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Question Type	Question	A	B	C
FBQ	The trajectory of a projectile is	a parabola		
FBQ	A cart is moving horizontally along a straight line with constant speed of 30 m/s. A projectile is fired from the moving cart in such a way that it will return to the cart after the cart has moved 80 m. At what speed (relative to the cart) and at what angle (to the horizontal) must the projectile be fired	35.8 m/s at 24 degrees		
FBQ	what is common to the variation in the range and the height of a projectile.	time of flight vertical velocity, horizontal acceleration		
FBQ	___occurs when the driving frequency is the same as the natural frequency of the oscillator resulting in a maximum amplitude of oscillation	Resonance	Resonance	
FBQ	A_____oscillation is one for which periodic impulse drives it against resistive forces	forced		
FBQ	A heavily_____motion is one for which no oscillation occurs when it is released.	damped	damped	
FBQ	A stone thrown from ground level returns to the same level 4 s after. With what speed was the stone thrown? Take $g = 10ms^{2}$	20 m/s		
FBQ	An oscillation is said to be_____if its amplitude of the oscillation gradually decreases to zero over time as a result of resistive force arising from the surrounding medium	damped	damped	
FBQ	During simple harmonic motion of an object, there is a constant interchange of_____of the object between its kinetic and potential forms	energy	energy	
FBQ	Which of the following contributes to the instability of an object	low centre of gravity		
FBQ	What are the dimensions of power (time rate of change of expending energy)	ML^2T^{3}		
FBQ	A simple harmonic motion is a periodic vibration of a body whose acceleration is directly proportional to its _____from a fixed point and is always directed towards this point i.e. a = - constant x	distance	displacement	
FBQ	_____force is required for a simple harmonic motion to continue	restoring	restoring	
FBQ	A joule is a unit of	Work	energy	

☐					
☐	FBQ	1 horse power is equal to [ ] W	746	746	
☐	FBQ	A physical quantity which has the same dimensions as moment of a force is [ ]	work	work	
☐	FBQ	Liquids which make [ ] angles of contact do not wet the surfaces of their containers	obtuse	obtuse	
☐	FBQ	Mecury in a glass tube forms [ ] meniscus.	convex	convex	
☐	FBQ	The method of mixtures as a means of measuring the amount of heat of a substance depends of the principle of conservation of	energy		
☐	FBQ	[ ] force between glass and water molecules is greater than the [ ] force between water molecules.	adhesive, cohesive	adhesive, cohesive	
☐	FBQ	The angle of contact for clean water and clean glass is [ ] _.	zero	0	
☐	FBQ	When the junctions of two dissimilar metals are maintained at different temperatures an electromotive force is set up in the circuit of which these junctions are a part. A pair of juntions of this kind is known as	thermocouple		
☐	FBQ	On what thermometric property does the working of a thermistor depend	change in electrical resistance with change in temperatue		
☐	FBQ	A person standing close to a fast moving trai experinces suction effect. This is an application of [ ] __'s principle	Bernoulli	Bernoulli	
☐	FBQ	Poise is the SI unit of [ ] _.	coefficient of viscosity	coefficient of viscosity	
☐	FBQ	The frictional force required to maintain a unit velocity gradient between two layers of a fluid in relative motion, each of a unit area, is the coefficient of [ ] _.	viscosity	viscosity	
☐	FBQ	the change in the thermo-electric e.m.f per degree Celsius in temperature between the hot and cold junctions is known as	thermo-electric power	Stoke	
☐	FBQ	Which of the following will give the dimension of Area	LxL	terminal velocity	
☐	FBQ	The equation $P + \frac{1}{2}\rho{v^{2}} +\rho{gy }= consant$, where ρ stands for density, P for pressure, v for fluid velocity, g the acceleration due to gravity and y the height is [ ] _'s equation	Bernoulli	Bernoulli	
☐	FBQ	The term [ ] defines frictional force in fluids	viscosity	viscosity	
☐	FBQ	Which of the following quantities have a fundamental unit	length		

