PPSC Physics Chapter 4 Geometrical Optics

Sr	Questions	Answers Choice
1	Power of the lens is one dioptre, if its focal length is.	A. 1/6 metre B. 1/2 metre C. 1 metre D. 8 metre
2	If D1 and D2 are the powers of two lenses placed in contact then the power of the combination will be.	A. D1+D2 B. D1-D2 C. D1/D2 D. D1 x D2
3	Which of the following be used for redeciding mechanical aberration is optical instruments.	A. Plane mirrors B. Spherical mirrors C. Concave lenses D. Plano convex lenses
4	Which of the following quantities is not changed during refraction of light.	A. Its direction B. Its speed C. Its frequency D. Its wavelength
5	On which of the following the object size as perceived by eye depends upon.	A. Actual size of the object B. Aperture of the pupil C. Object distance from the eye D. Size of the image formed on the retina
6	Which type of microscope was the first to be developed.	A. Optical microscope B. Digital microscope C. Electron microscope D. All were developed at the same time
7	Which is the branch of medicine that deals with the anatomy physiology and diseases of the eye.	A. Ophthalmology B. Psychology C. Andrology D. Gynecology
8	Persistence of vision is the phenomenon of the eye by which an afterimage is thought to persist for approximately one twenty faith of a second on the.	A. Retina B. Heart C. Mind D. Liver
9	The refractive index of benzenes is 1.5 What is the critical angle of benzene.	A. 0.667 ^o B. 42 ^o C. 48^o D. 90^o
10	The diameter of a lens is called.	A. Focal length B. Principal axis C. Optical centre D. Aperture
11	A double convex air bubble in water will behave as.	A. Plane slab B. Concave mirror C. Convex lens D. Concave lens
12	A part of electromagnetic spectrum that can be detected by the human aye	A. Angle of incidence B. Angle of refraction C. Light D. Angle of reflection
13	For a prism of particular and given wavelength the resolving power varies as	A. First power of lens of its base B. Square of inverse length of its base C. Increases of length of its base D. Cube of the length of its base
14	The length of an astronimical telescope for normal vision is.	A. fo x fe B. fe/fe C. fo - fe D. fo + fe
		A. 9.6 cm

15	The power of convex lens is 10 d. At what distance the 3 times larger image is formed.	B. 2.3 cm C. 13.3 cm D. 17.6 cm
16	A pencil dipped partially into water appears bent because of.	A. Reflection of water surface B. Diffraction of water surface C. Refraction of water surface D. Water is a fluid
17	The variation of focal length of a lens when we pass from the central portion to periphery is called.	A. Coma B. Astigmatism C. Spherical aberration D. Chromatic aberration
18	The image of an object 5 mm high is only 1 cm high. The magnification of the lens is	A. 0.2 B. 0.5 C. 1 D. 2
19	Refraction contributes to the formation of.	A. Rainbows only B. Mirages only C. Echo D. Rainbows and mirages
20	The length of Galilean telescope is given by	A. fo + fe B. fo- fe C. 1/fo - 1/fe D. 1/fo = 1/fe
21	A double convex lens acts as diverging lens when the object is.	A. Inside the focus B. At the focus C. Between F and 4 F D. a 4F
22	Which of the following is the cause of failure of a lens to form a sharp and district image of a white object.	A. Spherical aberration B. Chromatic aberration C. Distortion D. Astigmatism
23	Which of the following is a transport optical element with flat polished surfaces that refract light.	A. Monocole B. Axicon C. Prism D. Lens
24	Which of the following is used for the failure of a lens to form a sharp and distinct image.	A. Distortion B. Astrigmation C. Chromatic aberration D. spherical aberration
25	What is the type of corrective lens used to correct or enhance the vision is only one eye.	A. Axicon B. Monocle C. Zoom lens D. Camera lens
26	The image of distant object as seen through as astronomical telescope is.	A. Real and inverted B. Virtual and inverted C. Real and erect D. Virtual and erect
27	A diverging lens may not have	A. Negative focal length B. Positive focal length C. One plane surface D. One convex surface
28	The object of a telescope is very large this is to have an image which is.	A. More magnified B. Of better resolution C. More bright D. More clear
29	The primary purpose of using a large aperture objective in a telescope is to produce	A. Brighter image B. Larger image C. Wider field of view D. Smaller image
30	Plossi or symmetrical eye piece consists of	A. Two plano convex lenses with same focal length B. Two sets of doublets C. An achromatic double D. A spherical doublet
