MDCAT Physics Chapter 7 Light Online Test

Sr	Questions	Answers Choice
1	Which does not show polarization?	A. Longitudinal waves in gas B. Transverse wave in gas C. Both A and B D. None of these
2	Telescope is an optical device used for viewing	A. Near objects B. Not far distance C. Distant objects D. b and c
3	The central point in the Newton's rings is dark due to	A. Destructive interference B. Constructive interference C. Additional of path difference λ/2 D. b and c
4	With a graded index fibre, the overall time difference between all the wavelengths arrived at the other end may be about	A. 1 ns per km B. 10 ns per km C. 43 s per km D. 33 ns per km
5	Diffraction of X-ray by crystals show that	A. The intensity of X-rays B. X-rays have very short wavelength C. X-rays are electromagnetic waves D. A-rays are just like visible light
6	The regular array of atoms in a crystal has spacing of the order of	A. 10⁻¹⁶m B. 10⁻¹⁴m C. 10⁻¹⁰m D. 10⁻⁶m
7	Focal length of convex lens is maximum for	A. Blue light B. Yellow light C. Green light D. Red light
8	A thin layer of oil on the surface of water looks colored due to:	A. Diffraction of light B. Reflection of light C. Dispersion of light D. Interference effect of light
9	In compound microscope image formed is	A. Real erect and diminished B. Virtual inverted magnitude C. Real inverted and magnified D. Virtual inverted and magnified
10	With a step-index fibre, the overall time difference between all the wavelengths arrived at the other end may be about	A. 43 s per km B. 33 s per km C. 1 ns per km D. 33 ns per km
11	A ray of light always points	A. Anti parallel to wave front B. Perpendicular to wave front C. Parallel to wave lets D. None
12	To observe interference of light the condition which must be met with is that the sources must be:	A. Monochromatic B. Phase coherent C. Both of above D. None of above
13	The materials which are used in selective absorption method to polarize the light are	A. chronic substances B. organic substances C. inorganic substances D. diachronic substance
14	In the Newton's ring, as we proceed towards the periphery of the lens, the thickness of air film	A. gradually decreases B. gradually increases C. suddenly becomes zero D. all of them
15	When the same object is viewed at a shorter distance the image on the retina of eye is _____ and so the object appears _____	A. Greater, small B. Smaller, smaller C. Smaller, larger

		D. Greater, larger
16	Fringe spacing in YDS experiment will be maximum if we use:	A. Red light B. Green light C. Violet light D. Blue light
17	In Young s double slit experiment if we use white light then	A. Colored fringes will be observed B. Bright fringes will be observed C. Alternate dark and bright fringes will be observed D. No interference fringes will be seen
18	Colour of thin film will not show result from	A. Scattering of light B. Dispersion of light C. Interference of light D. Both a and b
19	The study of atomic structure of crystals by X-rays was initiated by W.H.. Bragg and W.L. Bragg in	A. 1920 B. 1926 C. 1910 D. 1914
20	According to the Huygen's principle, the secondary wavelets propagate in the forward direction with a speed equal to	A. speed of wave motion B. speed of medium C. speed of electrons D. speed of protons
21	Using a graded index fibres the time difference is reduced to about	A. 0.5 ns per km B. 1.0 ns per km C. 2.0 ns per km D. 2.3 ns per km
22	Who gave the corpuscular nature of light	A. Einstein B. Newton C. Maxwell D. Thomas young
23	A double convex lens act as a diverging lens when the object is	A. Inside the focus B. Between f and 2f C. At the focus D. At a large distance
24	Photo phone was invented by	A. Edison B. Graham Bell C. Bardeen D. None of these
25	Multi-mode step index fibre index fibre is used to send	A. white light B. green light C. a strong monochromatic light D. yellow light
26	Conditions for interference are that the two sources should be coherent and:	A. At the far off distance B. Close together C. Coinciding D. None of these
27	The resolving power of human eye is	A. 1° B. 2° C. 3° D. 6°
28	Which one of the following is an optically active substance?	A. Quartz crystal B. Calcite crystal C. Sugar solution D. All of these
29	Two light sources obtained from single source are called	A. non-coherent sources B. coherent sources C. monochromatic sources D. spherical sources
30	Which one of the following is nearly monochromatic	A. Light from candle B. Light from simple lamp C. Light from sodium lamp D. Light from sun
31	A convex lens of focal length 5 cm is used as magnifying glass Its magnifying power when	A. 6 B. 5