☐					
☐	FBQ	[ ] law states that if two systems A and B are seperately in thermal equilibrium with a third system C, then they are in thermal equilibrium with each other	zeroth	zeroth	
☐	FBQ	The path followed by a fluid particle in a steady flow as it travels the length of a pipe is referred to as [ ]	streamline	streamline	
☐	FBQ	[ ] 's apparatus is used to compare the relative densities of two different liquids	Hare	Hare	
☐	FBQ	[ ] __'s principle explain the uniform or equal transmission of pressure in all directions in a fluid	Pascal	Pascal	
☐	FBQ	A body wholly or partially immersed in a fluid experience [ ] which is equal to the weight of the fluid displaced	upthrust	bouyant force	
☐	FBQ	The kinetic energy per degree of freedom of a molecule of a monoatomic gas can be given interms of k and T where the symbols have thier usual meaning, as KE = [ ] . You may choose your answer from the list:(3kT/2, kT/3, kT/2, kT)	kT/2	kT/2	
☐	FBQ	[ ] distribution is concerned with the distribution molecular speeds of a given closed system at a particular temperature	Maxwell	Maxwell	
☐	FBQ	In the equation E = Tensile stress/tensile strain, E stands for [ ] __'s modulus of elasticity	Young	Young	
☐	FBQ	A material that can easily be drawn into a wire as it undergoes plastic deformation is said te be [ ]	ductile	ductile	
☐	FBQ	Units of measurement are classified into fundamental and _____	derived		
☐	FBQ	The first Newton's law of motion is also called the_____	law of inertia		
☐	FBQ	The motion of a ball rolling down a ramp is one with	constant acceleration		
☐	FBQ	A ball is kicked and flies from point P to Q following a parabolic path in which the highest point reached is T. The acceleration of the ball is	the same at P as at Q and T		
☐	FBQ	A [ ] quantity is completely specified by its magnitude and direction	vector	vector	
☐	FBQ	Work and moment of a force have the same [ ]	dimension	dimensions	
☐	FBQ	A body is said to be at rest when it does not change position with	time		
☐	FBQ	Quantities units which are obtained by a combination of the basic or fundamental quantities are called [ ] quantities	derived	derived	

☐	FBQ	All motions are _____ and not absolute	relative	relative	
☐	FBQ	_____is NOT a thermometric property	the density of a liquid		
☐	MCQ	A mass accelerates uniformly when the resultant force acting on it	is constant but not zero		
☐	MCQ	Tin melts at 232 under standard atmospheric pressure. Express this temperature in kelvin	505.15K		
☐	MCQ	_____ point is reached when the molecules of a loaded piece of wire begin to slide past each other as it exceeds its elastic limit	Yield		
☐	MCQ	A _____ quantity is completely specified by its magnitude and direction	vector		
☐	MCQ	A string of natural length L extends to a new length L' under tensile force F. If Hooke'S law applies, the work done in stretching the spring is ----------	1/2FL	1/2FL'	1/2 F(L-L')
☐	MCQ	Which of the following substances has the highest viscosity at room temperature	palm oil		
☐	MCQ	The molecules of a liquid are held together by what type of forces	cohesive forces		
☐	MCQ	One of these is an example of thermal radiation detector	bolometer	thermometer	thermal rod
☐	MCQ	_____is an example of thermal radiation detector	thermometer		
☐	MCQ	The speed of 90 hm/hr is equal to_____ m/s	25		
☐	MCQ	The angle of contact for clean water and clean glass is_____	Yield		
☐	MCQ	The coefficient of _____ is defined as the force per unit length acting normally on one side of a line on the surface of a liquid	diffusion		
☐	MCQ	in a perfectly inelastic collision	energy is lost		
☐	MCQ	The sudden impact felt between two or more objects is called	collision		
☐	MCQ	The path followed by the projectile is known as	Trajectory		
☐	MCQ	The transfer of heat through solids is known as	Conduction		

	MCQ	Which of the following is NOT an effect of heat on a substance?	convection	expansion	temperature chang e
	MCQ	The absolute zero temperature refers to the temperature at which	pure ice, water and water vapour at normal atmospheric pressure are in equilibrium	theoretically all thermal motions will cease	pure ice melts at no atmospheric pressu
	MCQ	Tin melts at 232 under standard atmospheric pressure. Express this temperature in kelvin	449.16K	505.15K	60.91K
	MCQ	When the junctions of two dissimilar metals are maintained at different temperatures an electromotive force is is set up in the circuit of which these junctions are a part. A pair of juntions of this kind is known as	resistance thermometer	thermocouple	pyrometer
	MCQ	Which of the following quantities have a derived unit	area	length	time
	MCQ	An ungraduated mercury thermometer attached to a millimeter scale reads 22.8mm in ice and 242mm in steam at standard pressure. What will the millimeter read when the temperature is 20^{o} C?	66.64mm	43.84mm	219.20mm
	MCQ	A wall or partition that allows free exchange of heat energy between two systems is referred to as ----------	isothermal	upper fixed point and the Lower fixed point	adiabatic
	MCQ	The fundamental interval of a thermometric scale is	the temperature scale	the difference between the upper and the lower fixed points	above the upper fix
	MCQ	Which of the following is NOT a thermometric property?	the volume of a liquid	the electrical resistance of a conductor	the density of a liquid
	MCQ	The term that best describes the need to hold the butt of a riffle firmly against the shoulder when firing to minimise impact on the shoulder is	forward displacement	forward acceleration	recoil velocity
	MCQ	A mass accelerates uniformly when the resultant force acting on it	is zero	is constant but not zero	increases uniformly respect to time
	MCQ	A ball is kicked and flies from point P to Q following a parabolic path in which the highest point reached is T. The acceleration of the ball is	the same at P as at Q and T	greatest at P	greatest at T and Q
	MCQ	How fast must a ball be rolled along the surface of a 70-cm high table so that when it rolls off the edge it will strike the floor at the same distance (70cm) from the point directly below the edge of the table?	174.5 cm/s	185.2 cm/s	215.3 cm/s
	MCQ	The motion of a ball rolling down a ramp is one with	constant speed	increasing acceleration	constant acceleration
	MCQ	The trajectory of a projectile is	an ellipse	a circle	a parabola
	MCQ	A cart is moving horizontally along a straight line with constant speed of 30 m/s. A projectile is fired from the moving cart in such a way that it will return to the cart after the cart has moved 80 m. At what speed (relative to the cart) and at what angle (to the horizontal) must the projectile be fired?	35.8 m/s at 24 degrees	38.6 m/s at 54 degrees	27 m/s at 35 degree
	MCQ	What is common to the variation in the range and the height of a projectile?	horizontal velocity	time of flight vertical velocity, horizontal acceleration	vertical velocity
	MCQ	A stone thrown from ground level returns to the same level 4 s after. With what speed was the stone thrown? Take $g = 10ms^{-2}$	20 m/s	10 m/s	30 m/s