31	Short sightedness in the eye occurs due to the.	A. Contraction of eyeball B. Increases in focal length of eye lens C. Reduction in focal length of eye lens D. Reduction in distance between retina and eye lens
		A. Scattering

32	When we look at the sky during daytime the light that we see is sunlight that has been absorbed and then re radiated in different directions, This process is called.	B. Diffusion C. Mirage D. Rainbow
33	The magnifying power of a convex lens of focal length 5 cm is	A. 3 B. 5 C. 6 D. 20
34	The main advantage of step index fiber is.	A. The size of the cable B. The equality of the cbale C. Difference in the wavelengths of signals D. All of the above
35	An object of placed at the centre of curvature of a concave mirror The image produced by the mirror is located.	A. Out beyond the centre of curvature B. At the centre of curvature C. Between the centre of curvature and the focal point D. At the focal point
36	The focal length of a thin converging lens is 10 cm What is the maximum distance from the lens that the object can be placed so the lens acts as a magnifying glass.	A. 5 cm B. 10 cm C. 15 cm D. 20 cm
37	A Galilean telescope with objective of coal length 30 cm and eyepiece of focal length.8 cm when focused for infinity has length equal to	A. 7.5 cm B. 2.2 cm C. 38 cm D. 240 cm
38	What would be the colour of sky n the absence of atmosphere.	A. Blue B. Indigo C. Red D. Black
39	In a compound microscope magnification will be large if focal length of eyepiece is	A. Large B. small C. Equal to that of the objective D. Larger than that of the objective
40	A double convex an bubble in water will behave as.	A. Plane slab B. Concave mirror C. Convex lens D. Concave lens
41	In compound microscope image formed by the eyepiece is	A. Real B. Inverted C. erect D. diminished
42	Two convex lens focal length 'f' use din combination become telescope. When the distance between them is.	A. 1 B. 4f C. 2f D. f/2
43	When the angel of incidence becomes larger than the critical angle no refraction occurs This is known is.	A. Diffraction B. Refraction C. Total internal reflection D. Diffuse reflection
44	Michelson used the equation to determine the speed of light.	A. c = 4 fd B. c = 8fd C. c =12 fd D. c = 18 fd
45	An object is -14 cm in front of a convex mirror The image 5.8 cm behind the mirror. What is the focal length of the mirror.	A. -4.1 cm B. -8.2 cm C. - 9.9 cm D. -20 cm
46	To final image produced by a compound microscope is.	A. Real and inverted B. Real and erect C. Virtual and erect D. Virtual and inverted
47	The bending of light when it enters a medium	A. Reflection B. Refraction C. Diffraction D. Total internal reflection
48	The ability of eye to focus near as well as distant object is termed as.	A. Myopia B. Persistence of vision C. Power of accommodation D. Astigmatism
49	Which eye defect can be rectified by using diverging lens	A. Near sightedness B. Far sightedness

49	Which eye defect can be rectified by using diverging lens.	C. presbyopal D. Astigmatism
50	When a ray of light travelling in a denser medium enters into a rarer medium.	A. It remains undeviated B. It is reflected back C. It bends towards the normal D. It bends away from the normal
51	The power of lens in dioptres is	A. Its focal length in meters B. The reciprocal of its focal length in metres C. The reciprocal of length in metres D. The reciprocal of length in centimetres
52	Image formed by a concave lens is.	A. Real B. Magnified C. Virtual D. Real and magnified
53	The near point of a person is 50 cm and his far point is 200 cm The power of the lenses which his spectacles should have to see clearly distant objects will be.	A. -0.5 D B. -10 d C. -1.5 D D. -2.0 D
54	What is the magnifying power of a convex lens of focal length 5 cm.	A. 3 B. 5 C. 6 D. 20
55	The working principal of a photograph enlarger is basically the same as that of a.	A. Camera B. Side projection C. Microsopce D. Telecopse
56	Which parameter is an indication of colour of a star.	A. Weight B. Distance C. Sixe D. Temperature
57	The index of refraction for a substance is	A. Constant B. Constant for a given wavelwngth C. Variable with the speed of light D. Never constant
58	The final image produced by a microscope is.	A. Real and erect B. Virtual and erect C. Real and inverted D. Virtual and inverted
59	The phenomenon of regular refraction of light illustrates taht.	A. Light is reflected in one direction only B. Light is reflected through a range of different angles C. Light is refracted in one direction only D. Light is refracted through a range of different angles.
