تجميعات فيزياء ميد ثاني ٢٠٢٠

محلوله بالتفصيل وإن شاء الله صحيحة كلها

وحذفت التكرار

لا تنسوني من صالح دعواتكم وبالتوفيق جميعاً💓🤲🏻

By:Hanin🌌.

otal questions in exam: 25 | Answered: 7

Question No. 1

A car is moving with 90 km/h for 3 hours and then took a rest for 10 min. The car then continues with 130 km/h for an hour. The average speed for this journey is approximately

- 80 km/h
- 96 km/h
- 110 km/h
- 120 km/h

قانون

$V = \frac{S}{t}$

$S = vt$

1) $90 \times 3 = 270\ km$

2) $10 \div 60 = 1/6\ h$, $0 \times \frac{1}{6} = 0$

3) $130 \times 1 = 130\ km$

$$V_{avg} = \frac{S_1 + S_2 + S_3}{t_1 + t_2 + t_3} = \frac{270 + 0 + 130}{3 + 1/6 + 1} = 96$$

B

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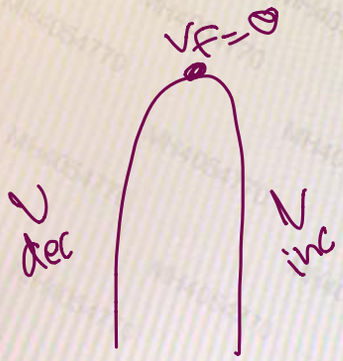
Total questions in exam: 25 | Answered: 7

Question No. 18

An object is thrown vertically upward. During its journey downward, the speed is: (neglect air resistance)

- constant
- zero
- decreasing
- increasing

أهمل ما
مقاومة
الهواء
= free fall



D

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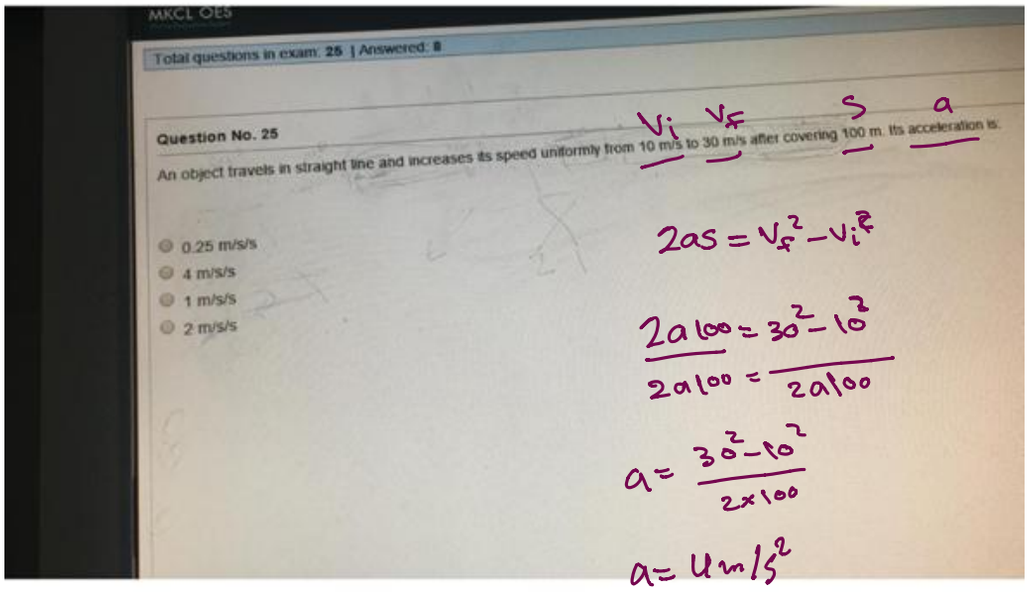
HP Compaq LE1711



MKCL OES

Physics_Quiz2_Sem1_2018

Total questions in exam: 25 | Answered: 5

Question No. 12

A car is moving with 65 km/h for 1 hour and then took a rest for 30 min. The car then continues with 130 km/h for 30 min. The a journey is approximately

- 110 km/h
- 65 km/h
- 85 km/h
- 120 km/h

1) V T

2) T V

3) V T

* نفس فكرة اول سؤال

1) $65 \times 1 = 65$ km

2) $30 \div 60 = 0.5$; $0 \times 0.5 = 0$

3) $130 \times 0.5 = 65$ km

$$V_{avg} = \frac{65 + 0 + 65}{1 + 0.5 + 0.5} = 65 \text{ km/h}$$

B

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Answered: 5

Question No. 5

V T V T V T

A car is moving with 120 km/h for 20 min and then took a rest for 20 min. The car then continues with 90 km/h for 20 min. The average speed for this journey is approximately:

- 70 km/h
- 120 km/h
- 105 km/h
- 90 km/h

* ملاحظة: ان الازمنة متساوية

$$\frac{120 + 0 + 90}{3} = 70 \text{ km/h}$$

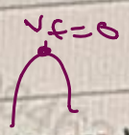
عشان الازمنة متساوية

A

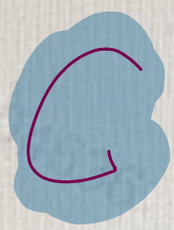
Total questions in exam: **25** | Answered: **1**

Question No. 2

An object is thrown vertically upward. Its speed at the maximum height is:



- equals the initial speed by which it was thrown
- greater than the initial speed by which it was thrown.
- zero
- greater than the average speed



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Online Evaluation System

Physics_Quiz2_Sem2_2019

Total questions in exam: **25** | Answered: **0**

Question No. 18

$a = g = 10$ بالسالب لانه ضد عكس

Neglecting air resistance, if a stone is thrown straight up with initial speed = 30 m/s, it will reach its maximum height after (use

(v_i = 30 m/s, $v_f = 0$, ↑)

- 10 s
- 3 s
- 1 s
- 6 s

$T = ?$

$$a = \frac{v_f - v_i}{t}$$

$$\frac{v_f - v_i}{a} = \frac{at}{a}$$

$$t = \frac{v_f - v_i}{a}$$

$$t = \frac{0 - 30}{-10}$$

$t = 3$ s

B

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Physics_Quiz2_Sem2_201

Total questions in exam: **25** | Answered: **0**

Question No. 20

A rock falls from an edge of a mountain 45 m above the ground. Find its speed as it hits the ground? (use g = 10 m/s^2)

- 40 m/s
- 20 m/s
- 10 m/s
- 30 m/s

$S = 45m$

$v_i = 0 m/s$

$v_f = ?$

$2as = v_f^2 + v_i^2$

$v_f^2 = 2as + v_i^2$

$v_f^2 = 2 \times 10 \times 45 + 0^2$

$\sqrt{v_f^2} = \sqrt{900}$

$v_f = 30 m/s$

D

Save & Next

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Online Evaluation System

Physics_Quiz2_Sem2_2019

Total questions in exam: **25** | Answered: **0**

Question No. 23

A car in linear motion has initial speed = 72 km/h. If it travels for 15 seconds with acceleration = 2 m/s/s, the total distance it cov

- 225 m
- 800 m
- 100 m
- 525 m

v_i T a s

Shift 8

$\frac{72}{3.6}$

$= 20 m/s$

$S = v_i t + \frac{1}{2} a t^2$

$S = 20 \times 15 + \frac{1}{2} \times 2 \times 15^2$

$S = 525 m$

D

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Physics_Quiz2_Sem2_2019

al questions in exam: **25** | Answered: **0**

estion No. 24

stone drops in a free fall from the edge of a mountain, how long does it take to fall 125 m: (use g = 10 m/s/s):

$t=?$ S a

$v_i = 0$

10 s

5 s

15 s

25 s

$S = v_i t + \frac{1}{2} a t^2$

$125 = 0 \times t + \frac{1}{2} \times 10 \times t^2$

$\frac{125}{5} = \frac{5t^2}{5}$

$\sqrt{t^2} = \sqrt{25}$

$t = 5$

B

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The Evaluation System

Physics_Quiz2_

otal questions in exam: **25** | Answered: **4**

Question No. 18

f an object is falling with an acceleration that is less than the acceleration due to gravity, the object:

أقل من g

- must have big inertia.
- must have a small mass.
- is non-freely falling.
- is freely falling.

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Physics_Quiz2_Sem2_2019

Time Remaining
39:42

Total questions in exam: 25 | Answered: 17

User :MC4078981

Number of main questions : 25
Number of questions : 25

17 Answered | 8 Not Answered | 0 Not Visited | 0 Partially Answered

Question No. 5

A car is moving with 60 km/h for 20 min and then with 90 km/h for another 20 min and then took a rest for 20 min. The car then continues with 100 km/h for an hour. The average speed for this journey is approximately:

- 65 km/h
- 90 km/h
- 75 km/h
- 110 km/h

① ② ③ ④

1) $60 \times 1/3 = 20$

2) $90 \times 1/3 = 30$

3) $0 \times 1/3 = 0$

20min كل واحد

$20 \div 60 = 1/3$

④ $100 \times 1 = 100$

$$V_{avg} = \frac{20+30+0+100}{1/3+1/3+1/3+1} = 75 \text{ km/h}$$

C

Calculator | Instruct | End Test

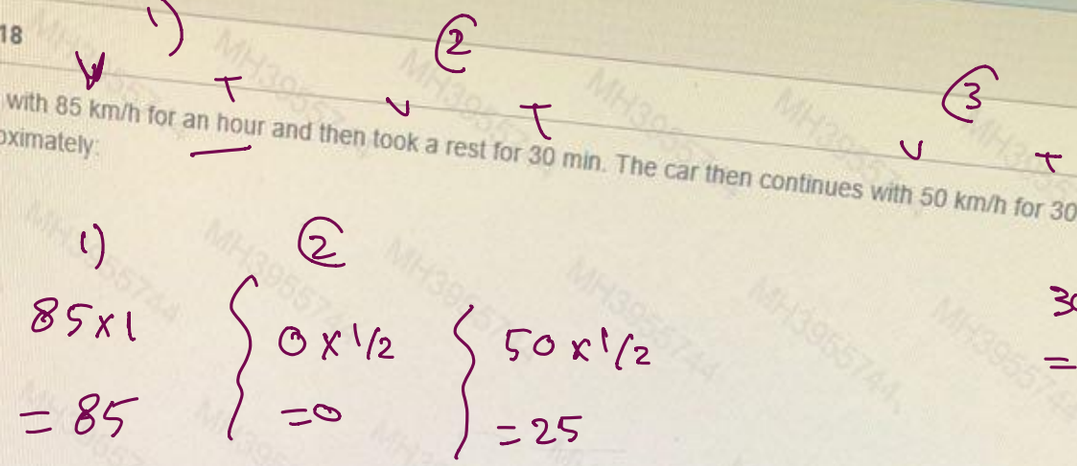
Save & Next حفظ والتالي

HP L1710

Question No. 18

A car is moving with 85 km/h for an hour and then took a rest for 30 min. The car then continues with 50 km/h for 30 min. The average s journey is approximately:

- 85 km/h
- 65 km/h
- 75 km/h
- 55 km/h



1) $85 \times 1 = 85$

2) $0 \times 1/2 = 0$

$50 \times 1/2 = 25$

$30 \div 60 = 1/2$

$$V_{avg} = \frac{85 + 0 + 25}{1/2 + 1/2 + 1} = 55 \text{ km/h}$$

D

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Online Evolution System

Total questions in exam: **25** | Answered: **10**

Question No. 25

When a falling object is in non-free fall,:

- it must have a small volume.
- air resistance is considered.
- it must have a small mass.
- its acceleration is equal to that due to gravity.

مقاومة الهواء موجودة

Question No. 3

As an object is freely falling its acceleration is:

- constant but not zero.
- zero.
- decreasing.
- increasing.

A

Question No. 13

Temperature is measured with a:

- protractor
- thermometer

D

Question No. 7

If an object is freely falling, the distance traveled:

- changes with time.
- changes with mass.
- does not depend on time.
- changes with volume.

