

School Operations Office - Dubai and Northern Emirates Branch - Fujairah/Eastern Sharjah Al-Tawien Boys' School Cycle 2, 3		مكتب العمليات المدرسية - دبي والإمارات الشمالية فرع 5 الفجيرة/ الشارقة الشرقية نطاق 8.4 مدرسة الطويين الحلقة الثانية والثالثة بنين
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الاختبار التجريبي للفصل الدراسي الأول 2025- 2026
First Term mock exam 2025-2026

على الطالب التأكد من عدد صفحات الأسئلة - الإجابة على الورقة نفسها ()
The student must ensure the number of pages of questions - answer on the same paper ().

	رقم الطالب Student Number
	اسم الطالب Student Name
	المدرسة School
	الصف Class
	المسار Stream
	المادة Subject

	الدرجة النهائية Total
100	

المرجع Reviewer	المقدر Marker	الاسم Name
		التوقيع Sign

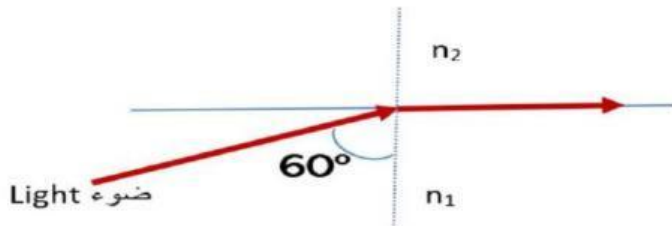
School Operations Office - Dubai and Northern Emirates Branch - Fujairah/Eastern Sharjah Al-Tawien Boys' School Cycle 2, 3				مكتب العمليات المدرسية - دبي والإمارات الشمالية فرع 5 الفجيرة/الشارقة الشرقية نطاق 8.4 مدرسة الطويين الحلقة الثانية والثالثة بنين	
.....	الدرجة المستحقة Degree deserved	Subject / المادة	الصف والشعبة Class and section	اسم الطالب الرباعي Student's full name	
100					

رؤية الوزارة : تعليم مبتكر مستدام لدولة رائدة عالمياً

Mark / الدرجة	Part one / الجزء الأول
	Circle the correct answer / ضع دائرة حول الإجابة الصحيحة

Learning outcome/ ناتج التعلم	Question / السؤال												
1	When light passes from air into water, it _____. <table border="1" style="width: 100%; text-align: center;"> <tr> <td>bends away from normal</td> <td>A</td> <td></td> </tr> <tr> <td>bends toward normal</td> <td>B</td> <td></td> </tr> <tr> <td>does not bend</td> <td>C</td> <td></td> </tr> <tr> <td>speeds up</td> <td>D</td> <td></td> </tr> </table>	bends away from normal	A		bends toward normal	B		does not bend	C		speeds up	D	
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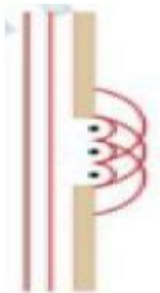
Learning outcome/ ناتج التعلم	Question / السؤال												
2	Which law governs the intensity through a polarizer? <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Malus's law</td> <td>A</td> <td></td> </tr> <tr> <td>Hooke's law</td> <td>B</td> <td></td> </tr> <tr> <td>Snell's law</td> <td>C</td> <td></td> </tr> <tr> <td>Huygen's principle</td> <td>D</td> <td></td> </tr> </table>	Malus's law	A		Hooke's law	B		Snell's law	C		Huygen's principle	D	
Malus's law	A												
Hooke's law	B												
Snell's law	C												
Huygen's principle	D												

		ناتج التعلم / Learning outcome
3	السؤال / Question	
وفقا للشكل. أي مما يلي صحيح؟ According to the figure. Which of the following is correct? 		
Critical angle = 90^0		A
$n_1 = n_2$		B
Critical angle = 60^0		C
$n_1 < n_2$		D

	Learning outcome/ ناتج التعلم
4	Question / السؤال
Color of light depends on its _____.	
Amplitude	A
Frequency	B
Intensity	C
Speed	D