60	Which is the health care profession concerned with eyes as well as vision visual system and vision information processing in humans.	A. Optometry B. Ophthalmology C. Telemetry D. Psychology
61	Chromatic aberration can be removed by using.	A. Convex lens B. Two convex lenses C. Concave lens D. Combination of a convex lens and a concave lens
62	The minimum angle of incidence for which total internal reflection can occur is called.	A. Right angle B. Acute angle C. Critical angle D. Obtuse angle
63	The image formed by a projector is	A. Real, inverted and enlarged B. Real, upright and enlarged C. Real ,inverted and diminished D. Virtual, upright and diminished
64	Which of the following does not produced an erect image.	A. Galilean telescope B. Terrestrial telescope C. Prism binoculars D. Astronomical telescope
65	use of outer layer in optical fires called cladding is mainly to.	A. Scatter thelight B. Absorb unwanted light C. Transmit the light D. Produce total internal reflection

		B. Produce total internal reflection
66	In case of a convex lens when object is placed at 2F image is formed.	A. At B. 2F C. away from 2F D. Between F at and 2 F
67	Human's eye acts like a	A. LASER B. Mirror C. Lens D. Fibre optics
68	The characteristic of an image formed by a plane mirror is.	A. It is of the same size as the object B. It is laterally inverted C. It is upright D. All of the above
69	When a ray of light traveling in a rare medium enters into a denser medium	A. It remains undeviated B. It is reflected back C. It bends towards the normal D. It bends away from the normal
70	When a ray of light is incident perpendicularly to the boundary of two media.	A. It pass through without bending B. It is speed is faster int he optically denser medium C. It derivates from its original path D. It is totally reflected back
71	Which of the following is used for reducing spherical aberrations in optical instruments.	A. Plano convex lens B. Concave lens C. Spherical mirrors D. Piane mirrors
72	What is the refractive power of cornea in humans.	A. 13 dioptres B. 23 diaoptres C. 33 dioptres D. 43 dioptres
73	The blooming of the image due to dispersion in lenses is called.	A. spherical aberration B. Chromatic aberration C. Astigmation D. Curvature of image field
74	When a ray of light enters a glass slab from air	A. Its frequency increases B. Its wavelength increases C. Neither frequency nor wavelength change D. Its wavelength decreases
75	Sunlight can undergo total internal reflection if it enters from	A. Glass to air B. Air to glass C. Air to water D. Water to glass
76	A convex mirror is used to reflect light from an object placed 66 cm in front of the mirror. The focal length of the mirror is 46 cm Find the location of the image.	A. 23 cm B. -23 cm C. -27 cm D. 27 cm
77	Which phenomenon is responsible formation of shadows.	A. Interference of light B. Diffraction of light C. Polarization of light D. Propagation of light
78	Which type of image is produced by the converging lens of human eye if it views a distant object.	A. Real, erect, same size B. Real, inverted, diminished C. Virtual, erect, diminshed D. Virtual, inverted, magnified
79	When we decrease the diameter of the objective lens of a telescope the resolution of telescope	A. Increases B. Decreases C. Remain the same D. Depends upon the focal length of the lens
80	In case of a convex lens, when object is placed at F	A. the image is formed beyond 2 F B. the image is formed between F and 2 F C. No image is formed D. the image is formed behind the object
81	What is zoom lens	A. It is a lens having fixed focal length B. It is a lens having variable focal length C. It is a lens used in radii to telescope D. All of the above

82	The function of collimator in spectrometer is to	A. Disperse the light B. Reflect the light C. Make the light parallel D. Diffract the light
83	A real object paled inside the focus of a convex lens gives	A. Real image but diminshed B. Real image but enlarged C. virtual image but diminished D. Virtual image but enlarged
84	What is the focal length of a normal eye lens.	A. 1 mm B. 2 cm C. 25 cm D. 1 m
85	Fiber optics system can be used for.	A. Word processing B. Image processing and receiving C. Image transmitting D. All of the above
86	The deflection image due to oblique centric rays failing on the lens is called.	A. Coma B. Spherical aberration C. Astigmatism D. Curvature of image field