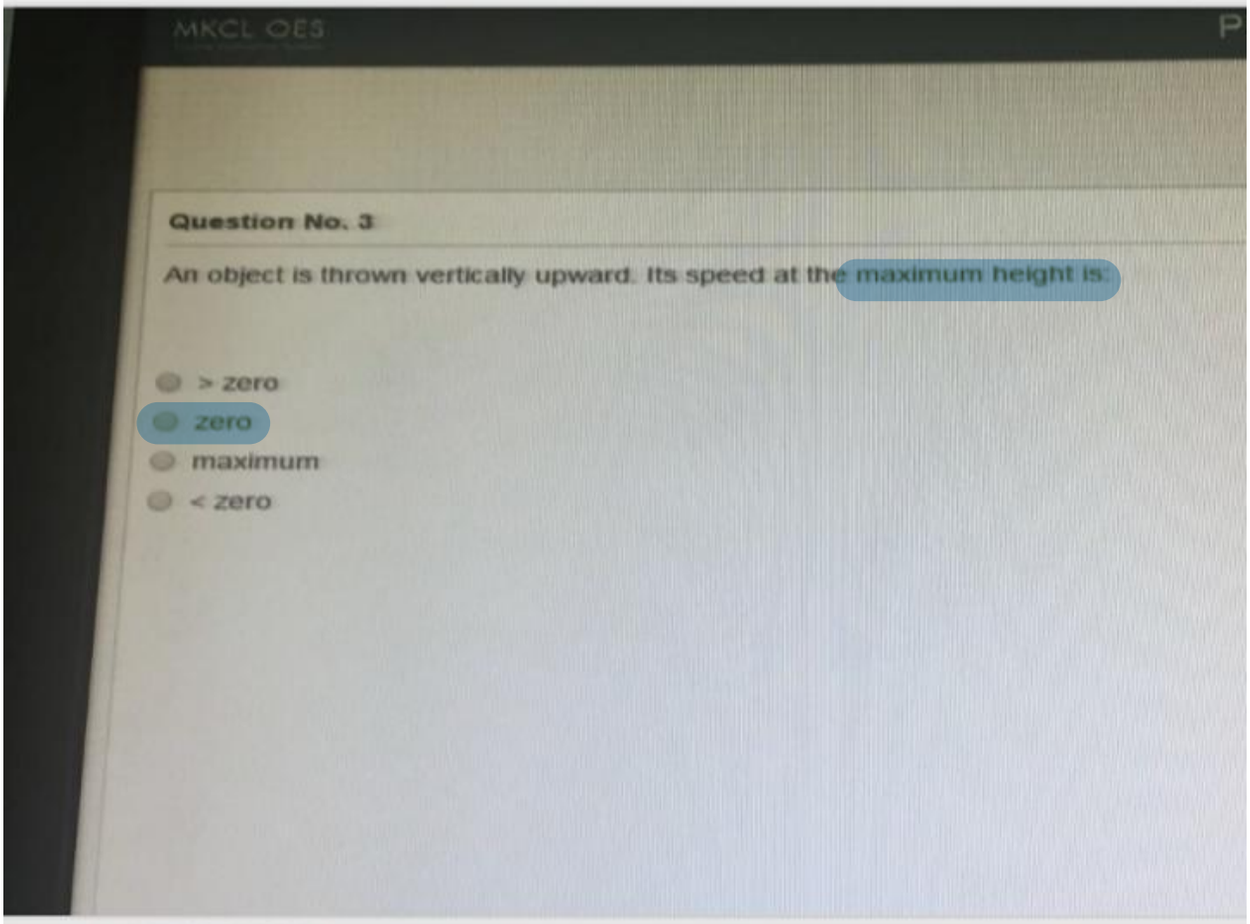
Save & Next حفظ والتالي

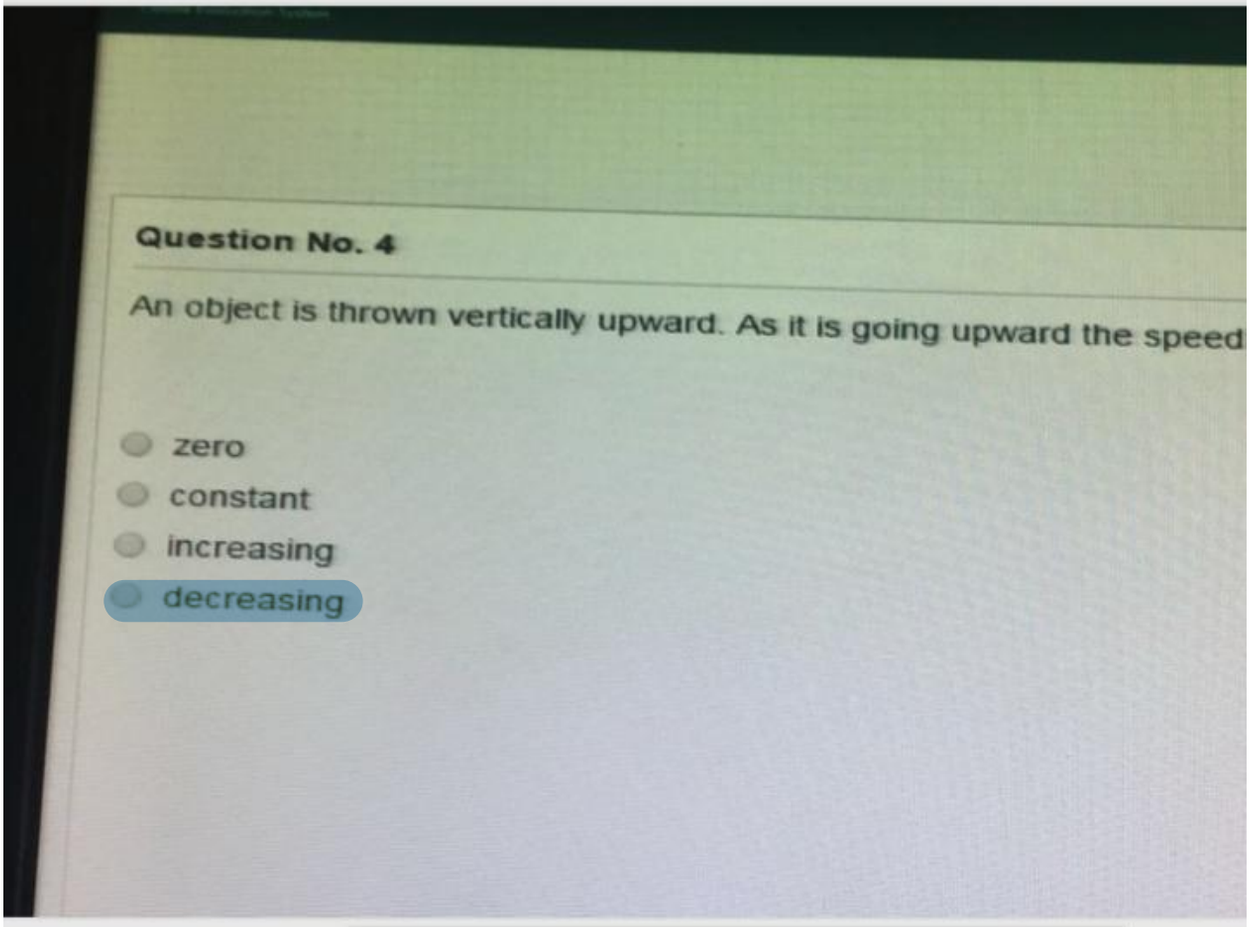
Total questions in exam: 25 | Answered: 0

Question No. 6

As an object is freely falling, the speed by which it hits the ground is

- zero
- smaller than the initial speed.
- greater than the initial speed.
- same as the initial speed.





CHAPTER 2: MOTION & ENERGY

Formulas & Constants

Average speed: $\bar{s} = \frac{d}{t}$; $\bar{v} = \frac{v_i + v_f}{2}$	$a = \frac{v_f - v_i}{t}$	$v_f^2 - v_i^2 = 2ad$	$v_f = v_i + gt$ $v = gt$ $(v_i = 0)$	$d = \frac{1}{2}at^2 + v_i t$ $d = \frac{1}{2}gt^2$ $(v_i = 0)$	ΣE = constant (energy conserv.)
$F = ma$	$w = mg$	$P = W / t$	$W = F \cdot d \cdot \cos\theta$	$PE = mgh$ $KE = \frac{1}{2}mv^2$	$v_i = \sqrt{2gh}$
$R_{x+y} = F_{x+y}$	$R^2 = X^2 + Y^2$	$\tan\theta = Y / X$	1 m/s = 3.6 km/h	$g = 10\ m/s^2$	1 hp = ¾ kW

Key Terms & Definitions

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Physic

Total questions in exam: **25** | Answered: **19**

Question No. 21

A force of 1 N is the same as:

- 1 kg m s
- 1 kg m/s/s
- 1 kg m/s
- 1 kg s/m

$F = m\,a$

$kg \quad m/s^2$

B

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Total questions in exam: **25** | Answered: 7

Question No. 22

If there is a net force acting on a moving object, the object must be:

- small
- moving with constant velocity
- large
- accelerating

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Physics_Quiz2_Sem2_2019

Total questions in exam: **25** | Answered: **0**

Question No. 4

Two forces 10 N and 25 N act in opposite direction on an object which moved with an acceleration of 3 m/s/s. The mass o

- 3 kg
- 5 kg
- 12 kg
- 8 kg

$25 - 10 = m \times 3$

$\frac{15}{3} = \frac{m3}{3}$

$m = 5$

B

Total questions in exam: **25** | Answered: **0**

Question No. 17

According to Newton's second law (F=ma), if m is kept constant, then:

- F = a/m
- F is directly proportional to the acceleration a
- F is inversely proportional to the acceleration a
- a = m

Total questions in exam: 25 | Answered: 4

Question No. 7

A 1500-kg car accelerates at 5 m/s/s, the net force on the car is:

- 1000 N
- 8000 N
- 7500 N
- 1250 N

$F = ma$

$F = 1500 \times 5$

$F = 7500$

C

Save & Next

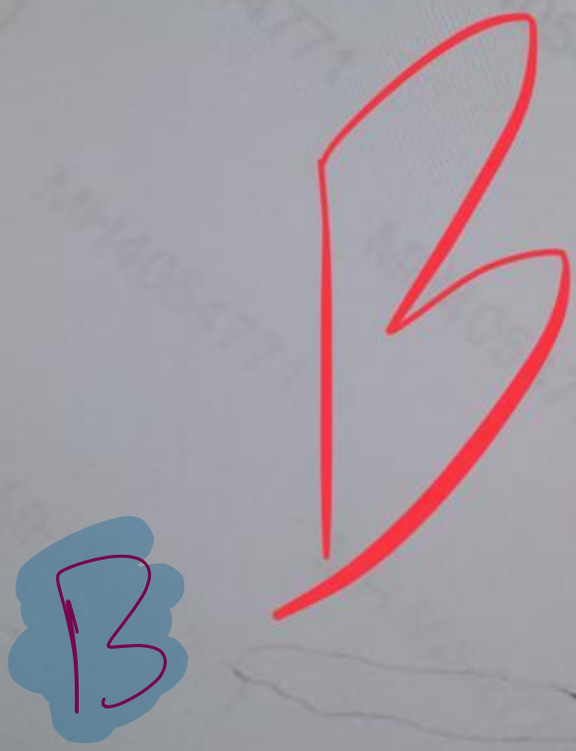
HP LE1901w

Total questions in exam: **25** | Answered: **0**

Question No. 1

If no external forces act on a moving object, it will have:

- increasing acceleration
- zero acceleration
- increasing velocity
- zero velocity



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Physics_Quiz2_Sem

Total questions in exam: 25 | Answered: 0

Question No. 18

A 1500-kg car accelerates from 12 km/h to 120 km/h in 10 seconds. The net force (F = ma) on the car is (1m/s

- 2500 N
- 3500 N
- 4500 N
- 3000 N

m v_i v_f t

$a = \frac{v_f - v_i}{t}$

$a = \frac{30}{10} = 3 m/s^2$

$F = 1500 \times 3 = 4500 N$

C

Save & Next

Question No. 16

A net force of 6000 N causes a car to accelerate at 4 m/s/s. The mass of the car is:

- 1500 kg
- 24000 kg
- 6000 kg
- 15000 kg

$$F = ma$$

$$\frac{F}{a} \quad \frac{ma}{a}$$

$$m = \frac{f}{a}$$

$$m = \frac{6000}{4}$$

$$m = 1500$$

A

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Total questions in exam: 25 | Answered: 8

Question No. 22

"A moving object likes to keep its state of motion" is the meaning of:

- inertia
- force
- acceleration
- velocity

Save & Next

Total questions in exam: 25 | Answered: 9

Question No. 21

The force that can make a 100-kg crate accelerate at 0.8 m/s/s is:

- 10 N
- 80 N
- 50 N
- 125 N

$F = ma$

$F = 100 \times 0.8$

$F = 80$

B

Save & Next

Total questions in exam: **25** | Answered: **4**

Question No. 7

A 1500-kg car accelerates at 5 m/s/s, the net force on the car is:

- 1000 N
- 8000 N
- 7500 N
- 1250 N

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HP LE1901w

MKCL OES

Physics_Quiz2_Sem2_2

Total questions in exam: 25 | Answered: 4

Question No. 5

A man has a mass of 80 kg on the Moon. His mass on the Earth is

- M = 80 kg
- M > 80 kg
- M = 13.3 kg
- M < 80 kg

كتلة الشخص على القمر 80kg
كتلته على الأرض ؟

Save & Next حفظ والتالي

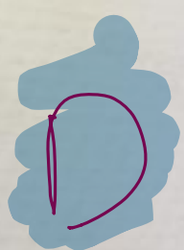
HP Compaq LE1711

Total questions in exam: **25** | Answered: 7

Question No. 9

According to Newton's second law (F=ma), if F is kept constant, then:

- F = a/m
- a = m
- m is directly proportional to the acceleration a
- m is inversely proportional to the acceleration a



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Question No. 19

t=? P m s

How long would it take a 1500-W motor to raise a 100-kg mass to a height of 15 m?

- 40 s
- 30 s
- 10 s
- 20 s

$$P = \frac{mg \cdot s}{t}$$

$$\frac{Pt}{P} = \frac{mgs}{P}$$

$$t = \frac{mgs}{P}$$

$$t = \frac{100 \times 10 \times 15}{1500} = 10\,s$$

C

Question No. 23

The coefficient of friction is always:

- dimensionless
- more than 1
- less than 1
- negative

A

Not have unit

A

Save & Next حفظ والتالي

Question No. 16

The power needed to speed up a 1000-kg car from zero km/h to 108 km/h in 10 seconc

- 45 kW
- 75 kW
- 55 kW
- 65 kW

P

m v_i v_f t

$$P = \frac{W}{t} = \frac{f.s}{t} = \frac{am}{t}$$

$$a = \frac{v_f - v_i}{t} = \frac{30}{10} = 3\,m/s^2$$

$$F = 3 \times 1000 = 3000\,N$$

$$2as = v_f^2 - v_i^2$$

$$2 \times 3 \times s = 30^2 - 0^2$$

$$\frac{6s}{6} = \frac{900}{6}$$

$$s = 150\,m$$

$$P = \frac{3000 \times 150}{10} = 45000\,W = 45\,kW$$

$\div 1000$

$W \rightarrow kW$

A

Total questions in exam:

Question No. 23

A cart carrying a 500-N box is pushed horizontally on a level groun
by the weight of the box on the cart is:

- 5000 J
- 50 J
- 500 J
- 0 J

Save & Next

MKCL OES

Physics_

Total questions in exam: **25** | Answered: **0**

Question No. 1

If a worker did work of 510 J to lift a mass of bricks to a height of 3 m. This mass is:

- 27 kg
- 17 kg
- 10 kg
- 25 kg

$$\frac{W}{S} = \frac{F \cdot S}{S}$$

$$F = \frac{510}{3}$$

$$F = 170$$

$$\frac{F}{g} = \frac{mg}{g}$$

$$m = \frac{F}{g}$$

$$m = \frac{170}{10} = 17\,kg$$

13

Next

Question No. 19

The power of an engine that developed to do a work of 450 kJ in 3

- 15 kW
- 135 W
- 150 kW
- 1350 W

$P = \frac{W}{t}$

$P = \frac{450}{3}$

$P = 150\ kW$

C

Question No. 17

A pump is needed to lift 3000 L of water in a minute a distance of 30 m. What power must the pump be able to deliver? (1 L of water has a mass of 1 kg)

- 15 kW
- 25 kW
- 20 kW
- 30 kW

60s s P

1L → 1kg

3000 → ?

$m = 3000\,kg$

$$P = \frac{mgs}{t}$$

$$P = \frac{3000 \times 10 \times 30}{60} = 15000\,W$$

÷1000

W → kW

= 15 A

Physics_Quiz2_Se

questions in exam: 25 | Answered: 13

Question No. 21

You raised a 10 kg object to a height of 3 m, and your friend raised the same object to a height of 1 m. The work done by your friend is

- one third your work
- same as your work
- half your work
- four times your work

$W_1 = mgh$

$= 10 \times 10 \times 3$

$W_1 = 300\,J$

$W_2 = 10 \times 6 \times 1$

$W_2 = 100\,J$

أقل

$\frac{100}{300} = \frac{1}{3}$ ثلث

A

Question No. 18

You raised a 10-kg object to a height of 2 m, and your friend raised a 20-kg object to a height of 1 m. The work done by your friend is:

- same as your work
- half your work
- four times your work
- double your work

$W_1 = mgh$

$W_1 = 10 \times 10 \times 2$

$= 200\,J$

$W_2 = 10 \times 20 \times 1$

$W_2 = 200\,J$

Same

A

Total questions in exam:

Question No. 15

If you did a work of 210 J to place a 7-kg box on the

- 1 m
- 3 m
- 2 m
- 4 m

$W = mgs$

$s = \frac{W}{mg}$

$s = \frac{210}{7 \times 10} = 3m$

B

MKCL OES

Total questions in exam: **25** | Answered: **0**

Question No. 1

The height a 20-kW motor can lift a 1000-kg mass to in 10 seconds is:

