eExam Question Bank

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Question Type	Question	A	B	C	D	Answer	Remark
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				eExam
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				eExam
FBQ	If the displcacement from its equilibrium position of a particle undergoing simple harmonic motion is very small, the _____ force obeys Hooke's law	restoring	restoring				eExam
FBQ	The displacement, velocity and acceleration of a particle undergoing a simple harmonic motion could be represented by a _____ function	sinusoidal	sinusoidal				eExam
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				eExam
FBQ	_____ force is required for a simple harmonic motion to continue	restoring	restoring				eExam

	FBQ	A joule is a unit of _____	Work	energy				eExam
	FBQ	1 horse power is equal to _____ W	746	746				eExam
	FBQ	A physical quantity which has the same dimensions as moment of a force is _____	work	work				eExam
	FBQ	_____ is done when a force moves its point of application along the direction of its line of action	Work	Work				eExam
	FBQ	The coefficient of _____ is the maximum limiting force just before a body starts sliding over another surface	friction	friction				eExam
	FBQ	The force which opposes the relative motion of two surfaces in contact is called _____	friction	friction				eExam
	FBQ	There are _____ fundamental forces in nature	four	4				eExam
	FBQ	The velocity at which an object thrown into space will move completely free of the earth's gravitational field is called _____ velocity	escape	escape				eExam
	FBQ	A _____ orbit is the orbit of a satellite whose period of revolution is approximately equal to the period of rotation of the earth about its axis which is 24 hours	parking	parking				eExam
	FBQ	In a perfectly elastic collision, momentum and _____ are conserved	kinetic energy	kinetic energy				eExam
	FBQ	_____ is a force which acts for only a very short duration of time	Impulse	Impulse				eExam

	FBQ	The quantity ,force times time, re[resents	impulse	impulse				eExam
	FBQ	The maximum of theprojectile motion is attained when the angle of inclination at the point of projection is degrees	range, 45	range, 45				eExam
	FBQ	The is common to the vertical and horizontal components of the projectile motion	time of flight	time of flight				eExam
	FBQ	he shape of the of a projectile is a parabola	trajectory	trajectory				eExam
	FBQ	The horizontal distance covered by a projectile during the time of flight is called the	range	range				eExam
	FBQ	Netwton's law of motion is also known as the law of inertia	first	first				eExam
	FBQ	Newton's of motion explains the principle of operation of jet and rocket engines.	third	third				eExam
	FBQ	A body is said to be in equilibrium if on being slightly displaced from its equilibrium position, forces are acting in such a way as to return it to its equilibrium position.	stable	stable				eExam
	FBQ	A quantity is completely specified by its magnitude and direction	vector	vector				eExam
	FBQ	Work and moment of a force have the same	dimension	dimensions				eExam

☐	FBQ	The _____ of a physical quantity is the relationship between the unit of the quantity and the units of the fundamntal quantities	dimension	dimension				eExam
☐	FBQ	Quantities units which are obtained by a combination of the basic or fundamental quantities are called _____ quantities	derived	derived				eExam
☐	FBQ	All motions are _____ and not absolute	relative	relative				eExam
☐	FBQ	A _____ of reference is a set of coordinate axes used to describe the motion of an object.	frame	frame				eExam
☐	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				eExam
☐	FBQ	_____ distribution is concerned with the distribution molecular speeds of a given closed system at a particular temperature	Maxwell	Maxwell				eExam
☐	FBQ	a material that can easily be drawn into a wire as it undergoes plastic deformation is said te be _____	ductile	ductile				eExam
☐	FBQ	_____ 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	yield				eExam