87	If the image is virtual then its distance from the lens is taken.	A. Positive B. Negative C. Double D. Half
88	Keliner or achromat eye piece consist or	A. Two plano convex lenses with same focal length B. Two sets of doublets C. An achromatic doublet D. A spherical doublet
89	Which statement about the image formed by a convex lens is correct.	A. It is always real and eruct B. It is always real and inverted C. It is always virtual and erect D. It may be either virtual or real
90	Due to which phenomenon, diamond shrines so brightly.	A. Scattering of light B. Refraction of light C. Dispersion of light D. Total internal reflection
91	The dioptre power of concave lens of 10 cm focal length is.	A. 0.1 dioptre B. 1.0 diopter C. 10 dioptre D. -10 dioptre
92	Which parameter determines the brightness of a light source sensed by an eye.	A. Light energy entering the eye B. Wavelength of light C. Total radiant flux entering the eye D. Total luminous flux entering the eye
93	A simple astronomical telescope consists of two	A. Concave lenses B. Convex mirrors C. Convex lenses D. Plano convex lenses
94	The band of colours is called.	A. Spectrum B. Prism C. Medley D. LASER
95	If a ray of light in glass in incident on an air surface at an angle greater than the critical angle, the ray will	A. Refract only B. Reflect only C. Partially refract and partially reflect D. Diffract only
96	A rod of refractive index 1.42 is immersed in a liquid of refractive index 1.42 the rod will	A. Become invisible B. appear slightly bent C. Appear slightly raised D. Reduce its refractive index
97	The ablate of rays of different colours to converge a single point sifter refraction though a convex lens is called.	A. Come B. Distortion C. Spherical aberration D. Chromatic aberration
98	Which term is used for human eye deflect near sightedness.	A. Myopia B. Hypermetropia C. Presbyopia D. Calaract
		A. Spectrum B. Waveform

99	a spectrometer is used to study	C. Interference D. Diffraction
100	Monochromatic light passing through a thick prism is.	A. Polarize B. Disperesed C. Diffracted D. Deviated
101	Lenses are commonly made of.	A. Glass only B. Plastic only C. Glass and clear plastic D. Aluminium
102	The relation between angle of incidence and angle of refraction is known as.	A. Snell's law B. Refractive index C. Index of refraction D. All of the above
103	When a ray light is incident at anacute angle to the boundary of the media the refracted ray.	A. Bends away from the normal B. Bends towards the normal C. Remains undedicated D. Is totally reflected
104	Which one of the following telescopes has the least length when set for parallel rays.	A. Astronomical telescope B. Galileo's telescope C. Terrestrial telescope D. Reflecting telescope
105	An object is placed at the focus of a diverging lens The image is located at	A. The focus B. 2 F C. Infinity D. Half away between the lens and the focus
106	Which is the thick circular structure in teh eye containing an aperture with variable diameter It controls the amount of light reaching the retina.	A. Retina B. Iris C. Pupil D. Cornea
107	The erecting lens of a telescope produces	A. A shorter instrument B. wider field of view C. A larger image D. A sharp image
108	Which scientist made the fist successful terrestrial measurement of the speed of light	A. Isaac Newton B. Ole Romer C. Armand Fizeace D. Albert Michelson
109	Reciprocal of the focal length is called.	A. Radios of curvature of the lens B. Power of the lens C. Aperture of the lens D. Resolving power
110	Why danger signals are made red.	A. Our eyes are more sensitive to real colour B. Red colour has minimum scattering C. Red colour has maximum scattering D. Red colour has maximum frequency
111	The power of convex lens of focal length 50 cm will be	A. 1,0 dioptre B. 2.0 dioptre C. 4.0 dioptre D. 5.0 dioptre
112	Parallel rays of light are focused by a thin convex lens.A thin concave lens of the name focal length is then joinjed to the convex lens The focal point will.	A. Shift to infinity B. shift towards the lens by a small distance C. shift away from he lens by a small distance D. Remain at its original position
113	To reduce spherical aberration in optical instruments which of the following should be used.	A. Plano convex lenses B. Concave lenses C. Spherical mirrors D. Plane mirrors
114	Which mirror be used for obtaining a parallel beam of light from a small lamp.	A. Plane mirror B. Convex mirror C. Concave mirror D. All of these