- 40 m
- 20 m
- 10 m
- 30 m

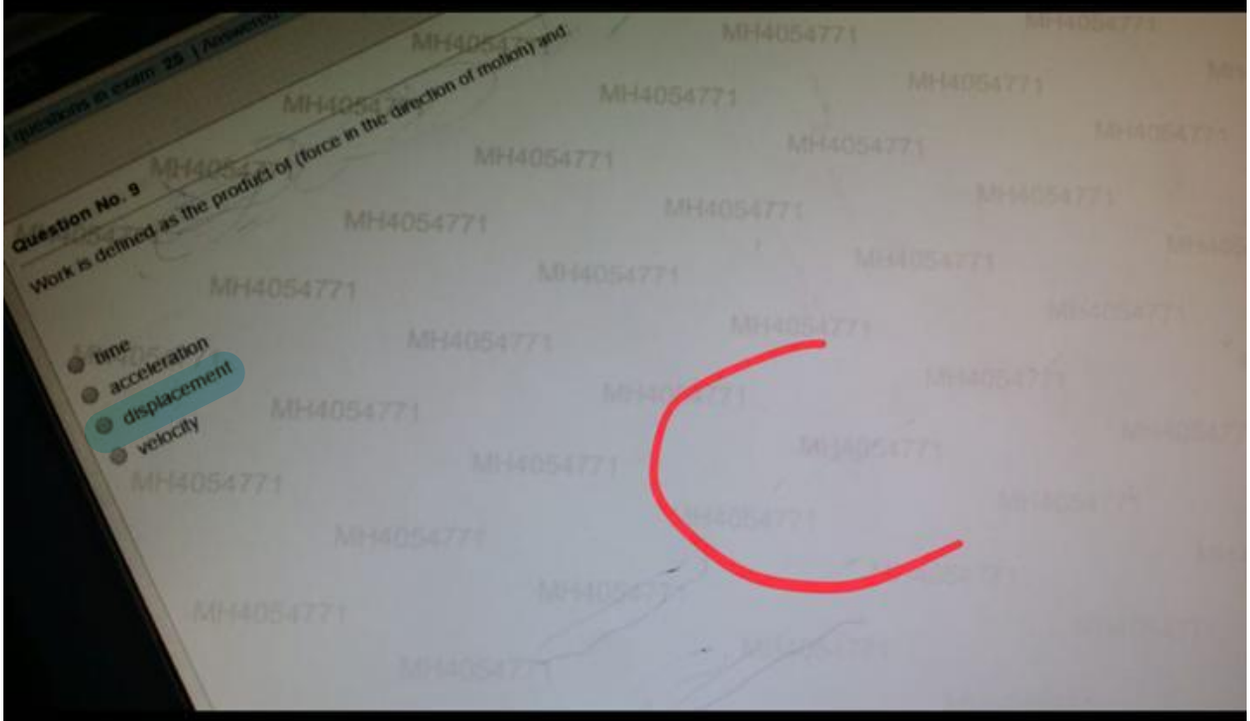
$$P = \frac{mgh}{t}$$

$$\frac{mgh}{mg} = \frac{Pt}{mg}$$

$$h = \frac{Pt}{mg} = \frac{20 \times 1000 \times 10}{10 \times 1000} = 20\,m$$

B

Save & Next


Question No. 9
Work is defined as the product of (force in the direction of motion) and
time
acceleration
displacement
velocity

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Total questions in exam: 25 | Answered: 11

Question No. 25

The friction force between two surfaces depends on:

- nature of the surfaces and their area
- nature of the surfaces and the normal force
- only the normal force
- only nature of the surfaces

$\hookrightarrow f = \mu F_N$

MKCL OES

Total questions in exam: **25** | Answered: **0**

Question No. 3

A force is applied on an object and the object did not move. The opposing friction is called:

- internal friction
- dynamic friction
- static friction
- kinetic friction

Save & Next जतन व पुढील

HP LE1901w

Question No. 10

A worker pushes a cart carrying a 450-N box a distance of 20 m by exerting a constant force of 40 N in the direction of motion. The work done by the worker is

- 90 J
- 900 J
- 80 J
- 800 J

$W = fs$

$W = 40 \times 20 = 800\ J$

D

Total questions in exam: 25 | Answered: 9

Question No. 10

The time taken by a 10-kW motor to raise a 1000-kg mass to a platform 10 m above the floor is

- 5 s
- 15 s
- 10 s
- 20 s

$P = \frac{mgs}{t}$

$\frac{Pt}{P} = \frac{mgs}{P}$

$t = \frac{mgs}{P}$

$t = \frac{10 \times 10 \times 1000}{10 \times 1000} = 10\,s$

C

Save & Next حفظ والتالي

Total questions in exam: 25 | Answered: 15

Question No. 20

The power developed to raise a 1000-kg steel wrecking ball to a height of 20 m in 10 s is

- 20 kW
- 40 kW
- 30 kW
- 50 kW

$$P = \frac{mgh}{t}$$

$$P = \frac{10 \times 20 \times 1000}{10}$$

$$P = 20000 \div 1000 = 20\ kW$$

A

Save & Next حفظ والتالي

HP LE1901w

MKCL OES

Question No. 19

The power developed for doing a 140-kJ work in 7 s is:

- 280 kW
- 20 W
- 20 kW
- 280 W

$P = \frac{w}{t}$

$P = \frac{140}{7} = 20\,kW$

C

uestion No. 13

he power needed to speed up a 1000-kg car from zero km/h to 90 km/h in 10 seconds is:

45.5 kW
41.5 kW
31.25 kW
21.5 kW

m v_i v_f t

$a = \frac{25}{10} = 2.5\ m/s^2$

$\frac{2as}{2a} = \frac{v_f^2 - v_i^2}{2a}$

$s = \frac{25^2}{5}$

$s = 125\ m$

$P = \frac{mas}{t}$

$P = \frac{125 \times 2.5 \times 1000}{10}$

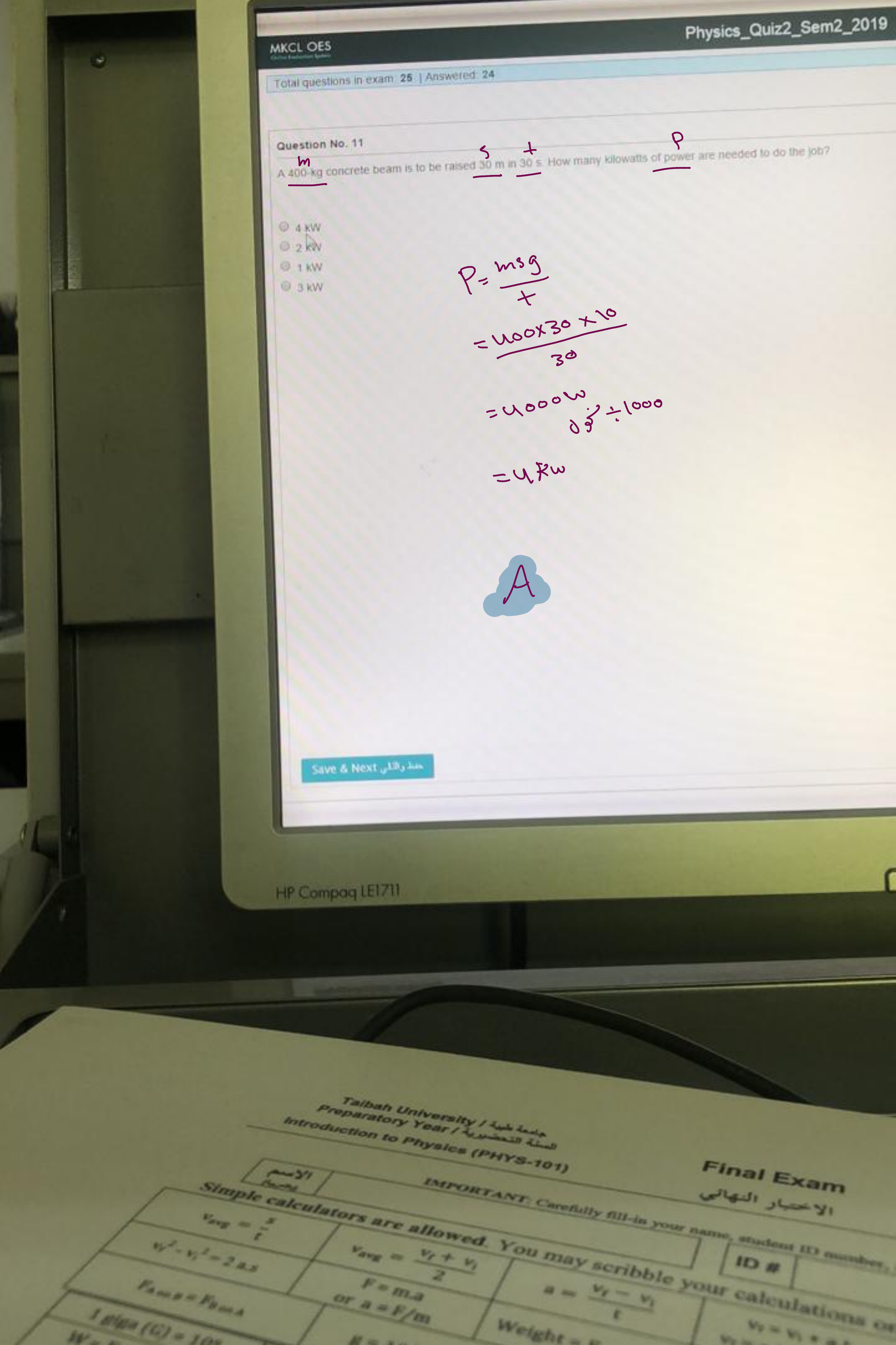
$= 31250\ W$

÷1000

$= 31.25\ kW$

C

Save & Next



MKCL OES
Physics_Quiz2_Sem2_2019
Total questions in exam: 25 | Answered: 24
Question No. 11
A 400-kg concrete beam is to be raised 30 m in 30 s. How many kilowatts of power are needed to do the job?
4 kW
2 kW
1 kW
3 kW
Save & Next حفظ والتالي
HP Compaq LE1711
Taibah University / جامعة طيبة
Preparatory Year / السنة التحضيرية
Introduction to Physics (PHYS-101)
Final Exam
الاختبار النهائي
IMPORTANT: Carefully fill-in your name, student ID number
Simple calculators are allowed. You may scribble your calculations on
ID #

MKCL OES

Total questions in exam: 25 | Answered: 12

Question No. 14

If a bullet is fired from a handgun with a force F1, the handgun recoils (ترتد) with a

- F1 and F2 are not equal
- F1 and F2 are equal and in the same direction
- F1 and F2 are equal and perpendicular
- F1 and F2 are equal and opposite

MKCL OES

Total questions in exam: **25** | Answered: **0**

Question No. 2

When you fire a bullet (طلقة) from a handgun, the recoil (الإرتداد) you feel is called the

- normal to the reaction
- normal to the action
- action
- reaction

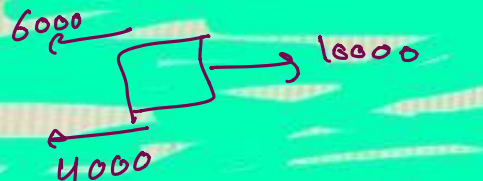
D

Question No. 8

For a moving car, if the forward force of its engine is 10000 N, air resistance on it is 6000 N, and the force of friction on it is 4000 N, the car will:

- have changing acceleration
- have zero acceleration
- slow down
- accelerate forward

F fr f



$6000 + 4000 - 10000 = 0$

$F = 0$

$a = 0$

Question No. 17

The unit (N.m) is a unit of:

- work
- power
- acceleration
- force

Save & Next حفظ والتالي

MKCL OES

Total questions in exam: 25 | Answered: 0

Question No. 20

If a man pushes a 100-kg box with a 100-N force on a level floor and the box moves with constant velocity, the force of friction on the box is:

- 50 N
- 10 N
- 1 N
- 100 N

Number of q...

0 Answered

5 Not Visited

20

0

1 2 3 4

8 9 10 11

15 16 17

22 23 24

Total questions in exam: 29 | Answered: 8

Question No. 9

The maximum static friction is always _____ _____ kinetic friction.

- smaller than
- quarter the
- greater than
- half the

Save & Next حفظ والتالي

Question No. 13

A constant force F is making an angle $25°$ with the direction of motion of an object. If the distance moved is 100 m and the work done on the object is 1820 J, the force F is:

- 10 N
- 30 N
- 20 N
- 40 N

$$\frac{W}{S\cos} = \frac{F.S.\cos\theta}{S\cos}$$

$$F = \frac{W}{S\cos\theta}$$

$$F = 19.6$$
$$\approx 20N$$

C

Save & Next حفظ والتالي

Newton's third law states that for a force (1) applied from object A on object B, there is a force (2) applied from B on A such that:

- forces (1) and (2) are equals in magnitude
- force (1) is more than force (2)
- force (1) is less than force (2)
- forces (1) and (2) are perpendicular

Save & Next حفظ والتالي

MKCL OES

Physics_Quiz

Total questions in exam: **25** | Answered: **0**

Question No. 5

The friction between two surfaces increases as:

- area between the surfaces increases.
- the normal force between the surfaces decreases.
- the coefficient of friction decreases.
- the normal force between the surfaces increases.

OES

Physics_Quiz2_Sem2_2019

questions in exam: **25** | Answered: **0**

ion No. 13

a man pushes on a wall with force 100 N, the wall pushes back on him with force of magnitude:

N

N

N

100 N

CL OES
aluation System

Physics_Quiz2_Sem2_2019

l questions in exam: **25** | Answered: **0**

stion No. 16

orce of 1000 N is making an angle of 60° with the direction of motion of an object.
he work done is 500 kJ, the distance moved is:

km

km

5 km

5 km

$$W = F \cdot S \cdot \cos\theta$$

$$S = \frac{W}{F\cos\theta}$$

$$S = \frac{500 \times 1000}{1000 \cos 60} = 850.6\,m \div 1000 = 0.85\,km$$

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Online Evaluation System

Total questions in exam: **25** | Answered: **4**

Question No. 15

The law of action and reaction is Newton's:

- Inertia law
- Second law
- Third law
- First law

Save & Next

MKCL OES

Physics_Quiz2_Sem2_2019

Total questions in exam: 25 | Answered: 17

Question No. 8

A 750-N load is lifted a vertical distance of 20 m in 10 s. What power is developed?

- 1.5 kW
- 1500 kW
- 15 kW
- 150 kW

$P = \frac{750 \times 20}{10} = 1500 \div 1000$

$= 1.5\,kW$

A

User: MC4078981

Number of main que
Number of questions

17 Answered

0 Not Visited

1 2 3
8 9 10
15 16 17
22 23 24

Calculator

Save & Next حفظ والتالي

HP L1710

Total questions in exam: **25** | Answered: **18**

Question No. 5

The unit of the coefficient of friction is:

- m/s/s
- newton
- newton/kg
- has no units

Question No. 23

Which of the following do not help reducing (بطل) kinetic friction:

- using Teflon
- using heavy weights
- using smoother surfaces
- using lubrication (تزييت)

Question No. 15

How long would it take a 5-kW motor to raise a 500-kg mass to a platform 4 m above the floor?

- 4 s
- 3 s
- 2 s
- 1 s

$P \times 1000$ m s

$$\frac{P}{1} = \frac{mgh}{t}$$

$$\frac{tP}{P} = \frac{mgh}{P}$$

$$t = \frac{mgh}{P}$$

$$t = \frac{500 \times 10 \times 4}{5 \times 1000} = 4s$$

A

Total questions in exam: 25 | Answered: 5

Question No. 8

Energy is defined as the:

- speed x time
- mass x speed
- mass x acceleration
- ability to do work

MKCL OES

Physics_Quiz2_Sem2_2019

Total questions in exam: 25 | Answered: 7

Question No. 11

A painter weighting 630 N climbs to a height of 5 m on a ladder. What is the increase in gravitational potential energy of the painter?

