

Academic Year العام الدراسي	2025-2026
Term/الفصل	T1

Subject الموضوع	Physics (Inspire)
Grade الصف	12
Stream. المسار	Advanced المتقدم
Number Of MCQ عدد الأسئلة الموضوعية	20
Marks of MCQ درجة الأسئلة الموضوعية	2-4
Number of FRQ عدد الأسئلة المقالية	4
Marks Per FRQ الدرجات للأسئلة المقالية	10
Type of All Questions نوع كافة الأسئلة	MCQ/ الأسئلة الموضوعية FRQ/ الأسئلة المقالية
Maximum Overall Grade الدرجة القصوى الممكنة	100
Exam Duration مدة الامتحان	150 min
Mode of Implementation طريقة التطبيق	Paper-Based & Swift Assess.
Calculator الآلة الحاسبة	Allowed مسموحة

Type	Question	Learning Outcome/Performance Criteria**معايير الأداء	المرجع في كتاب الطالب (النسخة الانجليزية) Reference(s) in the Student Book (English Version)	
النوع	السؤال		Example/Exercise. مثال/تمرين	Page. صفحة
الأسئلة الموضوعية - MCQ	1	Define quantities of light like luminous flux and illuminance, specifying their SI units.	Student Textbook	5,6
	2	Define diffraction as the bending of a wave as it passes the edge of a barrier.	Student Textbook	12
	3	-Describe that the colour of light is related to its wavelength and frequency. -Describe primary and secondary pigments and the effects of mixing pigments or dyes.	Student Textbook	13-15
	4	Apply Malus’s law to light filtered by polarizer and analyser filters.	Student Textbook Physics Challenge	16,17 18
	5	-Apply mathematical equations to calculate unknown physical quantities (wavelengths, frequencies, or speeds) when light waves are doppler shifted based on the relative speed of the observer and the light source.	Student Textbook Practice problems	20
	6	-Apply the law of reflection in drawing ray diagrams and solving numerical problems.	Student Textbook Example problem1 Practice problems	29,30 31
	7	-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.	Student Textbook Check your progress	32,33 33
	8	-Describe defects in concave mirrors, such as curved aberration, and how they can be corrected. -List some of the uses of concave and mirrors	Student Textbook	35 39
	9	-Draw a ray diagram to find the image of an object formed by a curved mirror and determine the properties of the formed image.	Student Textbook	36-38
	10	-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	Example problem2,3 Practice problems	41,42
	11	Infer the type, orientation, and size of an image from the magnitude and algebraic sign of magnification.	Student Textbook	35
	12	Compare and contrast plane, concave, and convex mirrors regarding the properties of images formed and the algebraic	Student Textbook	43
	13	Describe refraction of light (or a wave) as it crosses the boundary between two different mediums and represent that in a ray diagram.	Student Textbook	44,45
	14	-Define the index of refraction of a medium and relate it to the properties of the medium.	Student Textbook	45
	15	-Describe some applications of total internal reflection -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.	Student Textbook	48,49
	16	Define dispersion and explain the dispersion of light through a prism.	Student Textbook	49,50
	17	-Distinguish between a convex (converging) lens and a concave (diverging) lens. --Compare and contrast convex and concave lenses regarding the properties of images formed and the algebraic signs for different quantities involved.	Student Textbook Check your progress 50	51, 54 60
	18	Explain defects in spherical lenses such as spherical aberration and chromatic aberration and how they can be corrected.	Student Textbook	56
	19	-Define nearsightedness (Myopia) and farsightedness (Hyperopia). -Describe the formation of image in case of nearsightedness and farsightedness and how defects in vision are corrected using concave and convex lenses.	Student Textbook Check your progress 57	58 60
	20	Describe the optical systems and formation of images in common optical instruments.	Student Textbook	59
الأسئلة المقالية - FRQ [40 %]	21	-Apply the equation for illuminance of a point source to numerical problems. -Relate luminous intensity to illuminance.	Student Textbook Example problem1 Practice problems Check your progress	6-8 9 11
	22	-Draw a ray diagram to find the image of an object formed by a curved mirror and determine the properties of the formed image. -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. -Calculate the magnification produced by a spherical mirror.	Student Textbook Example problem2,3 Practice problems	36-38 41,42
	23	-Calculate the refractive index of a medium using a suitable mathematical representation (n = c/v). -State and apply Snell’s law of refraction. -Calculate the critical angle using Snell’s law.	Practice problems Student Textbook	46 47,48
	24	-Draw a ray to find the image of an object located at different distances from a lens and determine the location and properties of the formed image. -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 -Calculate the magnification produced by a thin convex or concave lens.	Student Textbook Example problem5 Practice problems Check your progress 45,55,51,55,56	52,53 55 60

*	Questions might appear in a different order in the actual exam, or on the exam paper. / قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي، أو على ورقة الامتحان.
**	As it appears in the textbook, LMS, and (Main_IP). كما وردت في كتاب الطالب و LMS والخطة الفصلية.

مسألة