



Department of Assessment & Measurement

إدارة تقييم وقياس أداء الطلبة

Exam Coverage

الهيكل الامتحاني

الفيزياء

Academic Year	2024/2025
السنة الدراسية	
Term	1
الفصل	
Subject	Physics/Inspire
المادة	الفيزياء/الإنسباير
Grade	9
الصف	
Stream	Advanced
المستوى	المتقدم
Number of MCQ	15
عدد الأسئلة المتعددة الخيارات	
Marks of MCQ	4
درجة الأسئلة المتعددة الخيارات	
Number of FRQ	4
عدد الأسئلة المفتوحة	
Marks per FRQ	9 - 11
الحدود لدرجة الأسئلة المفتوحة	
Type of All Questions	MCQ/ الموضوعية الأسئلة المفتوحة/ FRQ
نوع كافة الأسئلة	
Maximum Overall Grade	100
الدرجة القصوى للمجموع	
Exam Duration	150 minutes
مدة الامتحان	
Mode of Implementation	Online/ Paper-Based
طريقة التطبيق	
Calculator	Allowed
الآلة الحاسبة	مسموحة

Question* السؤال	Learning Outcome/Performance Criteria** ناتج التعلم / معيار الأداء**	Reference(s) in the Student Book (Arabic Version) المراجع في كتاب الطالب (النسخة العربية)	
		Example/Exercise مثال/تمرين	Page الصفحة
الأسئلة المتعددة الخيارات - MCQ	1	1. Define the term scientific method and list the common steps of scientific methods used in investigations. 2. Define the term hypothesis and identify the ways in which a hypothesis can be tested.	Student Book P.(4 - 6) Q.(1 - 6) P.8
	2	Recognize physical quantities like time, mass, temperature, volume, density, and classify them into base and derived quantities and specify the dimension of each quantity in the SI - system of units.	Student Book Q.9 P.(9 – 10) P.12
	3	Use dimensional analysis to validate equations and to choose the appropriate conversion factor when converting units.	Student Book Q.(9 - 11) P.(10 - 11) P.12
	4	Determine the sources of error and distinguish between precision and accuracy.	Student Book Q.(12 – 17) P.(13 – 15) P.16
	5	Measure the base quantities and some derived quantities using suitable measurement tools and record those measurements taking into account significant figures and scientific notation.	Student Book Q. (12 - 17) P.14 – 15 P. 16
	6	Analyze curves of position versus time graphs and velocity versus time graphs for an object moving along a straight line in uniform or non-uniform motion with constant or variable acceleration, and use the equations of motion to solve relevant problems	Student Book Physics Challenge, Q.(10 – 14) P.(37 - 39) P.(38 - 39)
	7	Explain the meaning of instantaneous position for an object in motion.	student Book Q.(26 - 31) P.(43 - 44) P.45
	8	Analyze a position-time graph to describe an object's motion.	Student Book Figure 19, Q.(37 - 39) P.(42 - 43) P.48
	9	Conduct an investigation to show different kinds of motion using motion diagrams and particle models.	Student Book Q. (1 - 5); Q.(20 - 24) P. (30 - 31) P.31; P.41
	10	Express the motion of an object along a straight line (uniform and non-uniform) using motion and vector diagrams and describe the motion in own words.	Student Book Q.(7 - 9) P.33 P.36
	11	Calculate the instantaneous acceleration from a velocity-time graph.	Student Book Q.(1 - 4) P.(58-60) P.60
	12	Describe the motion of an object if its velocity and acceleration are either in the same directions or opposite directions, hence state if an object is slowing down or speeding up.	Student Book Figure 4 P.56, Figure 4 P.56
	13	Analyze curves of position versus time graphs and velocity versus time graphs for an object moving along a straight line in uniform or non-uniform motion with constant or variable acceleration, and use the equations of motion to solve relevant problems.	Student Book Q.(1 - 4) P.57 P.(60 – 61)
	14	Apply the equation of motion relating the final position of an object to its initial position, initial velocity, uniform acceleration, and time $x_f = x_i + v_i t + \frac{1}{2} a t^2$.	Student Book Q.(23 - 27) P.(67-68) P.(68 – 69)
	15	Analyze the position-time, velocity-time, and acceleration-time graphs for an object under free fall.	Student Book Q.(40 - 51) P.(71 - 75) P.(75 – 76)
	* Questions might appear in a different order in the actual exam. قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي.		
	** As it appears in the textbook, LMS, and (Main IP). كما وردت في كتاب الطالب وLMS والخطة الفصلية.		
	*** Physical units are distinctive for any physical quantity, and a distinguishing mark for it. Therefore, care must be taken to guide students by giving the appropriate physical unit for each quantity. الوحدات الفيزيائية مميزة لأي كمية فيزيائية، وعلامة فارقة لها، لهذا يجب الاهتمام بتوجيه الطلاب باعطاء الوحدة الفيزيائية المناسبة لكل كمية.		
	**** Focusing on science processes (scientific thinking skills), especially basic ones. التركيز على عمليات العلم (مهارات التفكير العلمي) وخاصة الأساسيات منها.		
الأسئلة المفتوحة - FRQ	Q1	Part A: Define the terms scientific methods, hypothesis, model, scientific theory, and scientific law. Part B: 1. Identify variables in tabulated data and represent them in a suitable graph to determine the relationship between the variables, and obtain the mathematical equation describing that relationship to determine the value of the dependent variable for a specific value of the independent variable and vice versa. 2. Identify the relationship between the average change of a function between two points and the slope of the secant joining these points, and relate the slope of the tangent to the curve at a point to the rate of change of the function at that point.	Student Book Q.(1 – 6) Physics Challenge, Practice problems, Q.(19 – 23) P.(3 - 8) P.(17-22) P.8 P. 22
	Q2	Part A: Analyze curves of position versus time graphs and velocity versus time graphs for an object moving along a straight line in uniform or non-uniform motion with constant or variable acceleration, and use the equations of motion to solve relevant problems Part B: Differentiate between scalar and vector quantities with examples	Student Book Q.(32-35); Q.(36 – 43) P.(46-47) P.33 P.47; P.48
	Q3	Solve problems using the combination of equations of motion for constant acceleration.	Student Book Q.(16-39) P.(63-70) P.65 & P.66 & P.68 & P.70
	Q4	Part A: Recognize physical quantities like time, mass, temperature, volume, density, and classify them into base and derived quantities and specify the dimension of each quantity in the SI - system of units. Part B: Differentiate between distance travelled and displacement and calculate them. Part C: 1. Describe the motion of an object under free fall during its rising and falling motion. 2. Perform an investigation to study the acceleration due to gravity for a system in free fall.	Student Book Q.(9 - 11) Q.(7-9) Q.(40-51) P.(9 - 10) P.(33-36) P.(71-74) P.12 P.36 P.75