eExam Question Bank

Coursecode:

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Question Type	Question	A	B	C	D	Answer	Remark
FBQ	The image formed by a concave lens irrespective of the object distance may be diminished or enlarged, but it is always virtual, erect and ___.	upright	upright				eExam
FBQ	The image formed by a convex lens when the object distance is less than f is reect, enlarged and ___	virtual	virtual				eExam
FBQ	When object distance is greater than 2f then image formed by a convex lens is dimimished, inverted and ___	real	real				eExam
FBQ	The ability of the eye lens to focus on near and far objects is known as ___	accommodation	accommodation				eExam
FBQ	The property of light waves that is responsible for the colours seen in soap bubbles is ___	interference	interference				eExam
FBQ	We know that light is a transverse rather than longitudinal wave, because the ___ of longitudinal wave is meaningless	polarisation	polarization				eExam
FBQ	Which of the following the colours produces the widest diffraction pattern? Orange, red, violet, green. ___	red	red				eExam

	FBQ	A human eye employs a _____ lens to form inverted images on the retina	converging	convex				eExam
	FBQ	The mnemonic for remebering the colours of the rainbow (colours of in the spectrum of white light) is _____	ROYGBIV	roygbiv				eExam
	FBQ	By comparing the eye with a camera, the part of the eye that plays the same role as the screen of the camera is the _____	retina	retina				eExam
	FBQ	The muscular diaphram of the eye of variable size that controls the size of pupil and regulates the amount of light entering into the eye is called the _____	iris	iris				eExam
	FBQ	The type of spectra produced by a molecule is known as _____ spectra	band	band				eExam
	FBQ	The type of spectra formed by rarefied gases is known _____	line	line				eExam
	FBQ	When electrons of excited atons fall back their lower energy states, they produce _____ spectra	emission	emission				eExam
	FBQ	The type of spectrum formed by white light produced when a solid material is heated to incandescence is called _____ spectrum	continuous	continuous				eExam
	FBQ	When white lighrt passes through the a prism, a spectrum of different colours is formed. The colour that represents the wave with the highest energy of the spectrum is _____	violet	violet				eExam

☐								
☐	FBQ	When white lighrt passes through the a prism, a spectrum of different colours is formed. The colour that represents the wave with the least energy of the spectrum is _____	red	red				eExam
☐	FBQ	When white lighrt passes through the a prism, a spectrum of different colours is formed. The colour that represents the wave with the least frequency of the spectrum is _____	red	red				eExam
☐	FBQ	When white lighrt passes through the a prism, a spectrum of different colours is formed. The colour that represents the wave with the highest frequency of the spectrum is _____	violet	violet				eExam
☐	FBQ	The equation $$\frac{1}{f}=\left (\mu-1 \right)\left (\frac{1}{r_{1}}+\frac{1}{r_{2}} \right)$$, where the symbols have theie usual meaning as appropriate. The is called the _____ _'s equation	lens maker	lens maker				eExam
☐	FBQ	The characteristics of image formed by a convex when the object distance is less than f is as follows: It is virtual, it is enlarged and it is _____	erect	erect				eExam
☐	FBQ	The characteristics of image formed by convex lens when the object is kept at 2f are as follows: it is inverted, it is of unit magnification and it is _____	real	real				eExam
☐	FBQ	When object distance is greater than 2f then image formed is real, inverted and _____	diminished	diminished				eExam

☐	FBQ	An object 3 cm tall is placed 30 cm in front of a convex lens of focal length 10 cm. The image distance is _____ cm to the nearest whole number	15	15				eExam
☐	FBQ	A concave lens is also known as a _____ lens	diverging	diverging				eExam
☐	FBQ	The image of an object formed by an object placed between the centre of a lens and its principal focus is _____	virtual	virtual				eExam
☐	FBQ	A triangular glass block, which may be equilateral or isoscelese, which can be used for refraction experiments is called the _____	prism	prism				eExam
☐	FBQ	the principle behind the fibre optics is _____	Total internal reflection	Total internal reflection				eExam
☐	FBQ	A _____ lens is a convex lens with one end flat	plano-concave	plano concave				eExam
☐	FBQ	Total internal reflection occurs when the angle of incidence is greater than the _____ angle as light passes from dense to rare medium	critical	critical				eExam
☐	FBQ	When light passes from a dense to rare medium, the angle of incidence at which the refracted wave travels parallel to the interface is called the _____ angle	critical	critical				eExam
☐	FBQ	When a light wave passes from one medium to another having different optical properties, the _____ of the wave does not change	frequency	frequency				eExam