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☐	FBQ	The process whereby molecules move from the region of high concentration to that of low concentration until equilibrium is established within the system is called [ ]	diffusion	diffusion				eExam
☐	FBQ	A sensitive device made up of a series of thermocouples which may be used to detect heat radiated at a distance is called [ ]	thermopile	thermopile				eExam
☐	FBQ	An ideal and the best radiator and absorber of heat the [ ] radiator	black body	black body				eExam
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☐	FBQ	The predominant mode of heat transfer in fluids is [ ]	convection	convection				eExam
☐	FBQ	In the equation k = (Rate x heat transferred)/(Area x temperature gradient), the quantity k stands for [ ]	thermal conductivity	thermal conductivity				eExam
☐	FBQ	A U-tube sealed at both ends contains nitrogen in one side and helium at pressure P in the other. The gases are seperated by mecury of density D.The mecury level in the arm containing helium is x units of length above the mecury level in the arm containing nitrogen. The pressure exerted by nitrogen on helium is [ ] __. Take the acceleration due to gravity as g. (You may choose your answers from the following list; P, xDg, P-xDg, P+xDg)	P+xDg	P+xDg				eExam

	FBQ	In an experiment to verify Boyle's law, a J tube open at one end and closed at the other is used. The pressure exerted on the air trapped, P, is related to the barometric height H and the mecury head h by the equation P =	H+h	h+H				eExam
	FBQ	A process whereby no heat is allowed to to flow into or out of a thermodynamic system is	adiabatic	adiabatic				eExam
	FBQ	The sum total of all kinds of energy possessed by the consituent particles of a system is called	internal energy	internal energy				eExam
	FBQ	The amount of heat absorbed or given out during the process of phase change of a substance at a constant temperature is called	latent heat	latent heat				eExam
	FBQ	The principle of the method of mixtures states that "heat lost by a hot body is equal to heat gained by a cold body provided no heat is lost to the surrounding". This is also the statement of the principle of	conservation off energy	conservation off energy				eExam
	FBQ	temperature is the temperature at which, theoretically, all thermal motions will cease.	absolute zero	absolute zero				eExam
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☐	FBQ	The ratio of the image size to the object size is called the _____ of the mirror	magnification	magnification				eExam
☐	FBQ	The type of mirror that is most suitable to be used as a driving mirror is _____	convex	diverging				eExam
☐	FBQ	A ray of light which passes through the _____ of the mirror is reflected back along its path	centre of curvature	centre				eExam
☐	FBQ	If a concave mirror forms an object placed in front it. The image is erect, virtual and enlarged. This implies the object is place between the mirror and the _____	principal focus	focus				eExam
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☐	FBQ	_____ systems do not allow either energy or mass to flow between them and the surrounding	isolated	Isolated				eExam
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	FBQ	_____ is the study of the effects of work, heat, and energy on a system and it deals only with the large-scale response of a system, which can be observed and measured.	thermodynamics	thermodynamics				
	MCQ	Which of the following is NOT an effect of heat on a substance?	convection	expansion	temperature change	change of state	A	eExam
	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 normal atmospheric pressure	pure ice ecomes steam at atmospheric pressure	B	eExam
	MCQ	Tin melts at 232 under standard atmospheric pressure. Express this temperature in kelvin	449.16K	505.15K	60.91K	96.19K	B	eExam
	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	thermistor	B	eExam
	MCQ	On what thermometric property does the working of a thermistor depend?	change in pressure with change in temperature	change in volume at constant pressure with change in temperature	change in electrical resistance with change in temperatue	change in presure at constant volume with change in temperature	C	eExam
	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	34.54mm	A	eExam
	MCQ	A wall or partition that allows free exchange of heat energy between two systems is referred to as ----------	isothermal	diathermal	adiabatic	isobaric	B	eExam
	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 fixed point	below the upper fixed point	B	eExam