- 3.15 J
- 3.15 kJ
- 31.5 kJ
- 31.5 J

F S

$P_E = mgh$ ($mg = F_w$)

$P_E = 630 \times 5$

$= 3150\ J$

↳ كول

$J \xrightarrow{\div 1000} kJ$

$= 3.150\ kJ$

B

Save & Next حفظ والتالي

Question No. 3

A 1000-kg car that has kinetic energy of 450 kJ is going with a speed of:

- 144 km/h
- 120 km/h
- 108 km/h
- 130 km/h

$$KE = \frac{1}{2} m v^2$$

$$v = \sqrt{\frac{KE}{\frac{1}{2} m}}$$

$$= \sqrt{\frac{450 \times 1000}{\frac{1}{2} \times 1000}}$$

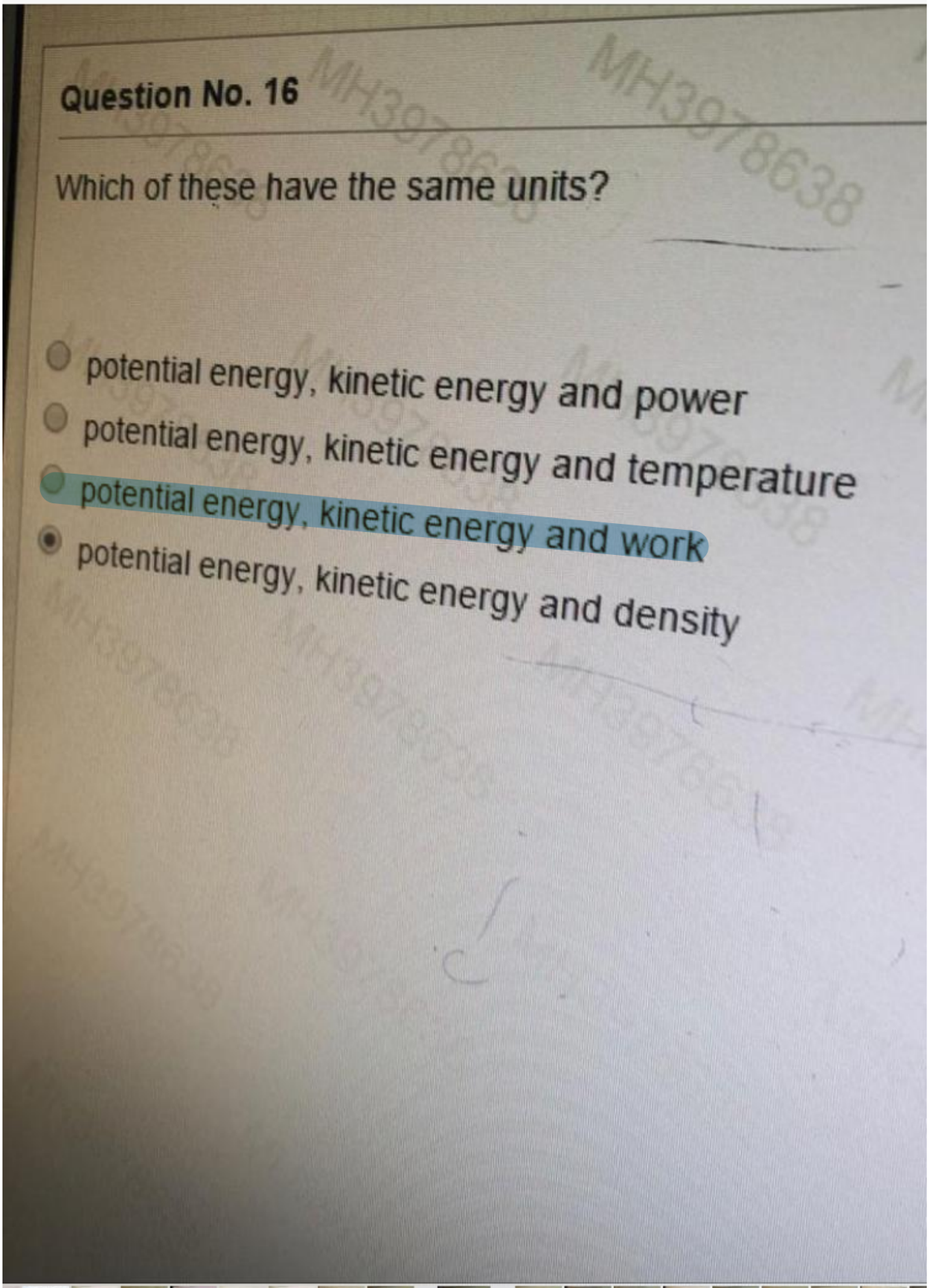
$$= 30 \text{ m/s} = 108 \text{ km/h}$$

Shift 8

C

Save & Next حفظ والتالي

HP LE1901w



MKCL OES

Physics_Quiz2_Sem1_2018

Total questions in exam: **25** | Answered: **15**

Question No. 3

A 5-N object is freely falling from a height of 20 m. Its speed after it loses 25% of its initial potential energy is approximately:

- 25 m/s
- 20 m/s
- 75 m/s
- 10 m/s

$P_E = mgh$ (Fw, h)

$P_E = 5 \times 20 = 100\ J$

$K_E = 100 \times 25\% = 25\ J$

$K_E = \frac{1}{2} m v^2$

$v = \sqrt{\frac{2K_E}{m}}$

$v = \sqrt{\frac{2 \times 25}{0.5}}$

$v = 10\ m/s$

$\frac{F_w}{g} = m$

$m = \frac{5}{10} = 0.5$

D

MKCL OES

Total questions in exam: 25 | Answered: 4

Ph

Question No. 5

As a vase is falling down from a high building, its:

- potential and kinetic energies are always equal
- kinetic energy decreases
- kinetic energy increases
- potential energy increases

Question No. 22

A 5-N object is freely falling from a height of 20 m. Its kinetic energy after it falls 90% of its initial height is:

- 10 J
- 75 J
- 90 J
- 25 J

$P_E = (mg)h$

$P_E = 5 \times 20$

$= 100\ J$

$= 100 \times 90\%$

$K_E = 90\ J$

C

Save & Next حفظ وتالي

Question No. 3

If the kinetic energy of a 2-kg object is 1 J, its speed is:

- 4 m/s
- 3 m/s
- 2 m/s
- 1 m/s

$$v = \sqrt{\frac{2KE}{m}}$$

$$= \sqrt{\frac{2 \times 1}{2}}$$

$$= 1 \text{ m/s}$$

Total questions in exam: **25** | Answered: **5**

Question No. 6

A 5-N object is freely falling from a height of 20 m. Its speed after it loses 90% of its initial potential energy is approximately:

- 27 m/s
- 10 m/s
- 90 m/s
- 19 m/s

$P_E = 5 \times 20$

$= 100$

$K_E = 100 \times 90\%$

$= 90\,J$

$v = \sqrt{\frac{2K_E}{m}}$

$= \sqrt{\frac{2 \times 90}{0.5}}$

$\frac{5}{10} = 0.5$

$\approx 19\ m/s$

D

Question No. 14

The gravitational potential energy of an object is related to its mass is as follows

- The potential energy does not depend on the mass
- The larger the mass the larger the potential energy
- The larger the mass the smaller the potential energy
- The potential energy depends on the square of the mass

Save & Next

Total questions in exam: 25 | Answered: 4

Question No. 9

A pile driver falls freely from a height of 3.2 m above a pile. Its velocity as it hits the pile is:

- 2 m/s
- 6 m/s
- 4 m/s
- 8 m/s

$V = \sqrt{2gh}$

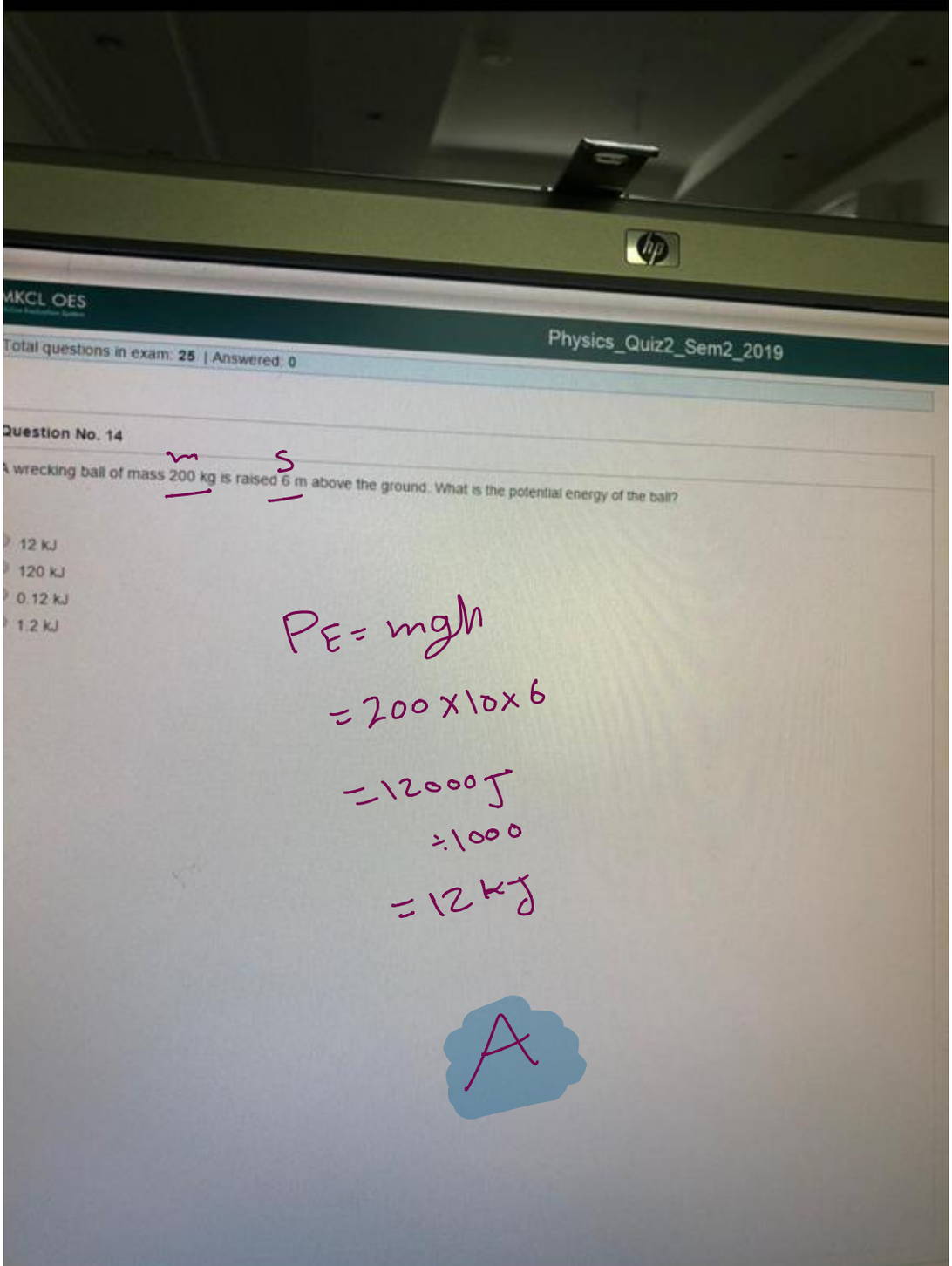
$= \sqrt{2 \times 10 \times 3.2}$

$= 8 m/s$

D

Save & Next حفظ والتالي

HP LE1901w


MKCL OES
Physics_Quiz2_Sem2_2019
Total questions in exam: 25 | Answered: 0
Question No. 14
A wrecking ball of mass 200 kg is raised 6 m above the ground. What is the potential energy of the ball?
12 kJ
120 kJ
0.12 kJ
1.2 kJ
m
s
PE = mgh
= 200 x 10 x 6
= 12000 J
÷ 1000
= 12 kJ
A

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Online Evaluation System

Physics_Quiz2_Sem2_2019

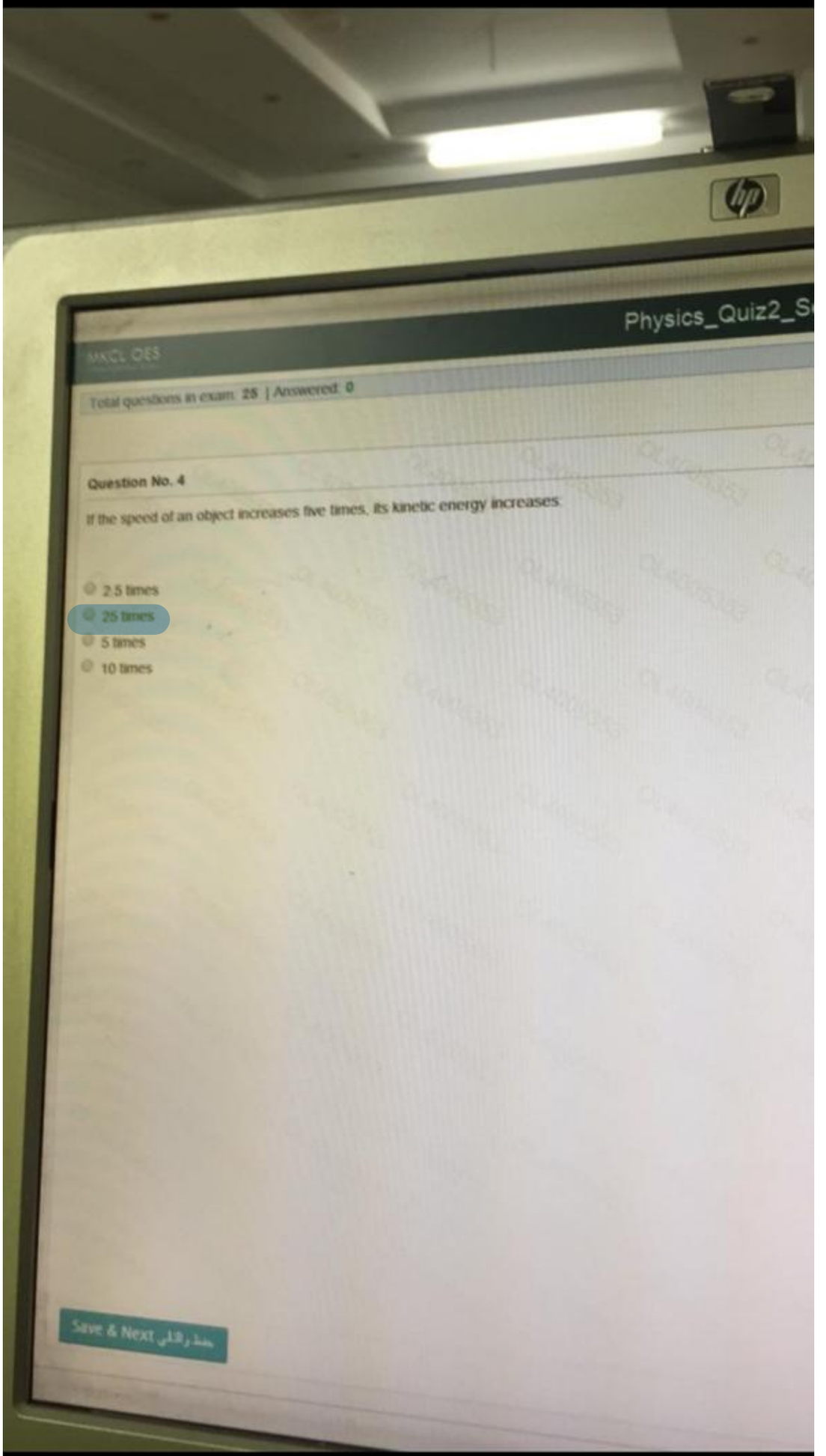
Total questions in exam: **25** | Answered: **0**

Question No. 19

Gravitational potential energy of an object is due to its:

- temperature
- position
- velocity
- acceleration

Save & Next حفظ والتالى


Physics_Quiz2_S
Total questions in exam: 25 | Answered: 0
Question No. 4
If the speed of an object increases five times, its kinetic energy increases
2.5 times
25 times
5 times
10 times
Save & Next

uestion No. 25

F_w K_E

t what speed does a 20-N weight have a kinetic energy of 100 J?