	FBQ	The ratio of the velocities of light as it passes from one medium to amother is called _____ the of the second medium relative to the first	refractive index	index of refraction				eExam
	FBQ	The statement that the ratio of the sine of the angle of incidece to the angle of refraction is called the _____ __'s law	Snell	Snell				eExam
	FBQ	The bending of light on passing from one medium into anotheris called _____	refraction	refraction				eExam
	FBQ	When a light wave passes from one medium to another having different optical properties, part of the energy of the light wave is reflected back into the first medium while the remainder is _____ into the second medium	transmitted	transmitted				eExam
	FBQ	The statement that "a point on the wavefront of an advancing light wave is a source of secondary wavelets" is the _____ 's principle	Huygen	Huygen				eExam
	FBQ	An object is placed 0.15 m in front of a concave mirror of focal length 0.1m. the magnification of the image formed is _____ m to the nearest whole number	2	2				eExam
	FBQ	In the lens formula $$\frac{1}{f}=\frac{1}{u}+\frac{1}{v}$$, the quantity $$frac{1}{f}$$ is measured in units called _____	doipter	diopter				eExam

	FBQ	In the lens formula $$\frac{1}{f}=\frac{1}{u}+\frac{1}{v}$$, the quantity $$frac{1}{f}$$ is called the _____ of the lens	power	power				eExam
	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
	FBQ	A point on the principal axis of a curved mirror where rays parallel and close to the mirror converge or appear to diverge after reflection from the mirror is called the _____ of the mirror	principal focus	focus				eExam
	FBQ	Images formed by mirrors and lenses which cannot be cast on a screen are said to be _____	virtual	virtual				eExam
	FBQ	Images formed by plane mirrors are said to be _____ inverted	laterally	laterally				eExam

	FBQ	The laws of reflection can be summarizedby the statements that the incident ray, the reflected ray and the normal at the point of incidence all lie in the same plane and that the angle of incident equals the angle of [ ]	reflection	reflection				eExam
	FBQ	An imaginary thin straight line drawn from the source of light and pointing in the direction of its propagation is called [ ]	ray	ray				eExam
	FBQ	ojects that produce their own light are said to be [ ]	luminous	luminous				eExam
	FBQ	The compound microscope essentially consists of [ ] lenses of focal length f1 and f2 in which one of the lenses (of focal length f1) is the [ ] and the second lens (of focal length f2) is the [ ] .	two convex, objective lens, eye piece	two convex, objective lens, eye piece				
	FBQ	[ ] are drawn on light rays to show the direction in which light travels.	Arrows	Arrows				
	FBQ	In regular reflection, parallel light rays remain [ ] after falling on a smooth and polished surface.	parallel	parallel				
	FBQ	Light travels in [ ] lines.	straight	straight				
	FBQ	The normal is always [ ] to the mirror.	perpendicular	perpendicular				
	FBQ	The path along which light travels is called a [ ] __.	ray	ray				

☐								
☐	FBQ	Angle of reflection is the angle between [ ] and the [ ] .	reflected ray, normal	reflected ray, normal				
☐	FBQ	A human eye employs a [ ] lens to form [ ] images.	converging, real	converging , real				
☐	FBQ	A concave mirror is one with its reflecting surface curved [ ]	inwards	inwards				
☐	FBQ	A ray of light passing through the [ ] retraces its path.	centre of curvature	centre of curvature				
☐	FBQ	[ ] ray is the bent ray as a result of passing from one optical medium to another.	Refracted	Refracted				
☐	FBQ	A simple microscope uses [ ]	one convex lens	one convex lens				
☐	FBQ	[ ] is an imaginary line perpendicular to the surface where the refraction occurs.	Normal	Normal				
☐	FBQ	The focal length of a plane mirror is [ ]	Infinite	Infinite				
☐	FBQ	Longitudinal waves do not exhibit [ ]	Polarization	Polarization				
☐	FBQ	Angle of refraction is the angle between [ ] and the [ ]	refracted ray, normal	refracted ray, normal				
☐	FBQ	A compound microscope consists of [ ]	two convex lenses	two convex lenses				
☐	FBQ	Polarise light is used in [ ] to create illusion of three dimensional pictures.	Films	Film inductries				