31	A convex lens of focal length 5 cm is used as magnifying glass its magnifying power when the image is formed at infinity	B. 3 C. 1.5 D. 7
32	When sunlight falls on a soap bubble (film), it appears coloured because of	A. interference of light B. dispersion of light C. polarization of light D. diffraction of light
33	If the moveable mirror in Michelsion's interferometer moves a distance$\lambda/2$, the path difference changes by	A. λ/4 B. λ/2 C. λ D. 3/2λ
34	Colours seen on oily water surface by the incident white light is due to	A. Diffraction B. Interference C. Refraction D. Reflection
35	A beam of light enters air from water.Which of the following characteristics of light will not change in water?	A. Frequency B. Wavelength C. Velocity D. Amplitude
36	The diffraction of light occurs, due to interference, of	A. Obstructed portion B. Unobstructed portion C. Both obstructed and unobstructed light D. None of these
37	The central ring is bright in case of newton's ring produced by:	A. Reflected light B. Transmitted light C. Wedged film D. None of above
38	Reflection of light from water, glass, snow and rough road surfaces, for larger angle of incidences, produces	A. images B. bright images C. interference D. glare
39	Using monochromatic light, interference fringes are produced on a screen placed a distance D from a pair of slits of separation a. The separation of the fringes is X. a is now halved and D is increased by a factor of 4. What is the new fringe separation?	A. 16 X B. 8 X C. 4 X D. 2 X
40	Laws of reflection and refraction can also be explained by:	A. Particle nature of light B. Quantum nature of light C. Wave nature of light D. Complex nature of light
41	In cause of YDS experiment, the distance between adjacent bright fringes is given by	A. Δ y =λ L/d B. Δ Y = L/λ

		248); >λd C. Δ Y =λ /L D. None of these
42	The fringe spacing in case of blue light	A. Increases B. Remains the same C. Decreases D. None of these
43	Which optical fibre is used for shorter distances only?	A. single mode step index fibre B. multi-mode step index fibre C. multi-mode graded index fibre D. all of them
44	Who gave the idea of light as wave ?	A. Newton B. Huygen C. Thomos Young D. Bragg
45	The fringe spacing in case of red light	A. Increases B. Decreases C. Remains the same D. None of these
46	The minimum distance between a source and the screen for which a real image is possible with a convex lens is	A. Its focal length B. Twice the focal length C. Four times the focal length D. Square of the focal length
47	In spectrometer the function of collimator is to produce	A. Diverging beam of light B. Converging beam of light C. Parallel beam of light D. None of these
48	A fly is sitting on the objective of a telescope pointed towards the moon.What effect is expected on the photography of the moon taken through the telescope?	A. The entire field of view blocked B. There is an image of the fly on the photography C. There is no effect at all D. There is a reduction in the intensity of the image
49	For the monochromatic beam of X-rays, the crystal planes in a lattice act like a	A. perfect absorbers B. boundary C. mirror D. none of them
50	When a ray of light goes from a denser medium into a rare medium	A. The wavelength of light is decreased B. The frequency of light increased C. The speed of light is increased D. The light undergoes a phase change of π
51	The bottom of a container filled with liquid appear slightly raised because of	A. Refraction B. Interference C. Diffraction D. Reflection
52	The locus of all the points in the same phase of vibration is called:	A. Wave packet B. Wavefront C. Wave number D. None of these
53	Near and far points of a healthy human eye respectively are	A. 0 and 25 cm B. 0 and infinity C. 25 cm and 100 cm D. 25 cm and infinity E.
54	The concentration in solution can be determined by the property known as	A. Solubility B. Insolubility C. Optical activity D. None of these
55	A point on the surface of the mirror where principle axis meets is called	A. Focus B. Centre of curvature C. Pole D. Aperture