- 40 m/s
- 20 m/s
- 10 m/s
- 30 m/s

$$\frac{F_w}{g} = \frac{mg}{g}$$

$$= \frac{20}{10} = 2\,kg$$

$$v = \sqrt{\frac{2 \times 100}{2}}$$

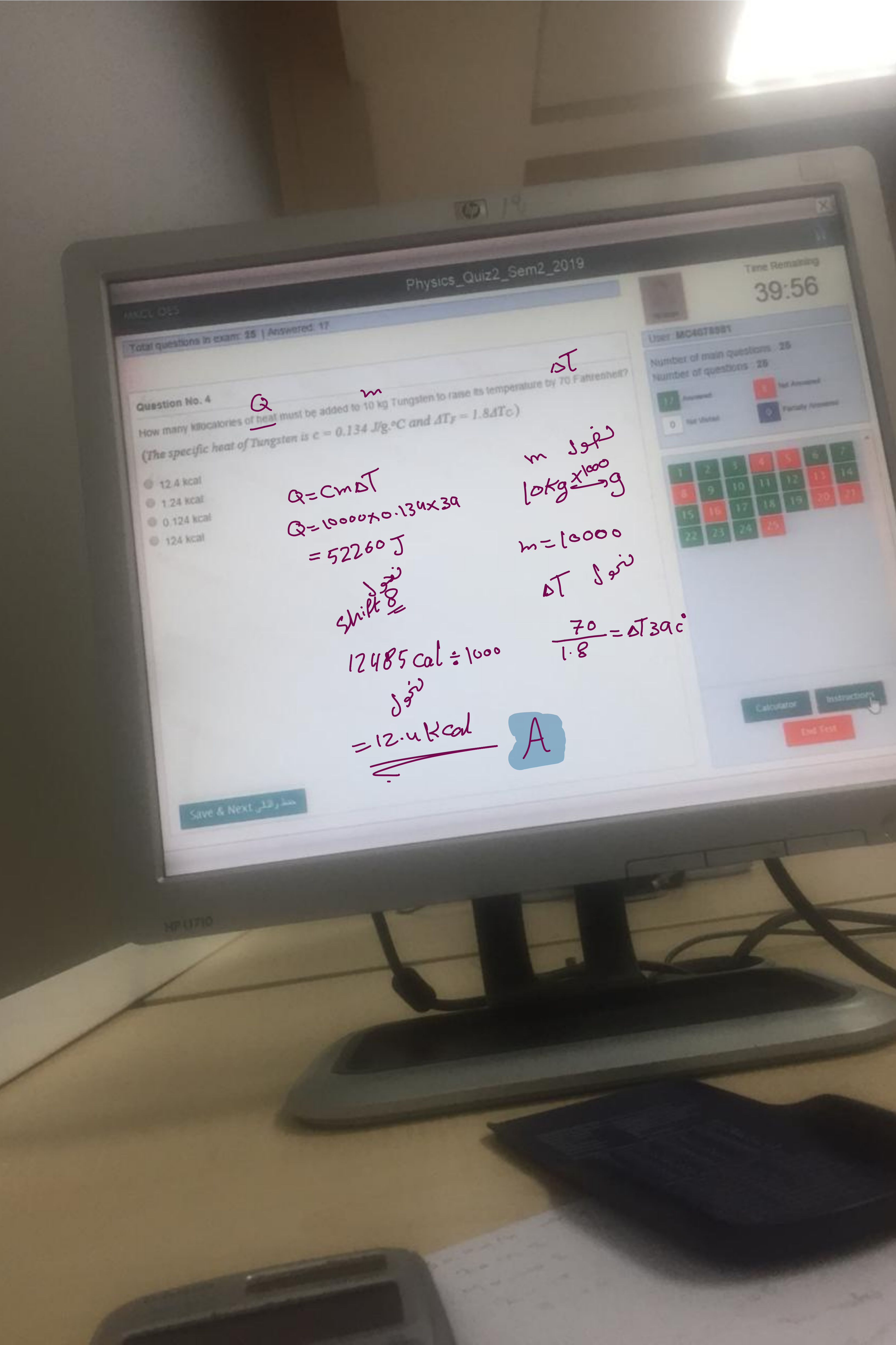
$$= 10\,m/s$$

C

Question No. 6

Which of the following temperatures is NOT possible?

- 4300 °C
- -278 °C
- -274 °F
- -200 °C


Physics_Quiz2_Sem2_2019
Time Remaining
39:56
Total questions in exam: 25 | Answered: 17
Question No. 4
How many kilocalories of heat must be added to 10 kg Tungsten to raise its temperature by 70 Fahrenheit?
(The specific heat of Tungsten is c = 0.134 J/g.°C and ΔTF = 1.8ΔTC)
12.4 kcal
1.24 kcal
0.124 kcal
124 kcal
Q
m
ΔT
Q=CmΔT
Q=10000×0.134×39
=52260 J
نحول
shift 8
12485 cal ÷1000
نحول
=12.4 Kcal
A
m نحول
10kg ×1000→ g
m=10000
ΔT نحول
70/1.8 = ΔT 39c°
Calculator
Instructions
End Test
Save & Next

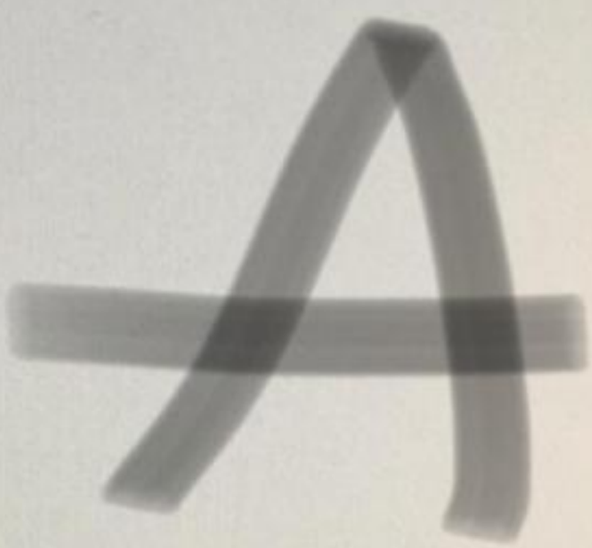
Question No. 15

Temperature scales that give the same temperature difference ΔT are the:

- Kelvin and Celsius
- Celsius and Fahrenheit
- Fahrenheit and Kelvin
- Celsius and Joule

K = C

R = F



Question No. 14

When we heat a block of iron, the iron atoms:

Physics_Quiz2

al questions in exam: 25 | Answered: 5

Question No. 8

5-kg of a liquid absorb an amount of heat Q = 200 kcal, raising its temperature by ΔT = 40°C. The specific heat c of this liquid is:

- c = 0.5 kcal/kg.°C
- c = 1 kcal/kg.°C
- c = 0.3 kcal/kg.°C
- c = 0.1 kcal/kg.°C

$$Q = cm\Delta T$$

$$\frac{Q}{\Delta T m} = \frac{cm\Delta T}{\Delta T m}$$

$$c = \frac{Q}{\Delta T m}$$

$$c = \frac{200}{40 \times 5} = 1 \text{ Kcal/kg.C}^{\circ}$$

B

Question No. 11

A 10-kg of a substance absorbs 173 kcal of heat and its temperature rises from zero to 150 °C. What is the specific heat c of this substance?

- c = 0.115 kcal/kg.°C
- c = 0.515 kcal/kg.°C
- c = 0.315 kcal/kg.°C
- c = 0.715 kcal/kg.°C

نفس اللي فوق

$$C = \frac{173}{150 \times 10} = 0.115$$

A

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Physics_Quiz2_Sem

Total questions in exam: **25** | Answered: **0**

Question No. 8

How many kilocalories of heat must be added to 10 kg Tungsten to raise its temperature by 230 Fahrenheit?

(*The specific heat of Tungsten is* $c = 0.134\ J/g.^{o}C$ *and* $\Delta T_F = 1.8\Delta T_C$.)

- 4.09 kcal
- 409 kcal
- 0.409 kcal
- 40.9 kcal

$Q = Cm\Delta T$

$= 0.134 \times 10000 \times \frac{230}{1.8}$

$= 17122\ J$

Shift 8

$= 40905\ cal \div 1000$

$= 40.9\ Kcal$

D

Save & Next

Total questions in

Question No. 3

In the Kelvin temperature scale, water freezes at:

- 212 K
- 273 K
- 0 K
- 32 K

Heat is a form of:

- Displacement
- Force
- energy
- Power

MKCL OES

Physics_Quiz2_Sem1_20

Total questions in exam: 25 | Answered: 8

Question No. 11

How many mega-joules of heat must be given off by 5.0 kg of water (specific heat = 4190 J/kg.°C) to cool from 75 to 10 °C?

- 3.40 MJ
- 1.36 MJ
- 7.23 MJ
- 4.53 MJ

Q m c

$\Delta T = 75 - 10 = 65$

$Q = 5 \times 65 \times 4190$

$= 1361760\ J \div 1000000$

$= 1.36\ MJ$

B

Save & Next

Question No. 20

In the Fahrenheit temperature scale, water boils at:

- 100 °F
- 373 °F
- 273 °F
- 212 °F

Save & Next حفظ والتالي

Question No. 8

Converting -40 °F to Celsius gives:

- -60 °C
- 50 °C
- -40 °C
- 30 °C

Shift 8

Save & Next

Question No. 4

In the Celsius temperature scale, water boils at:

- 373 °C
- 273 °C
- 100 °C
- 212 °C

Save & Next حفظ والتالی

LE1901w

MKCL OES

Total questions in exam: 25 | Answered: 0

Question No. 14

A temperature difference of 100 degrees Celsius is equivalent to a temperature difference of 180 degrees Fahrenheit. This means that a temperature difference of 5 degrees Celsius is equivalent to:

- 5 degrees Fahrenheit
- 18 degrees Fahrenheit
- 9 degrees Fahrenheit
- 20 degrees Fahrenheit

100C → 180F

5C → ?

$\frac{5 \times 180}{100} = 9$

C

Question No. 14

When we heat a block of iron, the iron atoms:

- vibrate faster
- stop moving
- vibrate slower
- increase in number

Question No. 20

A temperature difference of 100 degrees Celsius is equivalent to a temperature difference of 180 degrees Fahrenheit. This means that a temperature difference of 30 degrees Fahrenheit is equivalent to:

- 36.7 degrees Celsius
- 26.7 degrees Celsius
- 46.7 degrees Celsius
- 16.7 degrees Celsius

100C -> 180 f

? <- 30 F

$$\frac{100 \times 30}{180} = 16.7$$

D

Question No. 21

A temperature of 300 K equals:

- 512 °C
- 27 °C
- 37 °C
- 573 °C

$= 300 - 273$

$= 27C$

B

Save & Next حفظ والتالي

Question No. 24

4850 cal of heat is equivalent to:

- 33.5 kJ
- 31.7 kJ
- 11.2 kJ
- 20.3 kJ

Shift 8

$= 20301.13\,J \div 1000$

$= 20.3\,kJ$

D

Save & Next حفظ والتالي

Question No. 22

The human body average temperature is 37 °C. What is it in °F?

- 82.7 °F
- 73.1 °F
- 65.5 °F
- 98.6 °F

shift 8 =

D

MKCL OES
Online Evaluation System

Physics_Quiz2_Sem2_2019

Total questions in exam: **25** | Answered: **0**

Question No. 17

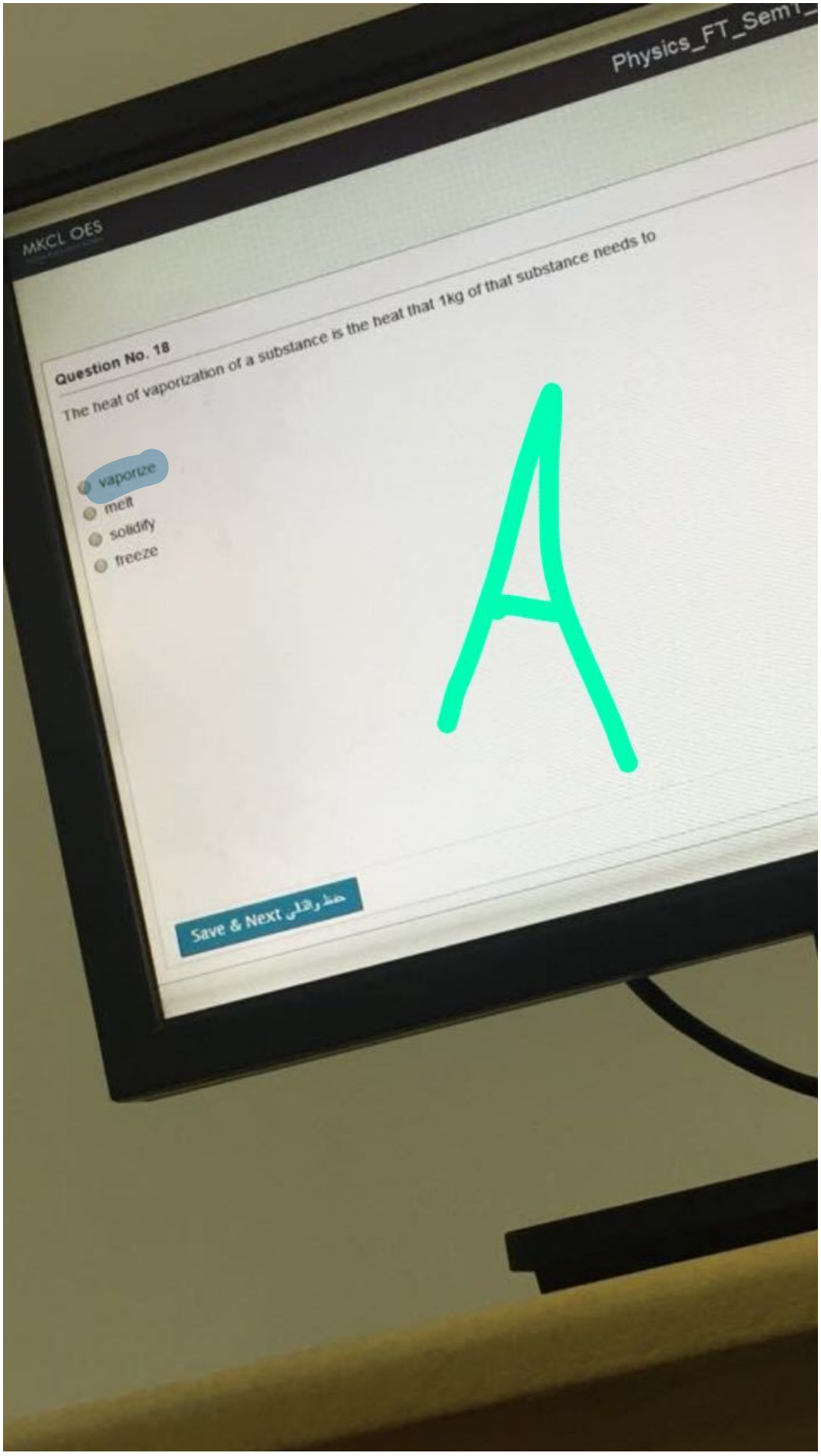
The human body average temperature is 98.6 °F. What is it in °C?