☐								
☐	FBQ	The central spot of Newtons rings is [ ] due to destructive interference.	Dark	Dark				
☐	FBQ	The three uses of convex lens are Spectacles for correction of long sightedness [ ]	Camera and Magnifying glass	Camera Magnifying glass				
☐	FBQ	[ ] lens is used to correct near-sightedness (myopia)	Convex lens	Convex lens				
☐	FBQ	The experiment that shows that wavelength of light is smaller than that of sound is called [ ]	Diffraction	Diffraction				
☐	FBQ	Based on the same principle that light travels at different [ ] in different [ ] , a straight stick will appear bet when placed in a glass of water.	speed, mediums	speed, mediums				
☐	FBQ	Polarization is a property of [ ]	transverse waves	transverse waves				
☐	FBQ	[ ] _is a way of producing polarised light.	Reflection	Refraction, Double refraction				
☐	FBQ	Appearance of colour in thin films is due to [ ]	interference	interference				
☐	FBQ	The image formed by an astronomical telescope is [ ]	virtual and diminished	virtual and diminished				
☐	FBQ	Diffraction effect is more for a [ ] image	sharp	sharp				
☐	FBQ	When light travels from a fast medium to a slower medium, the refracted ray changes phase by [ ]	wavelength/3	wavelength/3				

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☐	FBQ	The eye-ring is the image of the [ ] at the eyepiece.	objective lens	objective lens				
☐	FBQ	The bending of a ray of light that passes from one medium to another is called [ ]	refraction	refraction				
☐	FBQ	Light will not pass through a pair of polarizing lenses when their axes are [ ]	perpendicular	perpendicular				
☐	FBQ	[ ] lens is used to correct far-sightedness (hyperopia)	Convex lens	Convex lens				
☐	FBQ	A concave mirror or convex mirror has a pole, [ ] and [ ]	center of curvature, the principal focus	center of curvature, the principal focus				
☐	FBQ	Light on passing through a Polaroid is [ ]	plane polarized	plane polarized				
☐	FBQ	With reflection methods, one can locate and map granites and [ ]	diamonds	diamond				
☐	FBQ	The principal focus F of a converging lens is the point to which [ ]	all rays parallel and close to the principal axis converge after refraction through the lens	all rays parallel and close to the principal axis converge after refraction through the lens				
☐	FBQ	The focal length f is the distance between [ ]	the optical center and the principal focal of the lens	the optical center and the principal focal of the lens				
☐	FBQ	[ ] acts as a muscular diaphragm of variable size that controls the size of pupil and also function to regulate the amount of light entering to the eye.	Iris	Iris				
☐	FBQ	The optical center of a lens is a point through which [ ]	rays of light pass through without being deviated by the lens	rays of light pass through without being deviated by the lens				

☐								
☐	FBQ	The study of wavelengths of the radiation coming out from a hot body is called [ ]	Spectra	Spectra				
☐	FBQ	When the object is placed at the focal point of a convex lens, the image is formed at [ ]	Infinity	Infinity				
☐	FBQ	Image distance is define as: [ ]	the distance between image and mirror	the distance between image and mirror				
☐	FBQ	Refractive index can be defined as the ratio of the speed of light c in a [ ] to the speed of light v in some other substance.	Vacuum air	Vacuum air				
☐	FBQ	The image produced by a concave lens is [ ]	always virtual and reduced in size	always virtual and reduced in size				
☐	FBQ	Snells law states that the sine of the angle of incident and [ ] have a contant ratio to each other	reflection	reflected				
☐	FBQ	The focal length of concave mirror is considered [ ] while that of the convex mirror is taken as [ ]	positive, negative	positive, negative				
☐	FBQ	A positive magnification greater than unity indicates [ ]	virtual image	virtual image				
☐	FBQ	[ ] is the type of image that can be obtained on a screen.	Real	Real				
☐	FBQ	Magnification is the [ ]	the degree of enlargement or reduction of the size of an object through it image formed	the degree of enlargement or reduction of the size of an object through it image formed				
☐	FBQ	A convex lens ia called [ ]	converging lens	converging lens				

