

تم تحميل هذا الملف من موقع المناهج الإماراتية



الهيكل الوزاري الجديد منهج بريدج الخطة C-101 المسار المتقدم

[موقع المناهج](#) ⇨ [المناهج الإماراتية](#) ⇨ [الصف الحادي عشر المتقدم](#) ⇨ [فيزياء](#) ⇨ [الفصل الثالث](#) ⇨ [الملف](#)

تاريخ إضافة الملف على موقع المناهج: 2024-05-20 10:37:09

التواصل الاجتماعي بحسب الصف الحادي عشر المتقدم



اضغط هنا للحصول على جميع روابط "الصف الحادي عشر المتقدم"

روابط مواد الصف الحادي عشر المتقدم على تلغرام

[الرياضيات](#)

[اللغة الانجليزية](#)

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[التربية الاسلامية](#)

المزيد من الملفات بحسب الصف الحادي عشر المتقدم والمادة فيزياء في الفصل الثالث

[مراجعة نهائية اختبار من متعدد مع بعض الإجابات منهج انسابير](#)

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[ملخص الوحدة التاسعة الحركة الدائرية](#)

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[أسئلة مراجعة الوحدة التاسعة الحركة الدائرية](#)

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Academic Year	2024/2023
العام الدراسي	
Term	3rd
الفصل	
Subject	Physics(Bridge)
الموضوع	الفيزياء
Grade	11
الصف	
Stream	Advanced/المتقدم
المسار	
Code	PHY-C-101
Number Of MCQ	15
عدد الأسئلة الموضوعية	
Marks of MCQ	4
درجة كل سؤال	
Number of FRQ	4
عدد الأسئلة المقالية	
Marks Per FRQ	8-12
درجة كل سؤال	
Type of All Questions	MCQ الأسئلة الموضوعية
نوع كافة الأسئلة	FRQ الأسئلة المقالية
Maximum Overall Grade	100
العلامة النهائية	
Exam Duration	150 min.
Mode of Implementation	Swift Assess & Paper-Based
طريقة التطبيق	
Calculator	Allowed