56	A grating with high resolving power can distinguish _____ difference in _____	A. Smaller, amplitude B. Greater, wavelength C. Smaller, wavelength D. Greater, intensity
57	How many phone calls can be carried by single mode step index fibre	A. 25000 B. 96000 C. 14000 D. 21000
58	A normal to the waves front showing direction of propagating of wave is called	A. Photon B. Particle C. Ray D. Line
59	Which of the following colors will have minimum critical angle when light passes from glass to air	A. Red B. Blue C. yellow D. Orange
60	The Plano-convex lens used in the Newton's rings are of focal length	A. Small B. Long C. Very large D. None of these
61	The ratio of the diameter of two convex lenses is the ratio of their focal lengths	A. Greater than B. Less than C. Equal to D. None
62	If the slits in YDS experiment are made closer, fringe spacing will	A. Increase B. Decrease C. Remain same D. None of these
63	Ordinary light has components of vibration in	A. One direction B. Different direction C. All directions D. None of these
64	Power of a lens is equal to	A. Focal length in meters B. Reciprocal of focal length expressed in meters C. Double the focal length D. Half the focal length
65	The information carrying capacity in an optical fibre is called	A. wavelength B. frequency C. bandwidth D. none of them
66	Two sources of light are said to be coherent when the waves produced by them have	A. Equal wavelength B. Equal amplitude C. Equal wavelength and constant phase difference D. Amplitude and wavelength are same
67	Which one of the following phenomenon cannot be explained by the wave theory of light ?	A. Reflection B. Refraction C. Photoelectric effect D. Diffraction
68	The fiber of which refractive index _____ gradually as move from central core to its periphery is called _____ index fiber	A. Decreases, multi-mode graded B. Increases, single mode step C. Either of A or B D. Increases, multi-mode step
69	Multimode step index fibre has a core of relatively larger diameter such is	A. 125 μm B. 175 μm C. 50 μm D. 100 μm
70	The property of light which makes light possible to be transmitted into inaccessible place is	A. Interference B. Diffraction C. Polarization D. None of these
71	The waves produced in a stretched string are called	A. Stationary waves B. Mechanical waves C. Transverse mechanical waves D. None of these
72	Huygen's principle states that:	A. Light travels in straight line B. Light has dual nature C. Either of these D. None of these
		A. White B. Red

73	If the cover of a red book is observed in monochromatic blue light,It will appear	B. Red C. Black D. Blue
74	In Young's double slit experiment, the fringe width depends on	A. wavelength of the light used B. distance between the slits and screen C. distance between the slits D. all of them
75	Maximum number of orders available with a grating is _____ grating element	A. Independent of B. Directly proportional to C. Inversely proportional to D. Equal to
76	The unpolarized light is	A. An ordinary incandescent bulb B. Sun C. Moon D. All of these
77	Cladding in an optical fiber is used to	A. Absorb unneccessary light B. Produce total internal reflection C. Transmit light D. Filter light
78	Propagation of light in an optical fibre requires that the light should	A. be partially confined within the fibre B. be totally confined within the fibre C. not be confined within the table D. none of them
79	Light appears to travels in straight lines since	A. It is not absorbed by the atmosphere B. It is reflected by the atmosphere C. Its wavelength is very small D. Its velocity is very large
80	The light source used in multimode step index fibre is	A. A monochromatic source B. Red light C. White light D. None of these
81	To observe diffraction phenomenon the size of a obstacle	A. Should be much larger than the wavelength B. Should be of the same order as the wavelength C. Have no relation of wavelength D. Should be exactly λ/2
82	In the study of interference and diffraction, we consider	A. plane waves B. plane wavefronts C. both of them D. none of them
83	In a diffraction fringes pattern the fringes are	A. Equally spaced B. Wider near the centre and narrower away from it C. Narrower near the centre and Wider away from it D. None of these
84	Angle between ray of light and the corresponding wave front is	A. 10° B. 60° C. 90° D. 120°
85	The most common method to obtain plane polarized light by using dichoric substance is:	A. Selective absorption B. Reflection from different surfaces C. Refraction from different surfaces D. Scattering
86	The absence of light in the optical fibres represents the number	A. 0 B. 1 C. 2 D. -1
87	Which one of the following phenomena is not explained by Huygen's construction of wavefront?	A. Refraction B. Reflection C. Diffraction