☐								
☐	FBQ	[ ] is formed through actual intersection of light rays and can be captured on a screen.	Real image	Real image				
☐	FBQ	[ ] and [ ] converge parallel light rays incident upon them.	Concave mirror, convex lens	Concave mirror, convex lens				
☐	FBQ	Radius of curvature of a concave mirror is always [ ] to the mirror.	perpendicular	perpendicular				
☐	FBQ	Refractive index is the ratio of [ ] to the [ ]	speed of light (c) in vacuum (air), speed of light (v) in some other substance.	speed of light (c) in vacuum (air), speed of light (v) in some other substance.				
☐	FBQ	The second law of reflection states that: [ ]	the angle of incident equals to the angle of reflection	the angle of incident equals to the angle of reflection				
☐	FBQ	[ ] mirrors are used as rear view mirrors in automobiles	Convex	Convex				
☐	FBQ	Object distance is defined as [ ]	the distance of the object from the mirror	the distance of the object from the mirror				
☐	FBQ	An object becomes invisible when it undergoes [ ] reflection.	regular	regular				
☐	FBQ	The SI unit of power of lens is [ ]	Dioptre	Dioptre				
☐	MCQ	Which of the following is NOT correct?	light is a longitudinal wave	light is a tranverse wave	light is an electromagnetic wave	light can exhibit the phenomenon of polarisation	A	eExam
☐	MCQ	The speed of light in glass is approximately ---------- that in air	100 times faster than	100 times slower than	50 per cent faster than	33 percent slower than	D	eExam
☐	MCQ	The property of light waves that detrmines its brightness is its ----------	wavelength	velocity	frequency	amplitude	D	eExam

☐								
☐	MCQ	Telescopes that use mirrors as the objectives are known as ----------	refractors	reflectors	Galilean telescopes	terrestial telescopes	B	eExam
☐	MCQ	How far from a magnifying glass do you place an object to view it?	closer than than the focal length	distance equal to the focal length	greater than the focal length but less than twice the focal length	at twice the focal length	A	eExam
☐	MCQ	The critical angle for total internal reflection at an air-water interface is approximately 48 degrees. In which of the following situations will total internal reflection occur?	light incident in water at 40 dgrees	light incident in water at 55 dgrees	light incident in air at 40 dgrees	light incident in air at 55 dgrees	C	eExam
☐	MCQ	Where is the image located when an object is 60 cm from a convex mirror with a focal length of20 cm?	15 cm behind	30 cm behind	60 cm behind	15 cm in front	A	eExam
☐	MCQ	What type of image is formed when an object is placed at a distance of 1.5 focal lengths from a convex mirror?	erect and virtual	inverted and virtual	erect and real	inverted and real	A	eExam
☐	MCQ	The image formed by a bathroom mirror is	erect and virtual	erect and real	inverted and virtual	inverted and real	A	eExam
☐	MCQ	The focal length of a curved mirror is -------- the radius of the spherical surface.	twice	equal to	half	one-quater	D	eExam
☐	MCQ	What type of mirror would you use to produce a magnified image of your face?	plane	concave	convex	diffuse	B	eExam
☐	MCQ	If rays of light parallel and close to the principal axis are incident on a --------- mirror, they converge to a point after reflection from the mirror	plane	convex	concave	diffuse	C	eExam
☐	MCQ	If a 4-m-tall child stands 2 m in front of a vertical plane mirror, the image of the child will be ------- m tall	1	2	3	4	A	eExam
☐	MCQ	If you stand 2 m in front of a plane mirror, how far from you is your image?	1 m	2 m	3 m	4 m	D	eExam
☐	MCQ	The law of reflection states that	light travels in a straight line	light must be reflected into our eyes to be seen	the angle of reflection is equal to the angle of incidence	light striking a rough surface is scattered in all directions	C	eExam