115	The power of a convex lens is 5 D at what distance the object should be placed from the lens so that its real and 2 times larger image is formed.	A. 25 cm B. 30 cm C. 35 cm

		D. 40 cm
116	Image formed by a camera is	A. Real, inverted, and diminished B. Virtual, upright and diminished C. Virtual, upright and magnified D. Real, inverted and magnified
117	The sun appears elliptical before sunset due to	A. Reflection B. Refraction C. Scattering D. Total internal reflection
118	The real depth of a swimming pool is 2 m What is the apparent depth of the pool if the refractive index of water is 1.33	A. 1.0 m B. 1.5 cm C. 2.0 m D. 2.5 m
119	Which of the following phenomenon is caused by the different speeds of light in differed optical media.	A. Reflection B. Refraction C. Diffraction D. Total internal reflection
120	Spherical aberration can be removed by using	A. Concave lens B. Convex lens C. By limiting the number of rays using a stopper D. By using a concave convex lens
121	A person suffering from short sighted ness uses	A. Concave lens B. Convex mirror C. Convex lens D. Concave mirror
122	Lenses of what diameter are usually not practical.	A. Less than 1 m B. Larger than 1m C. Larger than 5 m D. Larger than 10 m
123	Two lenses of focal length 'f' are combined the resultant focal length is	A. f B. 2f C. f/2 D. zero
124	The point midway between the lens surface on its participial axis	A. Optical centre B. Principal focus C. Focal plane D. Focal length
125	An image formed on the film of camera is	A. Real , inverted and diminshed B. Virtual, inverted and diminshed C. Real upright and diminished D. Virtual, upright and idminshed
126	Dispersive power of a prism depends upon the wavelength of the light used and is	A. More for large wavelengths B. Less for large wavelengths C. More for small wavelengths D. Less for small wavelengths
127	In case of a convex lens the rays closed to and parallel to the principal axis will converge after refraction by the lens at a point.	A. Optical centre B. Principal focus C. Focal plane D. Principal axis
128	The maximum number of rays required by a lens to form an image are	A. 2 B. 3 C. 4 D. Infinite
129	In case of a convex lens, image formed at 2 F is	A. Virtual, erect and larger than the object B. Real, inverted and large than the object C. Real, inverted and same size as the object D. Real, inverted and smaller than the object
130	A Fly is found to be sitting on a telescope when it is focused towards the moon What effect is expected on the photograph of the moon.	A. Intensity remains unchanged B. No effect C. The complete field of view is blocked D. Coloured image will be seen
131	Telecommunication by Optical fibers is done by	A. Single mode step index fibre B. Multimode step index fibre C. Multimode graded index fibre D. All of the above
		A. 16.7 ^o

132	A ray of light from air into glass The angle of incidence is 30o if the refractive index of glass in 1.52 The angle of refraction will be.	B. 19.3 ^o C. 29.6 ^o D. 39.3 ^o
133	The distance between the optical centre and principal focus is	A. Focal plane B. Focal length C. Optical centre D. Principal axis
134	In a compound microscope objective lens acts as a projector and eye place as a	A. Compensator B. Erecting lens C. Simple microscope lens D. Turntable
135	A direct vision spectroscope is better than a prism spectrometer because it helps in	A. Observing the spectrum without a source B. Observing the spectrum perpendicular to a source C. Observing the spectrum in line with the source D. all of the above
136	Which is defined as the ration of image height of the object height.	A. Linear magnification B. Angular magnification C. Magnifying power D. Resolution
137	For total internal reflection the light rays enter	A. From rarer to denser medium B. From, denser to rarer medium C. Medium of same refractive index D. At an angle 90 ^o
138	The critical angle will be maximum when light travels from	A. Glass of air B. Water to air C. Water to glass D. Glass to water
139	A leser beam may be used to measure very large distance because it is.	A. Unidirectional B. Cohernet C. Monochromatic D. Not absorbed
140	The resolving power of an instrument increases as the wavelength of light used decreases, the magnifying power will	A. Remain the same B. Increases C. Decreases D. Have no relation between the two
141	A young man wearing glasses does not require bifocals because he	A. Is farsighted B. Has the ability to accommodate C. Is short signed D. Does not suffer from coma