	Learning outcome/ ناتج التعلم
5	Question / السؤال
A lens used to correct myopia is _____.	
Convex	A
Bi Convex	B
Plano Convex	C
Concave	D

	Learning outcome/ ناتج التعلم	
6	Question / السؤال	
In the equation: $E = \frac{x}{4\pi r^2}$. What does x represent?		
Luminous Flux	A	
Luminous Intensity	B	
Luminous Density	C	
Power	D	

	Learning outcome/ ناتج التعلم	
7	Question / السؤال	
What is the name of the wave phenomenon represented by the adjacent figure, which shows the propagation of waves before and after passing the barrier? Also, which principle explains this phenomenon? 		
Refraction of light / Huygens' principle	A	
Reflection of light / Newton's principle	B	
Polarization of light / Newton's principle	C	
Diffraction of light / Huygens' principle	D	

	Learning outcome/ ناتج التعلم	
8	Question / السؤال	
A lighting designer wants to stock only secondary colors of light—each one formed by mixing two primaries. Which set should she buy?		
Red, Green, Blue	A	
Violet, Green, Blue	B	
Yellow, Cyan, Magenta	C	
Red, Yellow, Green	D	

	Learning outcome/ ناتج التعلم	
9	Question / السؤال	
If a distant galaxy emits light in the green region of the visible spectrum. Will the observed wavelength shift toward the red light or the blue light?		
Towards Red light	A	
Towards Blue light	B	
Towards Red and Blue light	C	
None of the above	D	

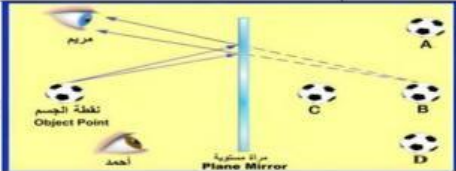
	Learning outcome/ ناتج التعلم	
10	Question / السؤال	
When magenta and yellow pigments are mixed, the resulting colour is:	عندما يتم خلط الأصباغ الأرجوانية والصفراء، يكون اللون الناتج:	
a) Blue	(a) الأزرق	
b) Red	(b) الأحمر	
c) Green	(c) الأخضر	
d) Cyan	(d) السماوي	

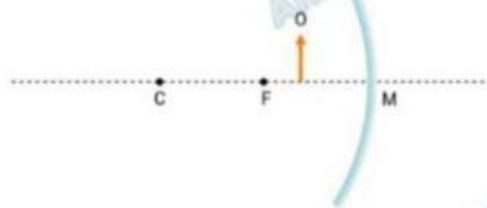
D	A	
C	B	
B	C	
A	D	

Learning outcome/ ناتج التعلم	
11	Question / السؤال
Unpolarized light of intensity 100 W/m^2 passes through two polarizers with axes at 30° to each other. What is the transmitted intensity?	يمر الضوء غير المستقطب بشدة 100 واط/م^2 عبر مستقطبين بمحاور عند 30° درجة لبعضهما البعض. ما هي شدة الضوء النافذ؟ Through I2
50 W/m^2	A
25 W/m^2	B
37.5 W/m^2	C
80 W/m^2	D

Learning outcome/ ناتج التعلم	
12	Question / السؤال
A light ray incident upon a mirror makes an angle of 36° with the mirror. What is the angle between the incident ray and the reflected ray? a) 36° b) 72° c) 108° d) 48°	
A	A
C	B
B	C
D	D

Learning outcome/ ناتج التعلم	
13	Question / السؤال
As shown in figure, light falls on a reflecting surface. Which of the statements below is incorrect?	يسقط ضوء على سطح عاكس كما هو موضح جانباً. أي العبارات التالية غير صحيحة؟
	
The reflecting surface is rough	السطح العاكس خشن
All reflected light can be seen	يمكن رؤية كامل حزمة الضوء المنعكسة
The reflection is defuse	الانعكاس غير منتظم
All reflected light can't be seen	لا يمكن رؤية كامل حزمة الضوء المنعكسة

Learning outcome/ ناتج التعلم	
14	Question / السؤال
Mariam observed the ball's Image in Position (B) Where is the location of the ball's image that will be seen by Ahmad	شاهدت مريم صورة الكرة في الموقع (B) في أي المواقع سيرى أحمد صورة الكرة؟
	