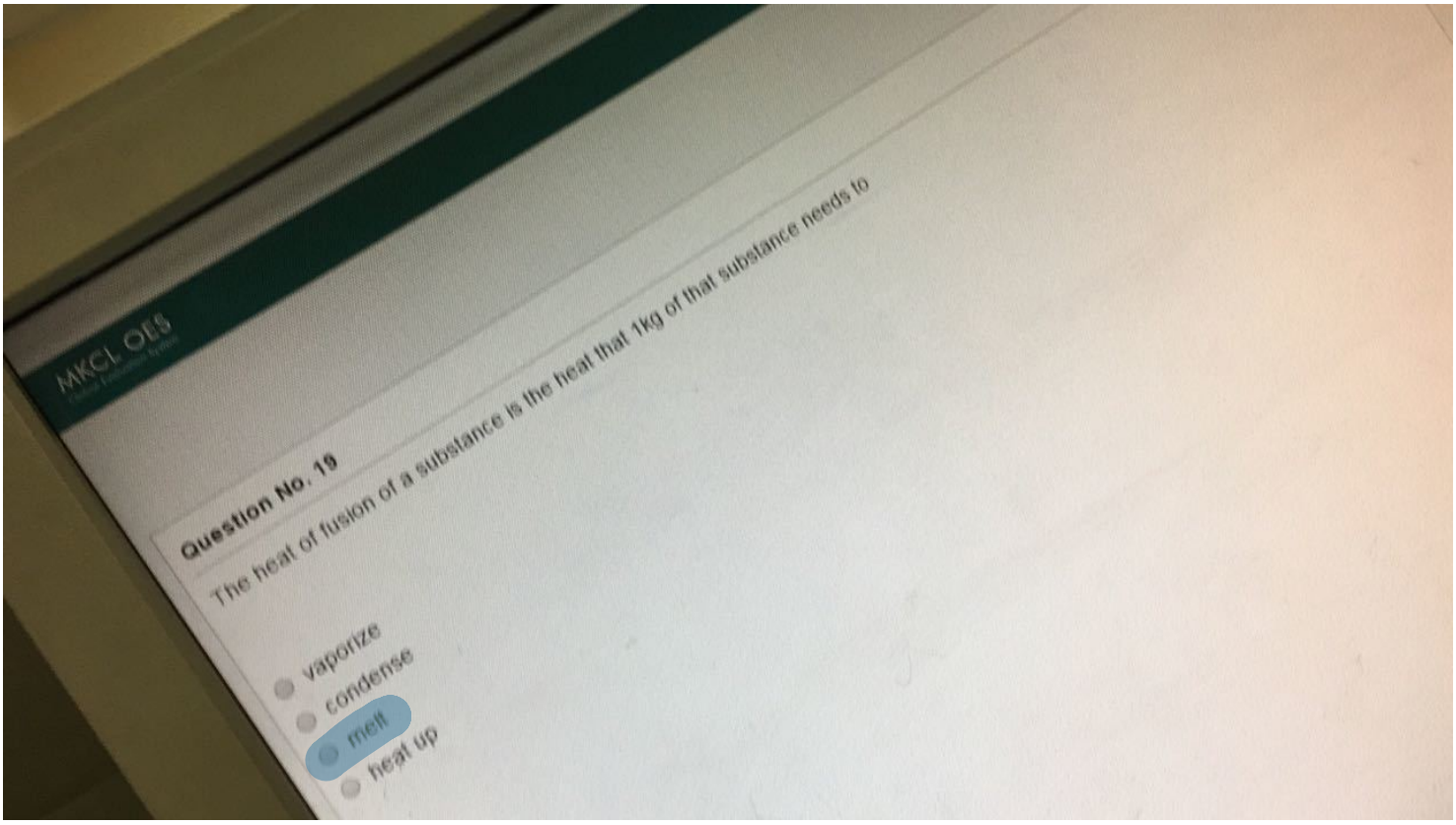
- 373 °C
- 40 °C
- 310 °C
- 37 °C

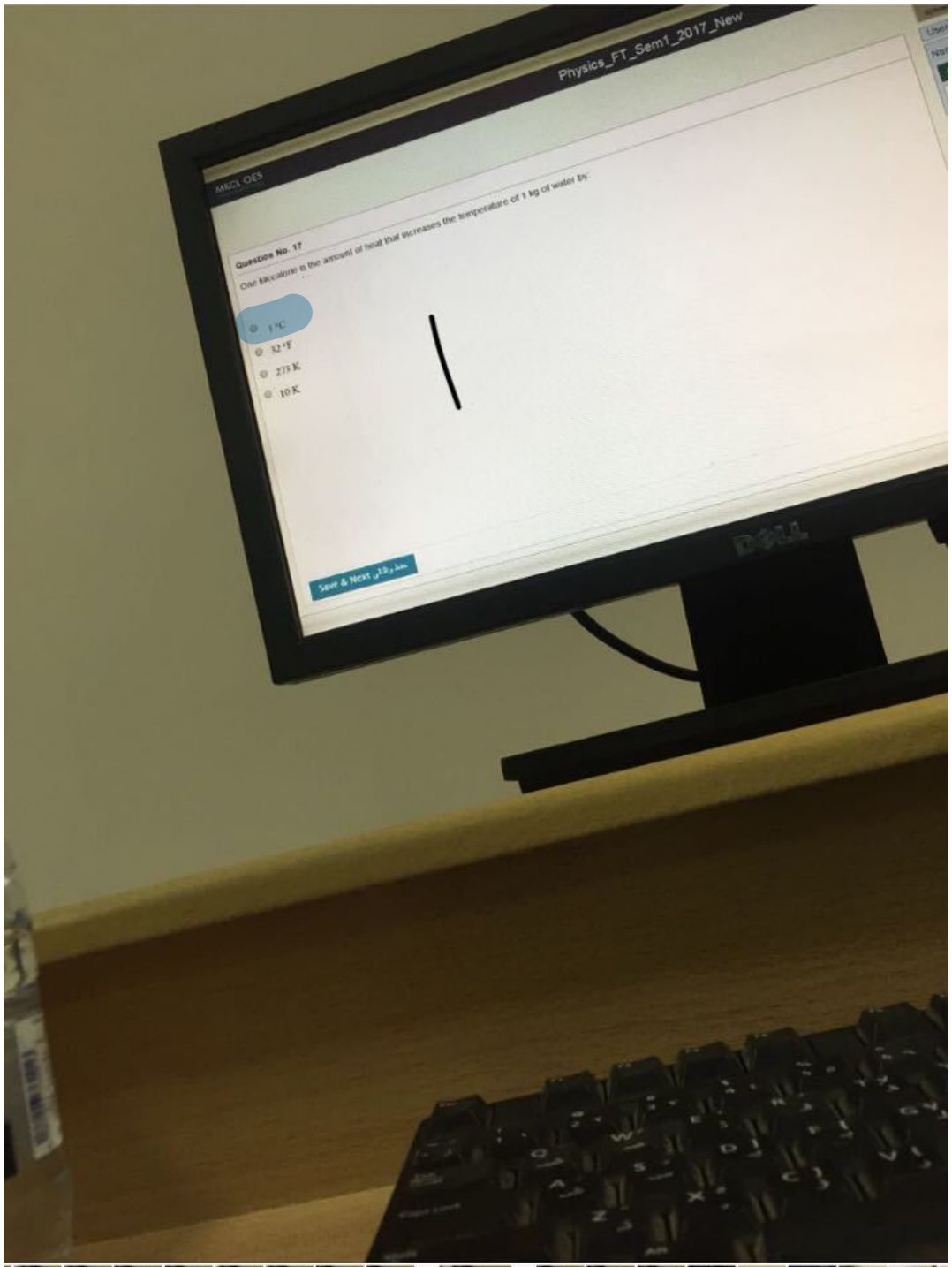
Short 8

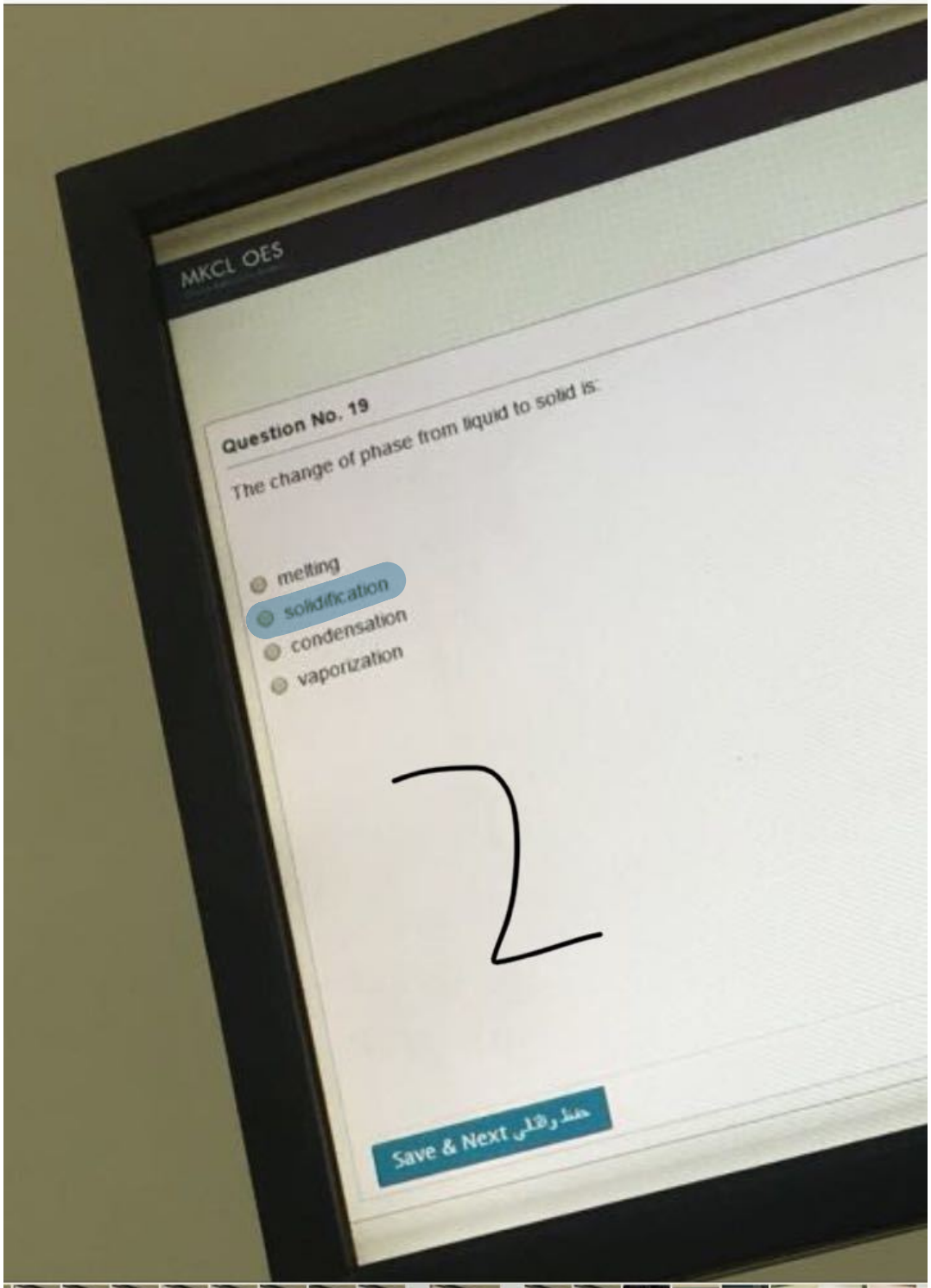
= 37 C

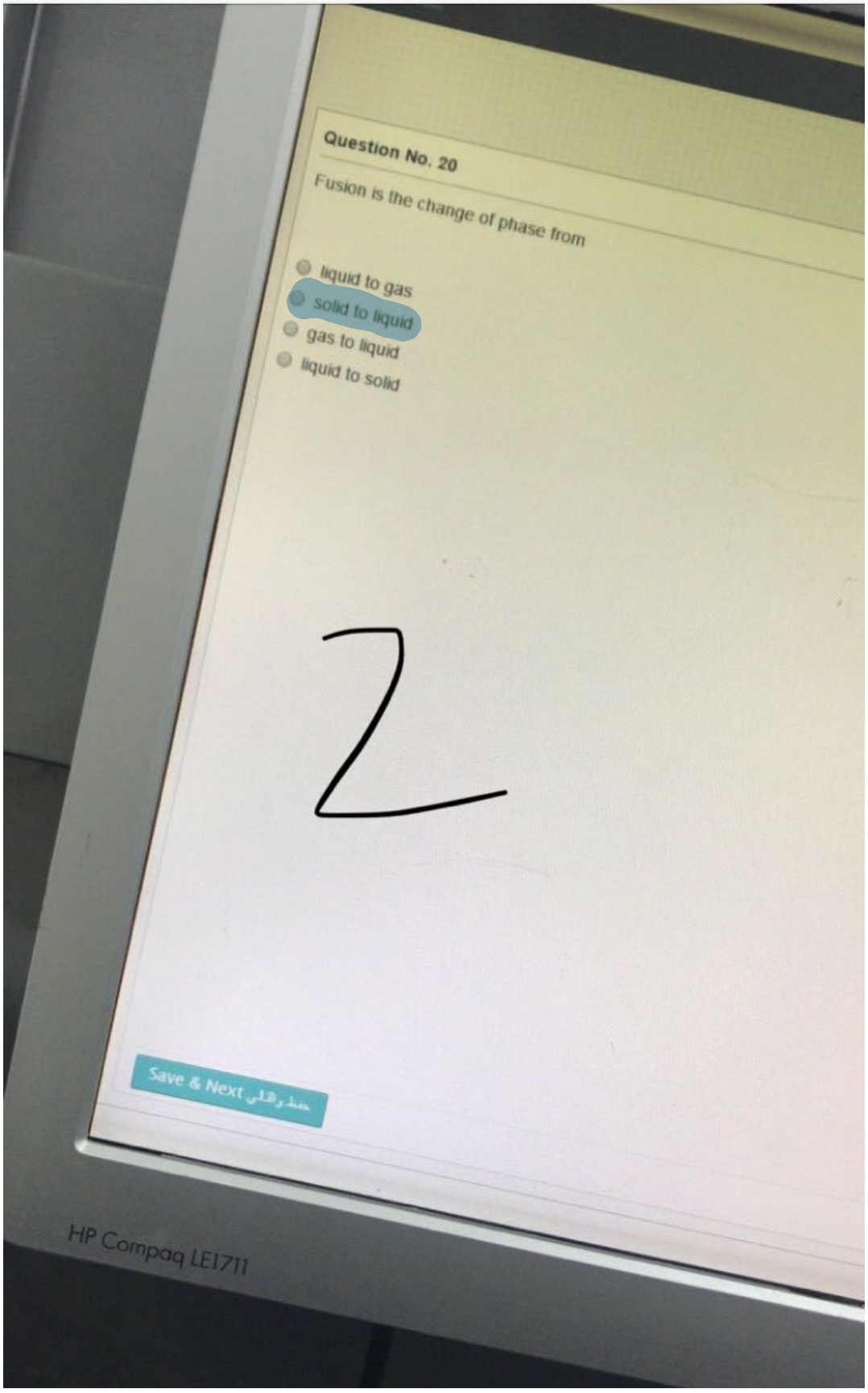
D

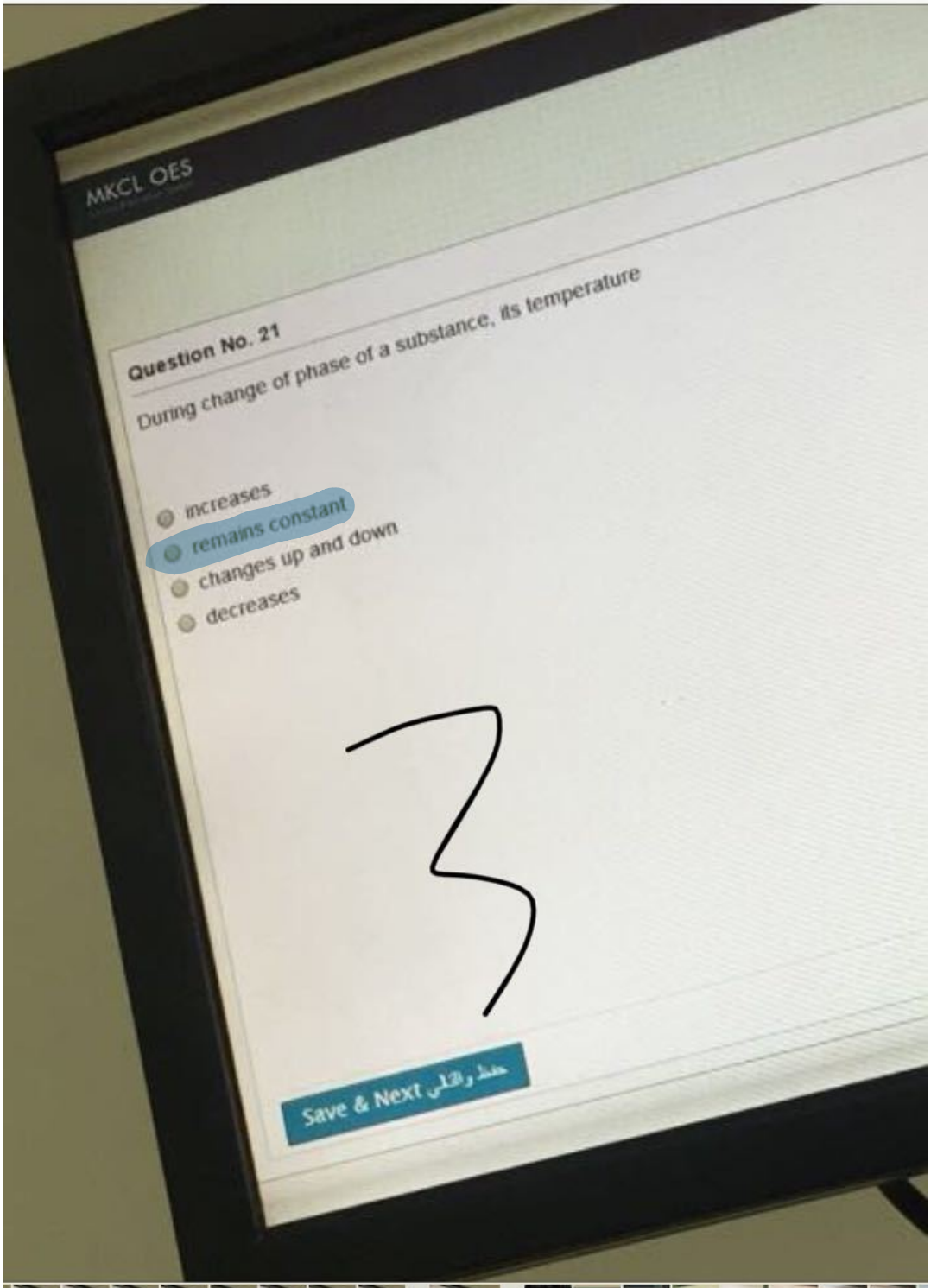

Physics_FT_Sem1_
MKCL OES
Question No. 18
The heat of vaporization of a substance is the heat that 1kg of that substance needs to
vaporize
melt
solidify
freeze
A
Save & Next