142	Which Muslim Scientist gave the first clear description and correct analysis of pinhole camera.	A. Nasir al Din Al tusi B. Ibn al Haithem C. Ibn Ishaqal kundi D. al -Khawarizmi
143	Power of lens is measured in	A. cm B. Metres C. cm-1 D. Dioptres
144	The near point of a person is 50 cm and his far point is 200 cm The power of the lenses which his spectacles should have for reading will be	A. +D B. +2D C. +4D D. -2D
145	What would be the colour of sky through hour the day .If the earth has no atmosphere.	A. Blue B. Red C. White D. Black
146	The relation between refractive index an critical angle is.	A. sin C =1/n B. sin n = 1/C C. sin c = 1 D. n = sin C
147	A bi prism consists of.	A. Two parallel glass plates B. Two acute angled prisms C. Two obtuse angled prisms D. Two right angled prisms
148	The index of refraction depends on	A. the focal length B. The speed of light C. The image distance D. The object distance
		A. Colours B. Wavelengths

149	Clouds are white because they efficiently scatter sunlight of all	B. Wavelengths C. Frequencies D. Phases
150	Two convex lenses of equal focal length 'f' are placed in contact, the resultant focal length is	A. Zero B. 1 C. 2f D. f/2
151	Which of the following factors determines the resolving power of an instrument.	A. magnification B. Total length of objective C. Diameter of objective D. Refractive index of objective
152	The normal adjustment the magnifying power of an astronomical telescope is.	A. fe/fo B. fo/fe C. fo+ fe D. fo -fe
153	A terrestrial telescope produces	A. An react and real image B. An inverted and real image C. An inverted and virtual image D. An erect and virtual image
154	On which property of lens, longitudinal chromatic aberration depend upon	A. Resolving power B. Dispersive power C. Magnifying power D. Radius of curvature
155	linear magnification is the ratio between the	A. Distances of object and image from mirror B. Distances of object and image from the focal point C. Distance of image and object from the mirror D. Distance of image from object and the distance of object from mirror
156	Colour of light is determined by its	A. Amplitude B. Velocity in air C. Wavelength D. State of polarization
157	To obtain is parallel beam from the headlight of a car it must be fitted with.	A. A convex mirror B. A concave mirror C. A convex lens D. A concave lens
158	In compound microscope, image formed by the eyepiece is	A. Real B. Invented C. Erect D. Diminished
159	In optics, which subfield studies the measurement of electromagnetic radiation including visible light.	A. Radiometry B. Photometry C. Telemetry D. Chronometry
160	A negative magnification always means the the image is.	A. Erect B. Real C. Virtual D. Inverted
161	Which instrument measures the magnification of a telescope.	A. lactometer B. dynamometer C. Wattmeter D. Ammeter
162	Refractive index of a medium is define das.	A. speed of light in vaccum/speed of light in medium B. Speed of light in medium/Speed of light in vacuum C. Speed o flight in air/speed of light in medium D. Speed of light in medium/Speed of light in air
163	Which of the following is used as a remedy for defect of hypermetropia.	A. Convex lens B. Concave lens C. Cylindrical lens D. Bifocal length lens
164	Rainbows and mirage are formed by	A. Reflection only B. Refraction only C. dispersion only D. A combination of refraction, total internal refraction and dispersion
	A bi convex lens of a material of refractive index 1.5 has the radius of curvature of each side	A. 0.5 dipotre B. 1.0 dioptre

165	A bi convex lens of a material of refractive index 1.5 has the radius of curvature of each side equal to 50 cm the power of the lens will be.	B. 1.0 dioptre C. 1.5 diopter D. 2.0dioptre
166	A convex lens of focal length 6 cm to be used to from a virtual image three times the size of the object Where must the lens be placed.	A. 1 cm B. 2 cm C. 3 cm D. 4 cm
167	Light rays after passing through is convex lens.	A. Bend away from principal axis B. Bend towards participial axis C. Remain unriveted D. Travel parallel to the principal axis
168	In case of a convex lens when object is placed away from 2F, image is formed.	A. at F B. at 2F C. away from 2 F D. Between F and 2 F
169	Total internal reflection occurs when the angle of incidence is.	A. Greater than the angle of refraction B. Equal to the critical angle C. Greater than the critical angle D. Greater than 45^o