		D. Origin of spectra
88	When a mirror of a Michelsion's interferometor is moved a distance of 0.5 mm, 2000 fringes are observed, the wavelength of the light used is	A. 5000 mm B. 5000°A C. 500 cm D. 2000°A
89	Zero order image formed by the grating when the angle the along the direction of normal to grating is	A. Zero B. 90° C. 180° D. None of these
90	The spacing between the parallel lines are served as	A. slits B. source of light C. opaque lines D. fringes
91	A shortsighted person can see clearly	A. Near objects B. Far objects C. Objects at 25 cm D. Objects at infinity
92	Light signals in an optical fibre eventually become dim and must be regenerated by devices called	A. transmitters B. receivers C. photodiodes D. none of them
93	Huygen's principle is used to study the	A. formation of wavefronts B. propagation of wavefronts C. nature of light D. speed of light
94	Most widely used optical fibres are those which propagate light by	A. total interval reflection B. continuous refraction C. both of them D. none of them
95	For obtaining equal and same height mirror should be	A. Convex B. Concave C. Plane D. None
96	When a light signal travels along the length of the optical fibre, the power lost by it is due to	A. Reflection B. Refraction C. Seattering and absorption D. Diffraction
97	In newton's rings apparatus, we also use:	A. Spectroscope B. Telescope C. Microscope D. Any of these
98	Plane polarized light can be produced by:	A. Simple reflection B. Refraction C. Selective absorption D. All of these
99	If the focal of a convex lens is 5 cm then to get real and inverted image of the same size as that of object, the object should be placed at	A. 5 cm B. 10 cm C. 15 cm D. 20 cm
100	When the source of light is at very large distance, the shape of wavefront is:	A. Spherical B. Cylindrical C. Plane D. None of these
101	A microscope has an objective lens of 10 mm focal length and an eye piece of 25.0 mm focal length what is the distance between the lenses	A. ≈ 200 mm B. ≈ 210 mm C. ≈ 213 mm D. ≈ 233 mm
102	In case of destructive interference of two waves, the amplitude of the resultant wave will be _____ either of the waves	A. Greater then B. Smaller then C. Equal to D. None of these
103	The locus of all points in a medium having same phase of vibration is called:	A. Crest B. Trough C. Wavelength D. Wavefront
		A. <span style="color: rgb(0, 0, 0); font-family: Georgia; font-size: 18px;

104	A beam of light of wavelength is incident normally on a grating of element d the angle between the zero-order and first -order spectra depends on	line-height: 23.390625px;">λ only B. d only C. λ and d D. λ d and distance of screen from the grating
105	Which property of waves proves that light is a transverse wave?	A. diffraction B. interference C. polarization D. reflection
106	Which effect provides direct experiment evidence that light is a transverse rather than a longitudinal,wave motion?	A. Light can be diffracted B. Two coherent light waves can be made to be interfere C. The intensity of light from a point source falls off inversely as the square of the distance from the source D. Light can be polarized
107	Light appears to travel in straight line because	A. It is not absorbed by the atmosphere B. It is refracted by the atmosphere C. Its wavelength is very small D. Its velocity is very large
108	For incident angles equal or greater than the critical angle the glass air boundary will act as a	A. Convex mirror B. Concave mirror C. Mirror D. None if them
109	Ray optics is valid,when characteristic dimensions are	A. Of the same order as the wavelength of light B. Much smaller than the wavelength of length C. Of the order of one millimeter D. Much larger than the wavelength or light
110	Which of the following phenomenon cannot take place if we consider light as longitudinal wave?	A. diffraction B. interference C. polarization D. reflection
111	Fire optics has ability to transmit	A. Thousand telephone conversation B. Several television programs C. Numerous data signals between stations D. All of these
112	In case of diffraction grating, unit of grating element is:	A. Centimeter B. Kilometer C. As that of g D. as that of angle
113	In a never system, the repeaters are placed at about	A. 50 km B. 75 km C. 100 km D. 125 km
114	The image formed by an eyepiece of compound microscope is	A. