# JOY INTERNATIONAL COLLEGE

## A CHRISTIAN CO-EDUCATIONAL BOARDING INSTITUTION

### KM 12 KADUNA-ABUJA EXPRESS WAY KADUNA

SECOND TERM REVIEW QUESTION 2 CLASS: SS2

DATE: APRIL 2020

# SS2 PHYSICS HOME WORK

TOPICS	CONTENTS	OBJECTIVES
SCALARS AND VECTORS	-concept of vectors -concept of scalars -vector representation -addition of vectors -resolution of vectors, components -resultant of more than two vectors	At the end of the lesson, the students should be able to -explain the concept of vectors -explain the concept of scalar -explain addition of vectors -explain the resolution of vectors and its components
MOTION	-speed velocity and acceleration -equations of uniformly accelerated motion -motion under gravity	At the end of the lesson, the students should be able to -differentiate between the speed and acceleration -define instantaneous speed and velocity -explain distance from velocity-time graph -explain other types of velocity-time graph -explain motion under gravity

### **REVISON QUESTIONS FOR SCALARS AND VECTORS**

1. Which of the following is not a vector quantity			
A. Speed	B. velocity	C. force	D. acceleration
2. Which of the following is not	a scalar quantity		
A. weight	B. density	C. mass	D. speed
3. A body of mass 20kg is set in motion by two forces 3N and 4N acting at right angles to each other. Determine the magnitude of its acceleration			
A. 0.15m/s <sup>2</sup>	B. 2.25m/s <sup>2</sup>	C. 1.15m/s <sup>2</sup>	D. 0.25m/s <sup>2</sup>
4. A man walks 8km North and	then 5km in a direction 60ºEast	of North. Find the distance from	its starting point
A. 11.36km	B. 12.36km	C.13.00km	D. 14.36km
5. What is the magnitude of the	e resultant of the resultant of tw	o forces 20N and 15N inclined at	90ºto each other?
A. 15N	B. 25N	C.40N	D.10N

6. The resultant of two forces X	and Y will be greatest when the	angle between X and Y is	
A. 0 <sup>0</sup>	B. 90 <sup>0</sup>	C. 45 <sup>°</sup>	D. 180 <sup>0</sup>
7. A boat travels due East at a s the boat.	peed of 40m/s across a river flov	ving due south at 30m/s. What is	s the resultant speed of
A. 1.3m/s	B. 10.0m/s	C. 50.0m/s	D. 70.0m/s
8. Two forces 6N and 8N act easequilibrant.	stwards and northwards respect	ively on a body. Calculate the ma	agnitude of their
A. 1N	B. 0.1N	C. 10N	D.100N
9. Two forces of magnitude 8N 8N force?	and 4N act at right angle to each	other. What is the angle betwee	en the resultant and the
A. 12.6 <sup>0</sup>	B. 266 <sup>0</sup>	C. 26.6 <sup>0</sup>	D. 0.126 <sup>0</sup>
10. The resultant of two forces	12N and 5N is 13N. What is the a	angle between the two forces?	
A.0 <sup>0</sup>	B. 45 <sup>0</sup>	C. 90 <sup>0</sup>	D. 180 <sup>0</sup>
ESSAY			
1(a) Differentiate between scala	ar quantities and vector quantitie	es and give five examples each	
(b) Briefly explain the resultant	of more than two vectors with e	xamples	
(c) Two forces 3N and 4N act or	a body in directions due North	and due East respectively. Calcul	late their equilibrant.
2(a) State the principle of the pa	arallelogram of forces. Describe	an experiment to demonstrate it	in the laboratory
(b) What is meant by the comp	onent of a vector? Illustrate with	h a diagram	
(c) A man walks 1km due East a	nd then 1km due North. What is	his displacement.	
REVISON QUESTIONS FOR MOT	ΓΙΟΝ		
1. A particle starts from rest and	d moves with a constant velocity	of 0.5m/s2. The distance covere	ed by the particles are
A. 2.5m	B. 5.0m	C. 25.0m	D. 50.0m
2. A body starts from rest and a of 1km	ccelerates uniformly at 5m/s2. C	Calculate the time taken by the b	ody to cover a distance
A. 10s	B.20s	C. 30s	D. 5s
3. A body accelerates uniformly	from rest at 2m/s2. Calculate its	s velocity after travelling 9m.	
A. 6m/s	B. 8m/s	C. 9m/s	D. 5m/s
4. A boy moving with a velocity retardation.	of 3m/s is brought to rest by a c	onstant force after travelling 15r	n. Calculate the
A. 0.5m/s <sup>2</sup>	B. 0.3m/s <sup>2</sup>	C. 0.6m/s <sup>2</sup>	D. 3m/s <sup>2</sup>
5. The rate of change of displace	ement with time is called		
A. acceleration	B. speed	C. velocity	D. retardation

6. A motor vehicle is brought to rest from a speed of 15m/s in 20 seconds. Calculate the retardation				
A. 0.75m/s <sup>2</sup>	B. 1.33m/s <sup>2</sup>	C. 5.00m/s <sup>2</sup>		D. 7.50m/s <sup>2</sup>
7. Increase in velocity w	vith time is called			
A. retardation	B. acceleration	C. instantaneou	us velocity	D. Speed
8. In motion under gravity, at maximum height, the final velocity is				
A.one	B. two	C. zero		D. infinite
9. A moving body accelerates when it				
A. changes its direction at constant speed B. maintains a constant linear speed				
C. covers equal distances in equal times in a straight-line			D. is acted upon by bala	anced force
10. the slope of a linear distance-time graph represent				
A. acceleration	B. displacement		C. speed	D. velocity
ESSAY				
1(a) write down the equ	uation of motion for a body fallir	ng freely under g	ravity.	

(b) Show how from the velocity-time graph for a body:

- (i) the acceleration at any instant
- (ii) the average velocity, can be calculated

2(a). A particle moving in a straight line with uniform deceleration has a velocity of 40m/s at a point P,20m/s at a point Q and comes to rest at a point R where QR=50m. Calculate the:

- (i) distance PQ
- (ii) time taken to cover PQ
- (iii) time taken to cover PR

(b) Explain the terms uniform acceleration, uniform velocity and instantaneous velocity.

#### PHYSICS TEACHERS' CONTACTS FOR ASSISTANCE

S/N	NAME OF STAFF	Email address	PHONE NUMBER
1	SOLOMON UWAOMA C	Solomonuwaoma8@gmail.com	08068735956

### NOTE

-Students should feel free to interact with the above physics teacher for assistance through phone calls or WhatsApp or Email.

-Students should answer questions in their test and assignment exercise book.

-please submit to your teachers email address. Handwritten solution to essay questions can be photographed and uploaded.