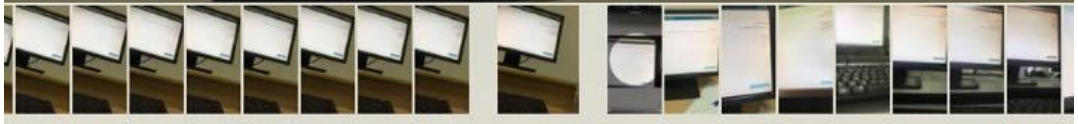

MKCL OES
Question No. 19
The heat of fusion of a substance is the heat that 1kg of that substance needs to
vaporize
condense
melt
heat up

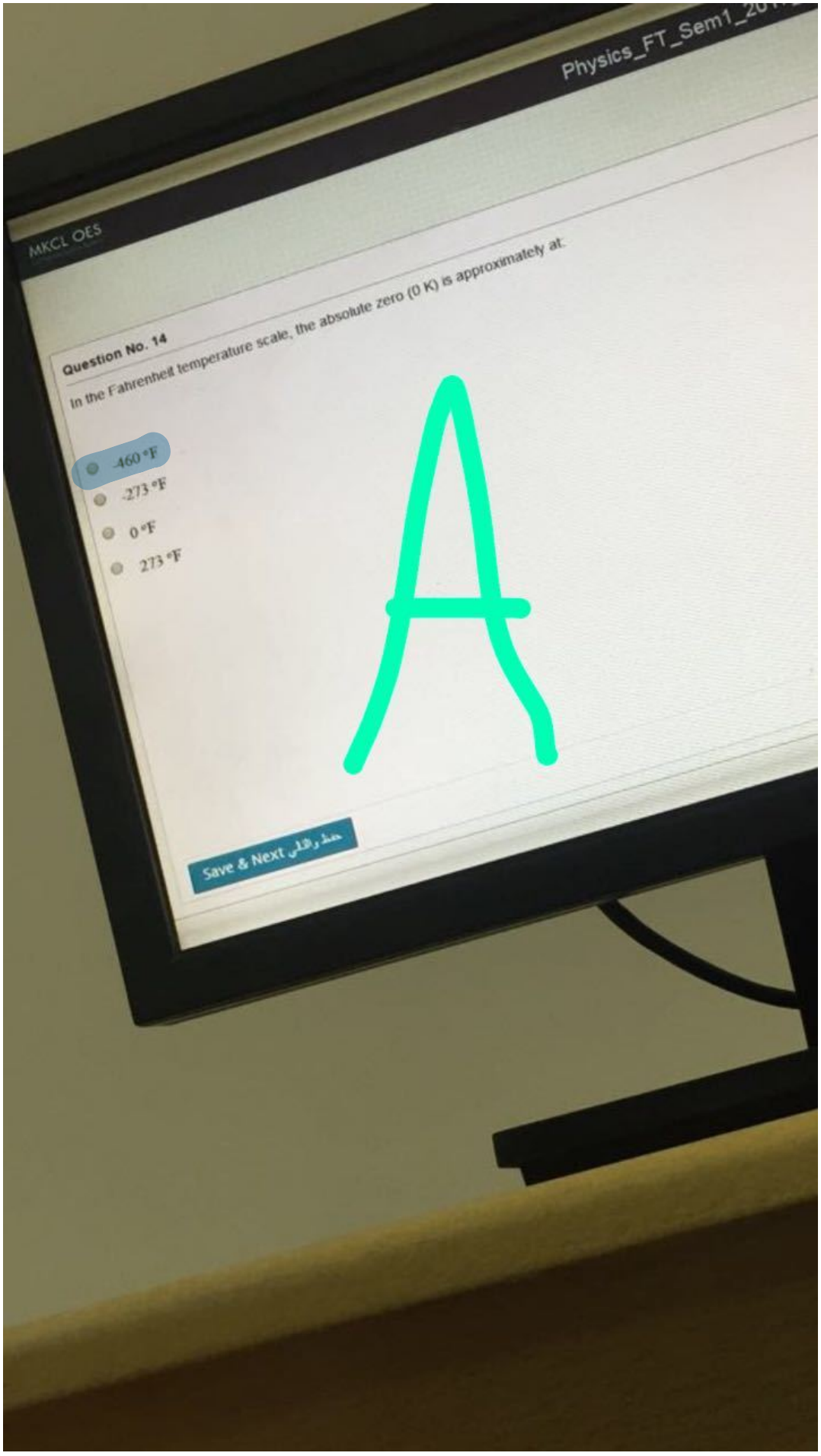


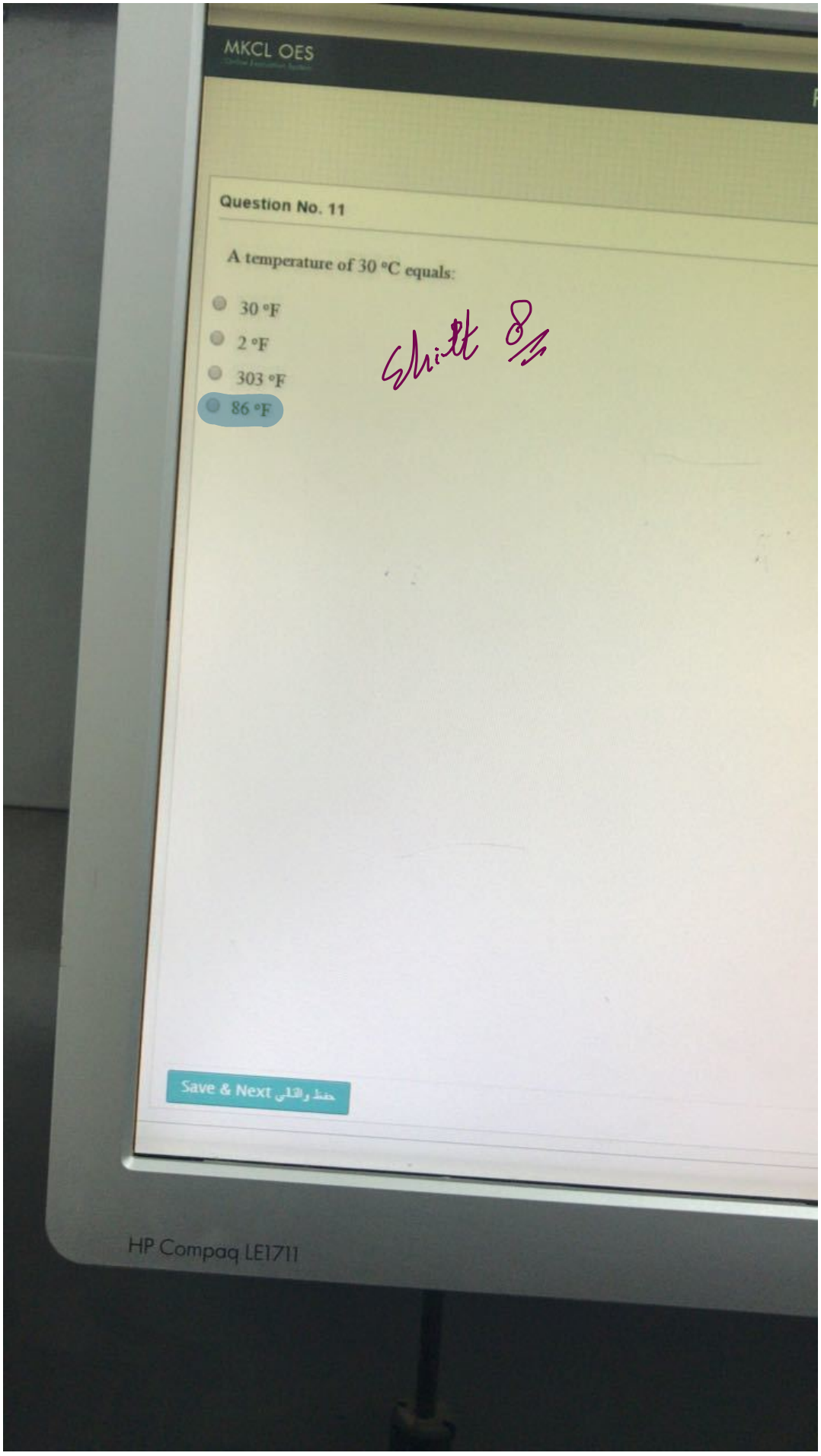


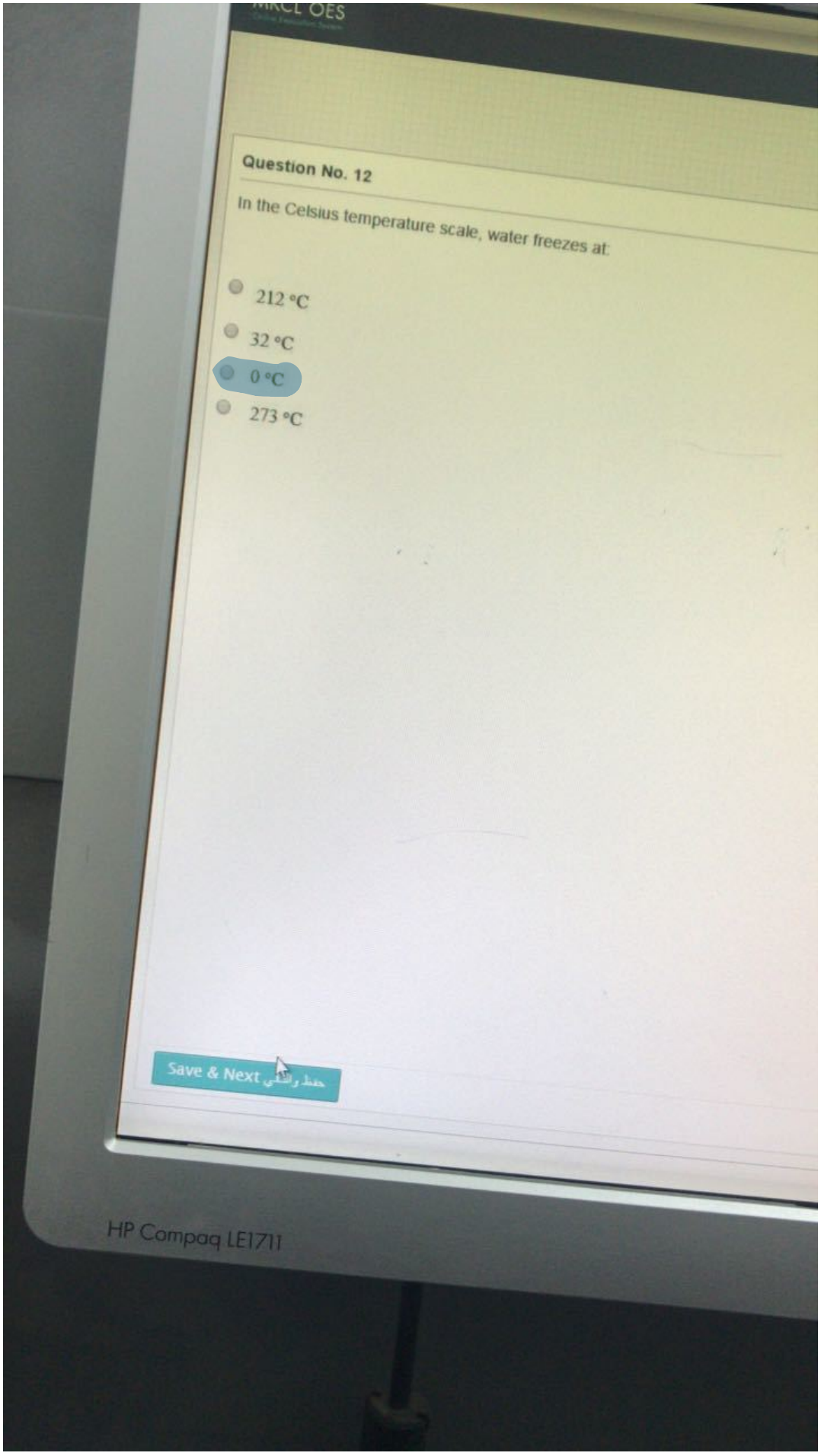


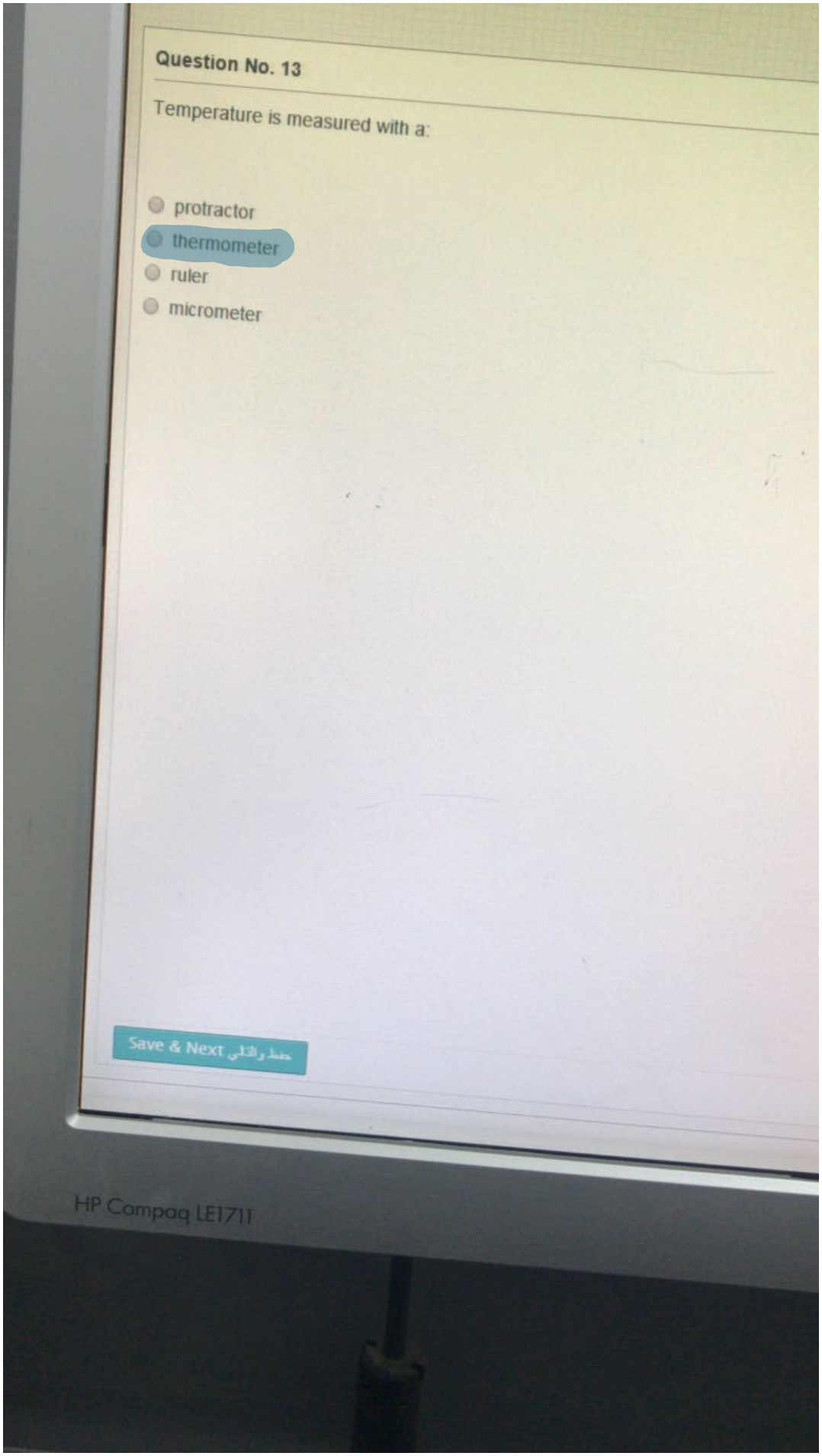





Physics_FT_Sem1_
MKCL OES
Question No. 14
In the Fahrenheit temperature scale, the absolute zero (0 K) is approximately at:
-460 °F
-273 °F
0 °F
273 °F
A
Save & Next


MKCL OES
Question No. 11
A temperature of 30 °C equals:
30 °F
2 °F
303 °F
86 °F
Save & Next
HP Compaq LE1711


Question No. 12
In the Celsius temperature scale, water freezes at:
212 °C
32 °C
0 °C
273 °C
Save & Next
HP Compaq LE1711


Question No. 13
Temperature is measured with a:
protractor
thermometer
ruler
micrometer
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Question No. 15

How much heat Q must be absorbed by 10 kg of steel (specific heat = 0.115 kcal/kg.°C) to heat it zero to 150 °C?

- 751 kcal
- 173 kcal
- 71 kcal
- 107 kcal

$Q = mc\Delta T$