170	Which Muslim Scientist is regarded as 'Father of Optics"	A. Nasir al Din al Tusi B. Ibn Ishaq al kundi C. Ibn Musa Al khawarzmi D. Ibn al Haithem
171	To get large magnifying power of an astronomical telescope. we should have focal length of eye lens.	A. Small B. Large C. Of any value D. Infinity
172	Why does a glass plate inside a colorless liquid become invisible	A. The colours of both are same B. The densities of both are same C. Their refractive indices are same D. Their refractive indices are different
173	Which of the following colours of light passes through glass with minimum speed.	A. Green B. Yellow C. Red D. Violet
174	the depth of a pond is 4 m What is the apparent depth of the pond if the water level is 3.5 m high. The refractive index of water is 1.33	A. 1.9 m B. 2.3 m C. 3.13 m D. 4.5 m
175	When an obliquely falling ray of light enters from one medium ot another it changes its path this phenomenon is called.	A. Reflection B. Refraction C. Diffusion D. Diffraction
176	In a magnifying glass, the objective is placed at a distance	A. Less than the focal B. Between the focal length and twice the focal length C. Greater than twice the focal length D. At the focus of the lens
177	Which is the light sensitive tissue in human eye	A. Retina B. pupil C. Iris D. Cornea
178	Any transparent medium bounded by one or two spherical surfaces is called	A. Prism B. Lens C. Plane mirror D. Grating
179	A component of the spectrometer which consists of a fixed metallic tube with a coned lens at one end and an adjustable slit is called.	A. Telescope B. Collimator C. Tumtable D. Grating
180	Since light rays are always diverged by concave lenses such lenses	A. Cannot form images B. Form only black and white images C. From only invented image D. Form only erect images
181	The critical angle for a beam of light passing from water into air is 48.8 o This mean that all light rays with an angle of incidence greater than this angle will be.	A. Absorbed B. Totally reflected C. Partially reflected and partially transmitted D. Totally transmitted

182	What is the cause of mirage in desert areas.	A. Refractive index of atmosphere increases with height B. Refractive index of atmosphere decreases with height C. Refractive index of atmosphere remains constant D. Scattering
183	The line passing symmetrically though the optical center of the lens is.	A. Focal plane B. Principal focus C. Principal axis D. Focal length
184	Shadow formation and the pin hole camera illustrate the	A. Phenomenon of reflection B. Phenomenon of refraction C. Phenomenon of total internal reflection D. Rectilinear propagation of light
185	Which of the following is used for the failure of a lens to form a sharp and distinct image	A. Distortion B. Astigmation C. Chromatic aberration D. Spherical aberration
186	The angle of incidence that causes the refracted ray in the rarer medium to bend though 90^{o} is called.	A. Critical angle B. solid angle C. Plane angle D. Acute angle
187	Which of the following electron wavelength is used in electron microscope.	A. Short B. Extremely short C. Large D. Moderate
188	Larger the diameter of the objective of a telescope.	A. Greater is its resolving power B. Lesser is its resolving power C. Lesser is its magnifying power D. greater is its magnifying power
189	The branch of medicine which deals with the anatomy physiology and diseases of the eye	A. Ophthalmology B. Radiology C. Cardiology D. Andrology
190	The aberration in the image formed by a lens due to different wavelengths present in a source is called.	A. Spherical aberration B. Chromatic aberration C. Astigmation D. Achromatic aberration
191	Light rays after passing through is concave lens.	A. Bend away from principal axis B. Bend towards principal axis C. Remain undeviated D. Travel parallel to the principal axis
192	Which of the following are defects is lenses.	A. Chromatic aberration B. Spherical aberration C. Astigmation D. All of the above
193	Light entering glass will not suffer change in	A. Frequency B. wavelength C. Speed D. Direction
194	A concave mirror is used to form an image of the sun on a white screen IF the lower half of the mirror were covered with an opaque card the effect on the image on the screen would be.	A. Negligible B. To make the image less bright than before C. To make the upper half of the image disappear D. To make the lower half of the image disappear.
