UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

End of Term 1 Exam Coverage	هيكل اختبار نهاية الفصل الدراسي الأول
Grade 10 Advanced - Physics	**الصف العاشر - متقدم - الفيزياء**
Academic Year 2026-2027	العام الدراسي 2027-2026
Inspire	**انسباير**

Number of questions/ عدد الأسئلة		Marks Per Question درجة السؤال	Maximum grade الدرجة القصوى
(1⇢16)	Number Of MCQ (16) عدد الاسئلة الموضوعية	2,3,4	100
(17⇢20)	Number of FRQs (4) عدد الاسئلة المقالية	9 ~11	

Exam duration مدة الاختبار	Mode of implementation طريقة التطبيق	Calculator الآلة الحاسبة
150 minutes 150دقيقة	Electronic & Paper الكتروني وورقي	Allowed مسموح بها

PHYSICS
CENTRALIZED EXAMS
EOT 1 COVERAGE 2026-2027
APPROVED/معتمد
NOVEMBER .6.2026

⚠ Questions might appear in a different order in the actual exam ⚠ قد تظهر الأسئلة بترتيب مختلف في الاختبار الفعلي

Q. T	Q N°		Learning outcome	Reference	Page
أسئلة اختيار من متعدد Multiple Choice Question	1		✓ Differentiate between diffuse and specular reflection and give examples. ✓ Apply the law of reflection in drawing ray diagrams and solving numerical problems.	S.T.B C.Y.P(9,11)	4~5 8
	2		✓ Draw a ray diagram to locate the position of an image formed by a plane mirror, showing its properties. ✓ Represent mathematically the relation between image position and object position, as well as the image height and object height for a plane mirror.	S.T.B C.Y.P(8,10)	5~8 8
	3		✓ Draw a ray diagram to find the image of an object located at a distance greater than twice the focal length of a concave mirror and determine the properties of the formed image. ✓ Draw a ray diagram to find the image of an object located between the focal length and twice the focal length of a concave mirror and determine the properties of the formed image.	S.T.B	11~13
	4		✓ Apply the mirror equation to calculate the image distance, the object distance, or the focal length of a spherical mirror using appropriate algebraic signs for focal length and corresponding distances.	S.T.B E.P(2,3) P.P(13,14,15,16) P.P(18,19,20)	15,18 16,17 16 17
	5		✓ Conduct simple experiments to describe images formed by a plane mirror. ✓ Conduct an experiment to investigate the formation and properties of images by spherical mirrors ✓ Infer the type, orientation, and size of an image from the magnitude and algebraic sign of magnification.	S.T.B C.Y.P(22,23,26)	7~8 11~13 18
	6		✓ Calculate the refractive index of a medium using a suitable mathematical representation (n =c/v).	S.T.B C.Y.P(38)	22 25
	7		✓ Describe total internal reflection and the conditions under which total internal reflection takes place. ✓ Apply the concepts of refraction, critical angle, and total internal reflection to solve numerical problems.	S.T.B C.Y.P(36,37)	23~25 25
	8		✓ Define dispersion and explain the dispersion of light through a prism.	S.T.B	24~25
	9		✓ Explain some natural phenomena, such as the formation of mirage or rainbows or others, which involve optical phenomena like reflection, refraction, total internal reflection, or dispersion of light.	S.T.B C.Y.P(42)	23~25 25
	10		✓ Draw a ray diagram to find the image of an object formed by a concave lens and determine the properties of the formed image.	S.T.B C.Y.P(54)	26,28 35
	11		✓ Explain defects in spherical lenses such as spherical aberration and chromatic aberration and how they can be corrected	S.T.B	31
	12		✓ Define nearsightedness (Myopia) and farsightedness (Hyperopia). ✓ Describe the formation of images in case of nearsightedness and farsightedness and how defects in vision are corrected using concave and convex lenses	S.T.B C.Y.P(54)	32~33 35
	13		✓ Recall the concepts of constructive and destructive interference and define interference fringes of light. ✓ Explain how bright and dark interference fringes are created in a double-slit interference investigation with monochromatic light.	S.T.B	42~44
	14		✓ Define the phenomenon of thin-film interference. ✓ Explain the phenomenon of thin-film interference. ✓ Explain how the refractive indexes of the mediums that make the thin film control wave inversion.	S.T.B	46~47
	15		✓ Define a reflection grating and give examples.	S.T.B	53~54
	16		✓ Explain how a grating spectroscope works. ✓ Give examples on the applications of diffraction gratings like in spectroscopes used for gemstone analysis or others.	S.T.B	53~54
أسئلة مقالية Free Response Questions	17	**Part 1**	✓ Describe the law of reflection. ✓ Apply the law of reflection in drawing ray diagrams and solving numerical problems.	S.T.B E.P(1) / P.P(1,3,4)	4~5 6
		Part 2	✓ Define the principal axis, the focal point, and the focal length of a spherical mirror. ✓ Draw a ray diagram to find the image of an object formed by a convex mirror and determine the properties of the formed image. ✓ Identify that rays reflected from a convex mirror always diverge and that images formed are only virtual and smaller than the object. ✓ List some of the uses of concave and convex mirrors.	S.T.B	9~14
	18	**Part 1**	✓ Describe refraction of light (or a wave) as it crosses the boundary between two different mediums and represents that in a ray diagram. ✓ State and apply Snell's law of refraction. ✓ Calculate the critical angle using Snell's law	S.T.B E.P(4) P.P(30,31,32,33,34)	19~23 21 21
		Part 2	✓ Calculate the magnification produced by a thin convex or concave lens. ✓ Apply the thin lens equation to calculate the image distance, the object distance, or the focal length of a convex or a concave lens using appropriate algebraic signs for focal length and corresponding distances.	S.T.B E.P(5) P.P(43,44,45,46) C.Y.P(51,55,56)	29 30 30 35
	19		✓ Recall the concepts of constructive and destructive interference and define interference fringes of light. ✓ Explain the formation of a colored spectra when white light is used in a double-slit investigation. ✓ Explain that constructive interference occurs at locations xm on either side of the central bright band such that mλ=x_md/L where m=0, 1, 2.. ✓ Solve problems on interference of light.	S.T.B E.P(1) P.P(1,2,3,4) C.Y.P(13)	42~44 45 45 49
	20	**Part 1**	✓ Explain the diffraction pattern that is created when light (green, red, white..) passes through a single slit. ✓ Develop the equation for the width of the central bright band produced by a single slit diffraction ($2x_1$=2λL/w), where ($2x_1$) is the width of the central bright band, (λ) is the wavelength, (L) is the distance to the screen, and (w) is the width of the slit. ✓ Apply the equation ($2x_1$=2λL/w) to solve relevant problems on single-slit diffraction	S.T.B P.P(15,16,17,18,19)	50~53 53
		Part 2	✓ Discuss the production and use of diffraction grating. ✓ Explain that constructive interference from a diffraction grating occurs at angles on either side of the central bright line given by the equation mλ= dsinθ where m=1,2, 3.. ✓ Solve problems on diffraction grating.	S.T.B E.P(3) P.P(20,21,22,23,24)	55~56 56 56

Q.T: Question Type	Q.N° : Question Number	S.T.B: Student Book	P.P: Practice Problems.
Reference: Reference(s) in the Student Book (English Version or Arabic Version).		E.P: Example Problem.	C.Y.P: Check Your Progress.