	MCQ	A camera obscura used by a potrait painter is located 6 m from a child who stands 1 m tall. How tall is her image if the back of the camera obscura is 2 m away?	1/3 m	1/2 m	1 m	3 m	A	eExam
	MCQ	What effect does enlarging of the hole in a pinhole camera have on the image? The image gets	larger	smaller	shaper	fuzzier	D	eExam
	MCQ	The critical angle for total internal reflection at an air-water interface is approximately 48^{o}. In which of the following situations will total internal reflection occur?	light incident in water at 40^{o}	light incident in water at 55^{o}	light incident in air at 40^{o}	light incident in air at 55^{o}	B	eExam
	MCQ	The back surfaces of automobile headlights are curved	because inverted, real images shine brighter	to concentrate light in one direction	for structural reasons not related with optics	to get multiple images of the filament	B	eExam
	MCQ	What type of mirror would you use to produce a magnified image of your face?	plane	convex	concave	diffuse	B	eExam
	MCQ	A ray of light parallell and close to the principal axis of ac concave mirror is reflected back	through the centre of curvature of the mirror	through the focal point	parallel to the principal axis	as if it came from the focal point	B	eExam
	MCQ	If rays of light parallel and close to the principal axis are incident on ---------- mirror, they appear to diverge from a point after leaving the mirror	plane	convex	concave	diffuse	B	eExam
	MCQ	If rays of light parallel and close to the principal axis are incident on ---------- mirror, they converge to a point after leaving the mirror	plane	convex	concave	diffuse	C	eExam
	MCQ	A man standing in front of a plane mirror of vertical dimension 85cm is just able to see his full image i.e. from jis feet to the top of his head. How tall is the man?	1.3 m	1.5 m	1.7 m	1.9 m	C	eExam
	MCQ	The images produced by opposing plane mirrors appear to get progressively smaller because they are progressively	smaller	farther away	smaller and farther away	fainter	B	eExam

☐								
☐	MCQ	How many images are formed by two mirrors at 45 degrees to each other?	1	3	5	7	D	eExam
☐	MCQ	Two plane mirrors AB and BC make an angle of 60 degrees at B between their reflecting surfaces. A ray of light incident at A makes an angle of 50 degrees with the normal to AB. What is the angle between the reflected ray and the normal to BC at C?	10 degrees	20 degrees	30 degrees	40 degrees	A	eExam
☐	MCQ	How do the size and location of your image change as you walk away from a plane mirror?	the same size and the same distance away	smaller and further away	smaller and the same distance away	the same size and further away	D	eExam
☐	MCQ	A ray of light makes an angle of 30 degrees with the normal to a plane mirror. The mirror is turned through an angle of 10 degrees, making the incidence angle 40 degrees. Through what angle is the reflected ray turned?	10 degrees	20 degrees	30 degrees	40 degrees	B	eExam
☐	MCQ	Which letter corresponds to the location of the image of the object O shown in the diagram?	A	B	C	D	D	eExam
☐	MCQ	The law of reflection says that	light travels in a straight line	light must be reflected into your eyes to be seen	the angle of reflection is equal to the angle of incidence	light striking o rough surface is scattered in many directions	C	eExam
☐	MCQ	Two plane mirrors M1 and M2 are parallel to each other with M2 on the right of M1. The mirrors are 30 cm apart. A pin is placed between the mirrors 7.5 cm from M2. Calculate the distance of the second image from each mirror.	37.5 cm and 52.5 cm	22.5 cm and 7.2 cm	17.5 cm and 32.5 cm	67.5 cm and 82.5 cm	A	eExam
☐	MCQ	In order for you to just be able to see the top of your head with a plane mirror, the top of mirror must be	even with your chin	at eye level	midway between your eyes and the top of your head	level with the top of your head	C	eExam
☐	MCQ	If a 4-m-tall child stands 2 m in front of a vertical plane mirror, the image of the child will be ------- m tall	1	2	4	8	C	eExam

☐								
☐	MCQ	If you stand 2 m in front of a plane mirror, how far away from you is your image?	1 m	2 m	3 m	4 m	D	eExam
☐	MCQ	How long is the image of a metrestick formed by a plane mirror?	one metre	less than one metre	more than one metre	half a metre	A	eExam
☐	MCQ	An image formed by a plane mirror is	magnified	diminished	laterally inverted	real	C	eExam
☐	MCQ	What is the refractive index of glass material for which the speed of light in it is $1.92\times10^{8}m/s?	2.41	1.56	0.54	1.35	B	eExam
☐	MCQ	The speed of light	has never been measured	is about the same as that of sound	is infinitely fast	is very large, but not infinitee	D	eExam
☐	MCQ	How far in front of a concave spherical mirror with a focal length f would you place a candle so that it appears to burn from both sides?	4 f	2 f	f	1/2 f	B	eExam

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