195	The value of critical angle of glass is	A. 45^o B. 42^o C. 48^o D. 52^o
196	Light entering glass will not suffer change in	A. Wavelength B. Direction C. Velocity D. Frequency
197	When of the following colours scatters minimum.	A. Blue B. Violet C. Yellow D. Red
		A. Inverted and real B. Inverted and virtual

198	Which type of image is formed by a concave lens on a screen.	D. Inverted and virtual C. Upright and real D. Upright and virtual
199	The ability's of convex lens to produce convergence in a parallel beam is called its.	A. Magnification B. Focal length C. Power D. Strength
200	Dioptre is the term used for describing the	A. Intensity of light B. Density of air C. Power of light D. Refractive index
201	The maximum distance between an object and its real image in case of convex lens is	A. f B. 2f C. 2.5 f D. 4 f
202	Which part of hole located in the centre of the eye that allows light to enter the retina.	A. Iris B. Pupil C. Cornea D. Fovea
203	Loss of power is optical fibre result into	A. Poor receipt ion of signals B. Delay in time for reception of signals C. accurate information at the receivers D. All of the above
204	What is true is real images formed by a converging lens.	A. they are inverted B. They are on the same side of the lens as the object C. They can never be shown on a screen D. They cannot be seen
205	A fixed point inside the lens through which a ray of light does not change its path is called.	A. Pole B. Focus C. Centre of curvature D. Opticla centre
206	Eye colour is the colour of	A. Iris B. Retina C. Comea D. Pupil
207	Linear magnification is equal to the ratio of.	A. Size of the object to the size of the image B. Size of the image to the size of the object C. size of the object focal length D. Size of the image focal length
208	Maximum detail of an object can be seen by a microscope when the object is illuminated by light of.	A. Longer wavelegth B. Shorter wavelength C. X-rays D. Gama rays
209	If a single convex lens is placed closed to the eye then it can be used as	A. Telescope B. Simple microscope C. Compound microscope D. Opera glass
210	The focal length of a thin converging lens is 10 cm What is the maximum distance from the lens that the object can be placed so that the lens acts as a magnifying glass.	A. 5 cm B. 10 cm C. 15 cm D. 20 cm
211	A person of height 1.5 m stands 2.0 m in front of a plane mirror How far from the person is her image .	A. 2.0 m B. 3.0 m C. 3.5 m D. 4.0 m
212	Which law states that the angle of incidence equals the angle of refraction.	A. Law of reflection B. Law of refraction C. Snell's law D. Hygens's principle
213	When light enters a denser medium	A. Its speed slows down B. Its speed increases C. It is totally reflected D. Its speed remains unchanged
214	The image formed on the film of a simple camera is.	A. Real inverted and diminished B. Virtual, upright, and diminished C. Virtual, upright and magnified D. Real, inverted and magnified

215	Which was the transparent front part of the eye that covers the pupil, iris and interior chamber.	A. Cornea B. Fovea C. Sclera D. Choroid
216	When a light ray enters from air into water then its wavelength.	A. Increases B. Decreases C. Become infinity D. Remains constant
217	A lens whose thickness is small as compared to focal length is a	A. Concave lens B. Double concave lens C. Convex lens D. Plano concave lens
218	Optics is the	A. Scientific study of light and vision B. Scientific study to sound C. Scientific study of time D. Scientific study of fluid
219	Which of the following are defects in human eye.	A. Myopia B. Hypermetropia C. Presbyopia D. All of these
220	In water drops rainbows are formed by	A. Reflection B. Refraction C. Dispersion D. All of these
221	The phenomenon of total internal reflection occurs in	A. Optical fibre B. Rainbow C. Mirage D. All of these
222	A converging mirror with a radius of 20 cm creates a real image 30 cm from the mirror What is the object distance.	A. -5.0 cm B. -7.5 cm C. -15 cm D. -20 cm