☐	MCQ	An object is thrown upward from the edge of a tall building with a velocity of 10 m/s. Where will the object be 3 s after it is thrown? Take $g = 10ms^{-2}$	15 m above the top of the building	30 m below the top of the building	15 m below the top building
☐	MCQ	A body hangs from a spring balance supported from the roof of an elavator. If the elavator has an upward acceleration of $3ms^{-2}$ and the balance reads 50 N, what is the true weight of the body?	50.0 N	28.3 N	38.3 N
☐	MCQ	Which of the following contributes to the instability of an object?	low centre of gravity	broad base of the object	low potential energy
☐	MCQ	A rope suspended from a ceiling supports an object of weight W at its opposite end. Another rope tied to the first at the middle is pulled horizontally with a force of 30N. The junction P of the ropes is in equilibrium. Calculate the weight W and the tension T in the upper part of the first rope	27.2N and 39.2N	40.5N and 62.5N	30.4N and 53.7N
☐	MCQ	Which of the following does NOT refer to the terms description of stability of on an object?	central equilibrium	stable equilibrium	neutral equilibrium
☐	MCQ	Which of the following physical concepts best explains why passengers in fast moving cars should always fasten their seat-belts?	moment	terminal velocity	inertia
☐	MCQ	A 50kg boy suspends himself from a point on a rope tied horizontally between two vertical poles. The two segments of the rope are then inclined at angles 30 degrees and 60 degrees respectively to the horizontal.The tensions in the segments of the rope in newtons are	25.0 and 43.3	50.0 and 25.0	100.0 and 43.5
☐	MCQ	A boy intends to move an m-kg crate across the floor by applying a constant force P newtons on it.The coeficient of friction between the floor and the crate is μ. Which of these is the best option for his task?	Pull the crate with P applied horizontally	Push the crate with P inclined at an angle above the horizontal	Pull the crate with P inclined at an angle the horizontal
☐	MCQ	A man leaves the garrage in his house and drives to a neighbouring town which is twenty kilometres away from his house on sight-seeing. He returns home to his garrage two hours after. What is his average velocity from home in km/h?	10	0	20
☐	MCQ	The resultant of vectors $\vec{A}$ and $\vec{B}$ has a magnitude of 20 units.$\vec{A}$ has a magnitude of 8 units, and the angle between $\vec{A}$ and $\vec{B}$ is 40^{o}. Calculate the magnitude of $\vec{B}$	12.6	16.2	14.8
☐	MCQ	Given three vectors $\vec{a} = {-}\vec{i}{-}4\vec{j}+2\vec{k}$, $\vec{b} = 3\vec{i}+2\vec{j}-2\vec{k}$, $\vec{c} = 2\vec{i}{-}3\vec{j}+\vec{k}$, calculate $\vec{a}\cdot(\vec{b}\times\vec{c})$	${-6}$	6	9
☐	MCQ	Two forces act on a point object as follows: 100 N at 170^{o} and 100N at 50^{o}. Find the resultant force	110 N at 50^{o}	110 N at 100^{o}	100 N at 50^{o}
☐	MCQ	The speed of 90 hm/hr is equal to ---------- m/s	25	90	150
☐	MCQ	What are the dimensions of power (time rate of change of expending energy)	MLT^{-2}	ML^2T^{-3}	$ML^{2}T^{-2}$
☐	MCQ	Which of the following statements is not correct about reference frames?	Laws of physics are invariant (retain the same form) in inertial reference frames	In non-inertial reference frames the motion of objects depend only on the interactions of constituent particles among themselves	Any reference fram moving at constant with respect to an in reference frame is a inertial
☐	MCQ	A passenger in a moving car and a passerby standing at the road side see each other as moving in the opposite direction. Which of the following is NOT true?	The passenger is in motion relative to the passer-by	The passer-by is stationary relative to the passenger	Both observers are motion relative to e other

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