D   Thermal radiation is prevented by the small air gap.

P39:

The speed of sound in air is 340 m/s.

Which row gives typical values for the speed of sound in a liquid and in a solid?

	speed of sound in a liquid / (m/s)	speed of sound in a solid / (m/s)
A	250	180
B	250	5000
C	1500	180
D	1500	5000

P40:

Which diagram correctly shows a ray of light reflected by a plane mirror?

A

ray of
light   40° 50°

B

ray of
light   50°
50°

C

ray of
light   40°
40°

D ←

ray of
light   40°
50°