$Q = 10 \times 0.115 \times 150$

$= 172.5 \text{ kcal}$

B

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Question No. 17

How many kilo-joules of heat Q must be given off by 15 kg of iron (specific heat = 481 J/kg.°C) to cool from 105 to 55 °C?

- 111 kJ
- 17 kJ
- 361 kJ
- 23 kJ

$\Delta T = 105 - 55 = 50$

$Q = 15 \times 50 \times 481$

$= 360750 \text{ J} \div 1000$

$= 360.7 \text{ kJ}$

C

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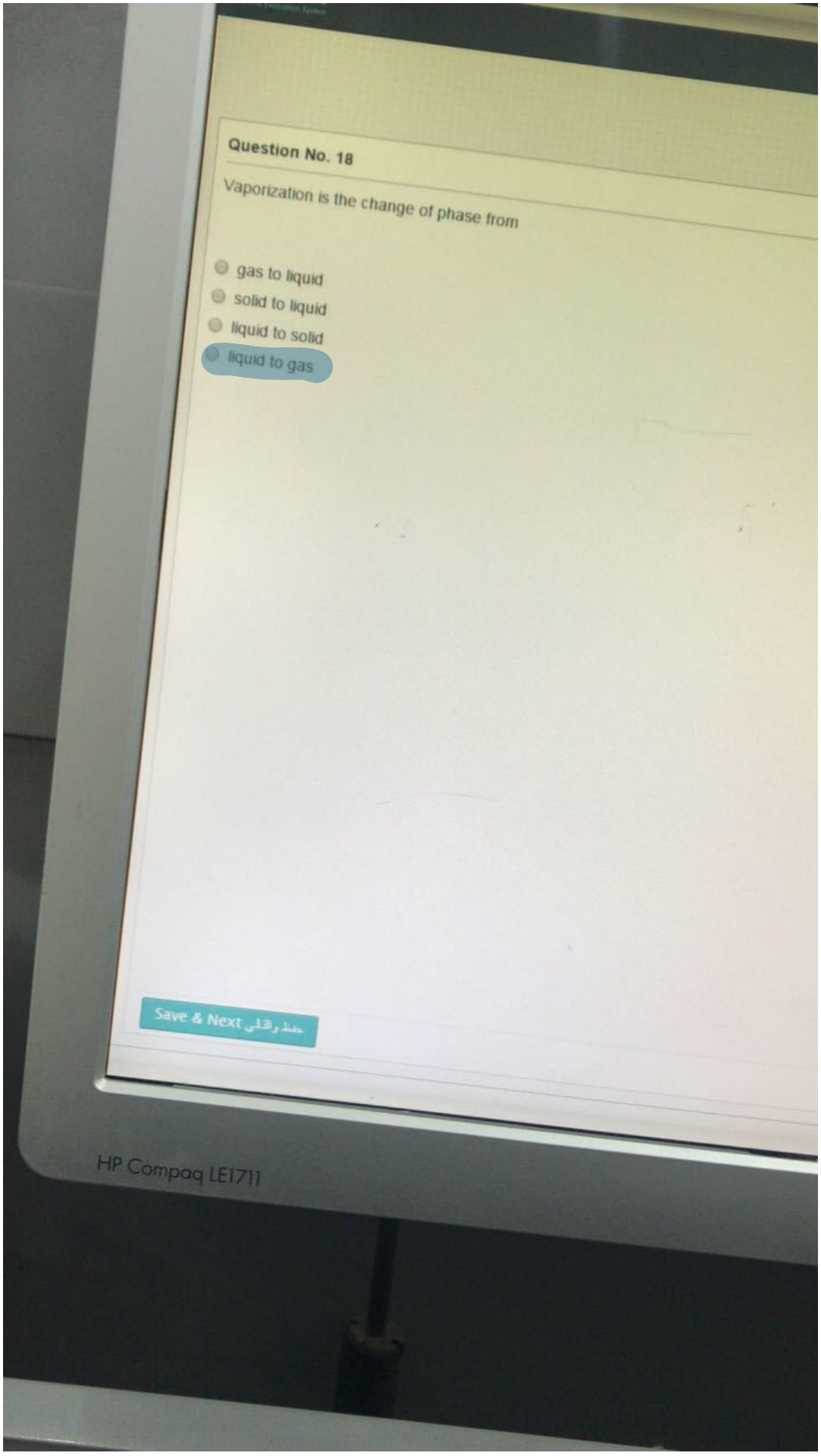
Question No. 18
Vaporization is the change of phase from
gas to liquid
solid to liquid
liquid to solid
liquid to gas
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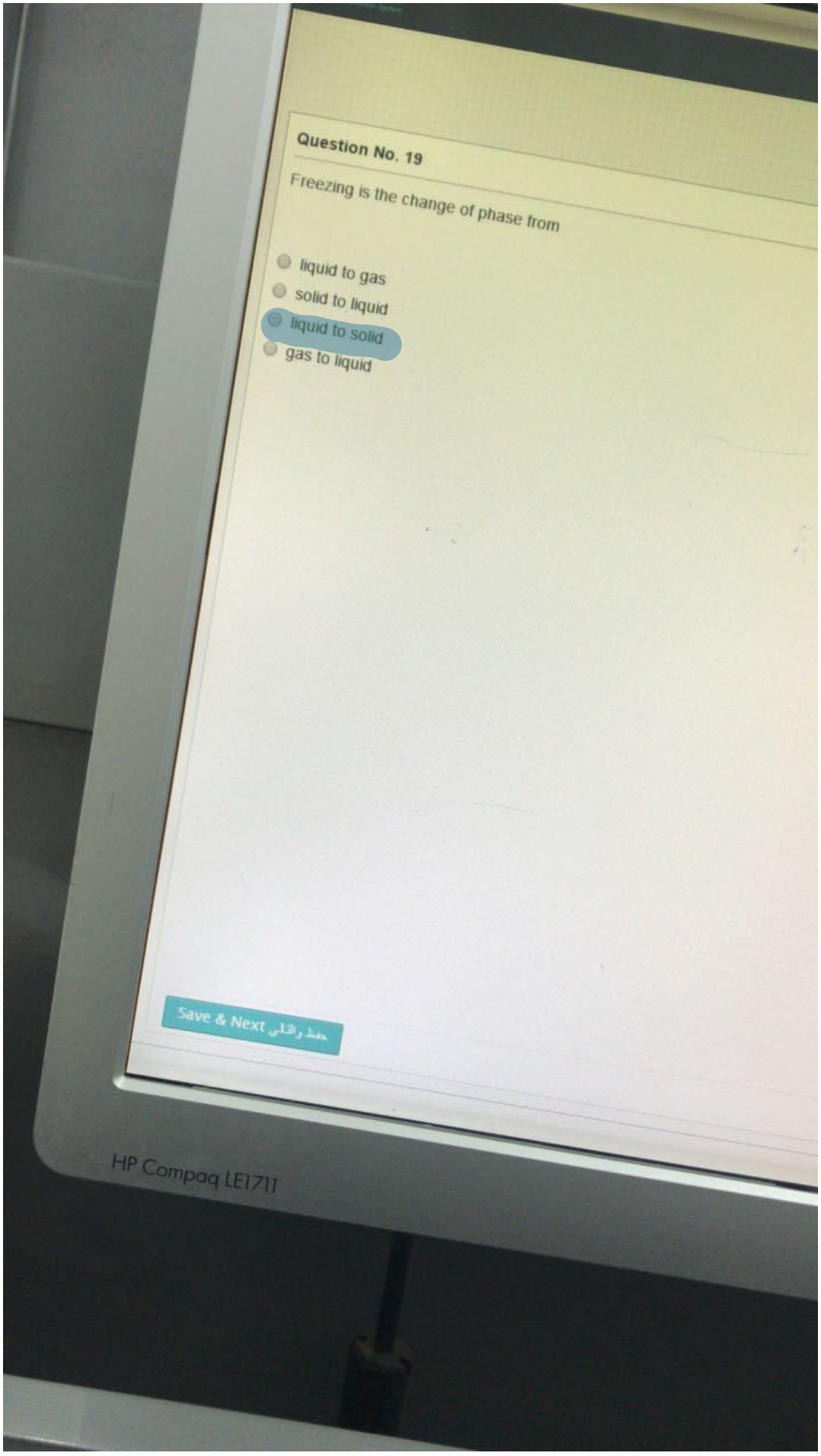
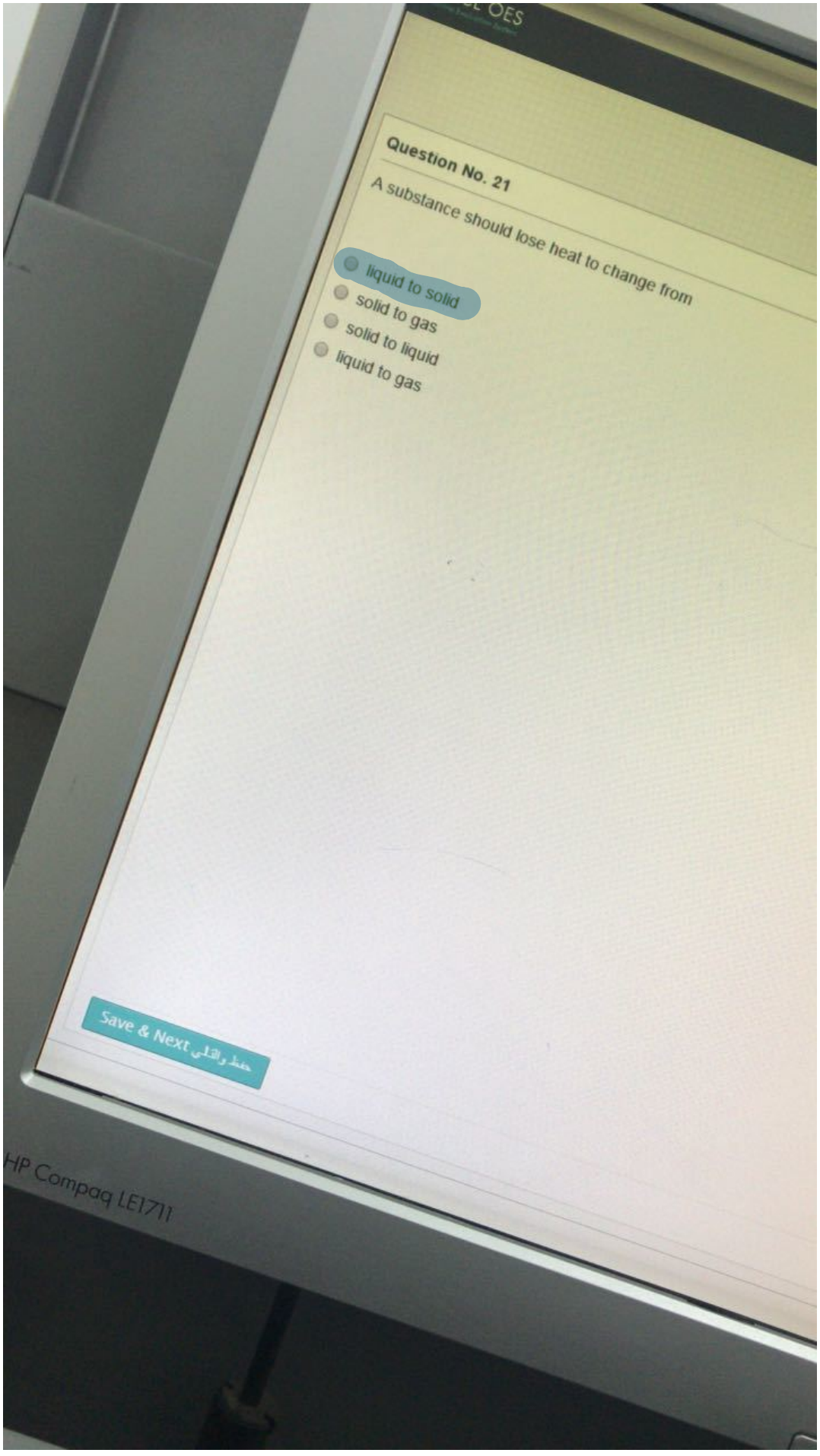
HP Compaq LE1711


Question No. 19
Freezing is the change of phase from
liquid to gas
solid to liquid
liquid to solid
gas to liquid
Save & Next
HP Compaq LE1711


Question No. 21
A substance should lose heat to change from
liquid to solid
solid to gas
solid to liquid
liquid to gas
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