Location A	A
Location B	B
Location C	C
Location D	D

		Learning outcome/ ناتج التعلم		
15		Question / السؤال		
What image forms if the object is between the focal point and concave mirror?				
A	The image is virtual, upright, and larger than the object.			
B	The image is real, inverted, and smaller than the object.			
C	The image is real, upright, and the same size as the object.			
D	No image is formed because the rays do not meet.			
		C	A	
		B	B	
		A	C	
		D	D	

	Learning outcome/ ناتج التعلم
16	Question / السؤال
What is the speed of light in chloroform ($n = 1.51$)?	
$2.2 \times 10^8 \text{ m/s}$	A
$1.98 \times 10^8 \text{ m/s}$	B
$2.46 \times 10^8 \text{ m/s}$	C
$3.2 \times 10^8 \text{ m/s}$	D

	Learning outcome/ ناتج التعلم	
17	Question / السؤال	
The critical angle for a beam of light passing from water into air is 49°. Which of the following statements is true for a beam of light with an incident angle less than the critical angle?		
The beam will be absorbed	A	
The beam will be totally reflected	B	
The beam will be refracted	C	
The beam will Reflected and Absorbed	D	

	Learning outcome/ ناتج التعلم	
18	Question / السؤال	
When driving on a hot day, the road ahead looks like it is covered with water. What causes this illusion? 		
Reflection of light from the road surface	A	
Diffraction of sunlight through air	B	
Scattering of light by dust particles	C	
Refraction of light through air layers with different temperatures	D	

	Learning outcome/ ناتج التعلم	
19	Question / السؤال	
Which of the following statements is true about the spherical aberration of lenses?		
Inability of a spherical lens to focus all parallel rays to a single point	A	
All parallel rays focus on the same position	B	
It can only be seen with concave lenses	C	
This is seen as an apparent ring of color around an object viewed through a lens	D	

	Learning outcome/ ناتج التعلم	
20	Question / السؤال	
In a nearsighted eye, where are images of distant objects formed?		
On the retina	A	
Behind the retina	B	
On the cornea	C	
In front of the retina	D	

الدرجة / Mark		الجزء الثاني / Part Two	
		قسم الكتابة / Writing department	
		ناتج التعلم / Learning outcome	
1		السؤال / Question	
a) A 2.25-cm-tall object is 8.5 cm to the left of a convex lens whose focal length is 5.5 cm. Find the image position and height.			
..... 			الإجابة

- b) Magnifying glasses normally are used to produce images that are larger than the related objects, but they also can produce images that are smaller than the related objects. Explain.
- c) A stamp collector wants to magnify a stamp by 4.0 when the stamp is 3.5 cm from the lens. What focal length is needed for the lens?

الدرجة / Mark		Part Two / الجزء الثاني	
		Writing department / قسم الكتابة	
		Learning outcome/ ناتج التعلم	
2		Question / السؤال	
Critical Angle Is there a critical angle for light traveling from glass to water? From water to glass?			
..... 			الإجابة

Angle of Refraction A beam of light passes from water into polyethylene with $n = 1.50$. If $\theta_i = 57.5^\circ$, what is the angle of refraction in the polyethylene?

الدرجة / Mark		الجزء الثاني / Part Two
		قسم الكتابة / Writing department
		نتائج التعلم / Learning outcome
2		السؤال / Question

Use the index of refraction of diamond to calculate the speed of light in diamond.

Medium	n
Vacuum	1.00
Air	1.0003*
Water	1.33
Ethanol	1.36
Float glass	1.52
Quartz	1.54
Flint glass	1.62
Diamond	2.42

الإجابة

Find the critical angle for a diamond in air.

الدرجة / Mark		Part Two / الجزء الثاني	
		قسم الكتابة / Writing department	
		ناتج التعلم / Learning outcome	
3		السؤال / Question	
Two lamps illuminate a screen equally—lamp A at 5.0 m, lamp B at 3.0 m. If lamp A is rated 75 cd, what is lamp B rated?			
..... 			الإجابة

Why might you choose a window shade that is translucent? Opaque?