Academic Year العام الدراسي	2023/2024
Term الفصل	2
Subject المادة	Physics/Bridge الفيزياء/بريدج
Grade الصف	10
Stream المسار	Advanced المتقدم
Number of MCQ عدد الأسئلة الموضوعية	15
Marks of MCQ درجة الأسئلة الموضوعية	4
Number of FRQ عدد الأسئلة المقالية	5
Marks per FRQ الدرجات للأسئلة المقالية	8
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 minutes
Mode of Implementation - طريقة التطبيق	SwiftAssess & Paper-Based
Calculator الآلة الحاسبة	Allowed مسموحة

	Question* السؤال*	Learning Outcome/Performance Criteria** نائج التعلم/ معايير الأداء**	Reference(s) in the Student Book (Arabic Version) المرجع في كتاب الطالب (النسخة العربية)	
			Example/Exercise مثال/تمرين	Page الصفحة
MCQ - الأسئلة الموضوعية	1	1- Describe pressure variations when sound is produced like when you speak or ring a bell. 2- Define sound as a pressure oscillation that is transmitted through matter.	Student Book Figure 1	116-118 116
	2	Define sound pitch and relate it to the frequency of a sound wave.	Student Book Q7, Q8, Q75	119-120 123, 139
	3	Explore the importance of Doppler effect in some applications in our daily life like the sonar, speeding limit radars used by road patrol police, locating objects by bats, or others.	Student Book Q1-Q5, Q12, Q28, Q36, Q47-Q48	120-123 122, 123, 136, 137
	4	State some of the applications of electrostatic forces.	Student Book Q66	156-157 162
	5	1- State and apply Coulomb's law to charges separated by finite distances. 2- Conduct an experiment to demonstrate charging of objects and the electrostatic force between charged objects.	Student Book Q15-Q17, Q31, Q45, Q46	153-156 157, 160, 161
	6	1- State and apply Coulomb's law to charges separated by finite distances. 2- Use vector addition to calculate the net force on a charge due to other point charges. 3- Solve problems involving the electrostatic force acting on charged particles by making use of Coulomb's Law.	Student Book Q9-Q14, Q22, Q62, Q89	153-156 156, 157, 162, 188
	7	State and demonstrate that unlike charges attract and like charges repel.	student Book Q1-Q4	144-146 148
	8	Explain the meaning of equipotential.	Student Book	173-175
	9	Demonstrate an understanding that the spacing between the field lines indicates the strength of the electric field in a given region.	Student Book Q16, Q52	166-167, 170 172, 186
	10	Distinguish between electrical conductors and insulators giving typical examples.	Student Book Q26, Q27; Q4	147-148 160; 163
	11	Sketch the uniform electric field lines between two parallel plates and explain how the electric potential varies between the plates.	Student Book Q21, Q23, Q73, Q77	174-176 176, 187
	12	1- Define capacitance as the ratio of the net charge on one plate of a capacitor to the potential difference across the plates, and it is measured in Farads. 2- Apply the equation for capacitance to solve numerical problems.	Student Book Q35-Q40, Q78, Q86	181-183 182, 187, 188
	13	Identify the direction of conventional current as the direction of motion of positive charges or opposite to the flow of electrons.	Student Book Q8, Q9, Q45, Q66	194 199, 212, 214
	14	1- Relate the electric power or rate of energy transfer to current and potential difference (P=IΔV). 2- Apply the relationship between power, current and potential difference to solve numerical problems.	Student Book Q26-Q30, Q53, Q57-Q60; Q1-Q8	205-206 207, 212, 213; 217
	15	1- Define an electric circuit and describe the flow of charges through it. 2- Determine the magnitude of the current in terms of the rate of flow of electric charge (I=q/t). 3- Sate Ohm's law and apply it to simple circuits (ΔV=RI).	Student Book Q21, Q86, Q88	194-195, 200 204, 215
FRQ - الأسئلة المقالية	16	1- Relate the wavelength, frequency, and the speed of a sound wave by the equation λ=v/f. 2- Explain that sound has properties that vary with media and temperature. 3- Apply the Doppler effect equation $f_{rl} = f_s\left(\frac{v - v_{rl}}{v - v_s}\right)$ to calculate different frequencies and velocites.	Student Book Q1-Q5, Q8, Q11-Q12, Q25, Q72-Q74, Q84-Q85, Q87, Q90; Q4-Q5	119-122 122, 123, 136, 139, 140; 141
	17	1- Investigate the electrostatic force between charged objects. 2- Define grounding. 3- Sketch the uniform electric field lines between two parallel plates and explain how the electric potential varies between the plates. 4- Show, by analogy with the gravitational field, that an electric charge placed in an electric field exerts electric field. 5- Sketch the electric field lines to model the electric field around single point charges (positive or negative) and for a pair of electric charges.	Student Book Q16-Q18; Q22, Q47, Q52, Q54, Q60; Q51-Q55	152-154, 166-167, 170-171 172, 176; 157, 161; 186
	18	1- Differentiate between series and parallel connections. 2- Identify the commonly used circuit symbol. 3- Draw schematic circuit diagrams with different components along with ammeters and voltmeters correctly connected to measure current and voltage. 4- Sate Ohm's law and apply it to simple circuits (ΔV=RI). 5- Identify devices which obey Ohm's law.	Student Book Q66, Q70, Q71, Q91, Q100,	204; 204-202 214-216
	19	1- Describe how an object becomes charged by the gain or loss of electrons and describe charging by friction. 2- Explain the process of charging by conduction. 3- Explain the process of charging by induction.	Student Book Q2-Q7, Q18-Q21, Q24, Q25; Q9	146-147, 149-152 148, 157, 160; 163
	20	1- Use vector addition to calculate the net force on a charge due to other point charges. 2- Solve problems involving the electrostatic force acting on charged particles by making use of Coulomb's Law. 3- Apply the relationship between electric field strength, electric force, and charge to solve numerical problems.	Student Book Q9-Q14, Q38-Q41, Q61-Q62; Q3; Q15, Q101; Q2	153-155, 166-169 160; 163, 169, 190; 191

*	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.