☐								
☐	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	the pressure of a gas at constant volume	C	eExam
☐	MCQ	The term "adiabatic" is used to describe a partition that	allows thermal contact between two bodies	ensures steady increase in temperature of the bodies in thermal contact	allows heat lost by one body to be gained by the other body	prevents heat flow between the bodies	D	eExam
☐	MCQ	Two bodies may be said to be in thermal equilibrium if	the bodies are thermally insulated from one another	the bodies are not in thermal equlibrium with another body	if one body loses heat to the other	if there not net flow of heat between the two bodies two bodies in thermal contact	D	eExam
☐	MCQ	Measurement of temperature is referred to as----------	calorimetry	thermodynamics	pyrometry	thermometry	D	eExam
☐	MCQ	Heat can be defined as----------	the change in temperature of a body	the flow of temperature from one body to another	energy that flows from place to place as a result of the difference in temperature between them	the measure of hotness or coolness of a body	C	eExam
☐	MCQ	Measurement of heat energy is referred to as----------	thermodynamics	calorimetry	thermometry	pyrometry	B	eExam
☐	MCQ	One of these is NOT a factor that can affect the rate of evaporation	temperature	pressure	volume of liquid	air dryness	C	eExam
☐	MCQ	When the pressure of the vapour on top of an enclosed liquid is equal to the pressure of the atmosphere, the liquid is at its ---------	boiling point	dew point	freezing point	melting point	A	eExam
☐	MCQ	A change of state is often accompanied by a change in (I) temperature (II) density (III) internal energy (IV) mass. Which of these is correct?	I and II	II and III	III and IV	I and IV	B	eExam
☐	MCQ	A person suffers a more severe burn from steam than from boiling water because ----------	steam is at higher temperature than boiling water	steam spreads more easily over the skin than boiling water	steam penetrates more deeply into the skin than boiling water	steam possesses greater heat energy per unit mass than boiling water at the same temperature	D	eExam

☐								
☐	MCQ	A gas occupies a certain volume at 27 degree celcius.If it is heated at constant pressure, its volume is exactly doubled at a temperature of ----------	54 degrees celcius	219 degrees celcius	327 degrees celcius	600 degree celcius	C	eExam
☐	MCQ	The process by which a substance changes directly from solid state to gaseous state at any temperature is called	Van der Waals process	sublimation	Newton's law of cooling	evaporation	B	eExam
☐	MCQ	The S.I unit of heat capacity is ----------	joules	joule per kilogramme	joule per Kelvin	kilogramme per joule	C	eExam
☐	MCQ	A railway line is laid with 10 m length of rail on a day when the temperature is $$2.50^{o}C$$. There is a gap of 0.5 cm between the rails. Find the temperature at which the gap will close	27.00degrees	32.50degrees	41.70degrees	44.20degrees	D	eExam
☐	MCQ	The ice and steam points on a thermometer correspond to X and 50mm respectively. A temperature of 60degree celcius corresponds to 52mm on the thermometer. Calculate the value of X	4 mm	8 mm	10 mm	20 mm	C	eExam
☐	MCQ	The fundamental interval of a thermometric scale refers to ----------	triple point of water	difference between upper and lower fixed points	ratio of the upper to the lower fixed point	temperature of steam at standard atmospheric pressure	C	eExam
☐	MCQ	A thermocouple works on the principle of ----------	variation of e.m.f with temperature	variation of volume with temperature	variation of volume with temperature	variation of resistance with temperature	A	eExam
☐	MCQ	Which of the following determines whether a body will be in thermal equilibrium with another body?	thermal energy	zeroth law of thermodynamics	numerical scale	first law of thermal thermodynamics	B	eExam
☐	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	34.54mm	A	eExam
☐	MCQ	The predominant mode of heat transfer in solids is ----------	convection	conduction	radiation	diffusion	B	eExam

☐								
☐	MCQ	The second law of thermodynamics	is a statement of the law of conservation of energy	say that heat cannot be completely converted into mechanical energy	is the basis for the definition of temperature	is the basis for the definition of internal energy	B	eExam
☐	MCQ	It is NOT possible to completely convert	heat into internal energy	mechanical energy into heat	internal energy into mechanical energy	internal energy into heat	C	eExam

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