Question*	Learning Outcome/Performance Criteria**	المراجع في كتاب الطالب (النسخة الإنجليزية) Reference(s) in the Student Book (English Version)	صفحة/صفحة
*السؤال	ناتج التعلم/معايير الأداء**	مثال/تمرين/Example/Exercise	
1.	(1) Define the center of mass as the point at which all the mass of an object appears to be concentrated. (2) Recall that center of gravity is equivalent to center of mass in situations where the gravitational force is constant everywhere throughout the object.	Student Book (S.B)	226
2.	Describe that the location of the center of mass is a fixed point relative to the object or system of objects and does not depend on the location of the coordinate system used to describe it.	Student Book (S.B) S.B/Figure 8.2 Concept Check 8.1	227
3.	(1) Define the polar coordinate system as a two-dimensional coordinate system such that a point on a plane is defined by its distance r from the origin and the angle θ measured. (2) Express the Cartesian coordinates (x, y) in terms of the polar coordinates (r, θ) and vice versa. (3) Convert polar coordinates to Cartesian coordinates and vice versa.	Student Book (S.B) S.B/Figure 9.3/9.4 Example 9.1	255-256 256
4.	Relate the arc length (s) , to the radius (r) of the circular path and the angle (θ) , measured in radians.	S.B/Figure 9.3 Student Book (S.B)	255 257
5.	Apply the relation for the magnitude of angular velocity in terms of frequency and period of rotation	Example 9.3 Additional Exercises/Q. 9.61.(a)	260 282
6.	Relate the magnitudes of linear (tangential) and angular velocities for circular motion as, and explain that this relation does not hold for tangential and angular velocity vectors which point in different directions.	Exercises/Q. 9.44	281
7.	Relate the magnitude of the net acceleration in circular motion to the tangential acceleration and centripetal acceleration	Exercises/Q. 9.44 (f) Exercises/Q. 9.46 Additional Exercises/Q. 9.63	281 282
8.	Identify that the centripetal force, necessary for circular motion, can be provided by different forces such as the force of friction, tension, gravitational force, Coulomb force, or the normal force..	Student Book (S.B) Exercises/Q. 9.50	264 281
9.	Apply the kinematic relationships for circular motion with constant angular acceleration to calculate angular position, angular displacement, angular velocity, angular acceleration, or time.	Example 9.6 Example 9.7 Exercises/Q. 9.35	264 271 280
10.	Convert angle measurements between degrees and radians.	Student Book (S.B)	256
11.	Sketch the path taken in circular motion (uniform and non-uniform) and explain the velocity and acceleration vectors (magnitudes and directions) during the motion	S.B/Figure 9.12 S.B/MCQ/Q. 9.4	262 278
12.	Identify that for an object in circular motion with a given angular velocity, the centripetal force increases with the distance from the center	Student Book (S.B) Example 9.8	264 273
13.	Express the linear acceleration vector for an object in circular motion as $\vec{a}(t) = a_t \hat{t} - a_c \hat{r}$	Student Book (S.B) Exercises/Q. 9.46	262 281
14.	Distinguish between tangential acceleration and radial acceleration, specifying the cause and direction of each.	Student Book (S.B) Exercises/Q. 9.46/9.43	261 281
15.	Apply Newton's laws of motion and/or energy conservation principles to analyze circular motion in a vertical or horizontal plane (motion in vertical loop of an amusement park ride, rotating cylinder, moving through a levelled or banked curve,...)	S.B/Figure 9.18/9.19 S.B/Figure 9.20 S.B/MCQ/Q. 9.11	266 268 278
16.	(1) Identify that the linear velocity, v , of a particle in circular motion always points tangential to the circular path (circumference) and is always perpendicular to the position vector, which points in the radial direction. (2) Sketch the path taken in circular motion (uniform and non-uniform) and explain the velocity and acceleration vectors (magnitudes and directions) during the motion. (3) Explain that for uniform circular motion, where the angular velocity is constant, the tangential acceleration is zero, but the velocity vector still changes direction continuously as the object moves in its circular path. (4) Relate the magnitudes of linear (tangential) and angular velocities for circular motion.	Exercises/Q. 9.46 Exercises/Q. 9.47.(a) Exercises/Q. 9.50	281
17.	(1) Apply Newton's laws of motion and/or energy conservation principles to analyse circular motion in a vertical or horizontal plane (motion in vertical loop of an amusement park ride, rotating cylinder, moving through a levelled or banked curve...). (2) Determine the location of the center of mass of two or several particles or extended objects with uniform mass distribution (the object can be divided into simple geometric figures, each of which can be replaced by a particle at its center) by applying suitable mathematical equations	Solved Problem (9.1) Conceptual Questions (9.20) Exercises/Q. 9.55 Additional Exercises/Q. 9.60	266 279 281 282
18.	(1) Apply the kinematic relationships for circular motion with constant angular acceleration to calculate angular position, angular displacement, angular velocity, angular acceleration, or time. (2) Solve problems related to rotation with constant angular acceleration. (3) Relate the magnitude of the net acceleration in circular motion to the tangential acceleration and centripetal acceleration.	Exercises/Q. 9.35 Exercises/Q. 9.44 Additional Exercises/Q. 9.63	280 281 282
19.	Apply Newton's laws of motion and/or energy conservation principles to analyse circular motion in a vertical or horizontal plane (motion in vertical loop of an amusement park ride, rotating cylinder, moving through a levelled or banked curve...).	Solved Problem /Q. 9.4 Exercises/Q. 9.59	275 282
*	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.		
**	كما وردت في كتاب الطالب وLMS والخطة الفصلية./كما وردت في كتاب الطالب وLMS والخطة الفصلية.		

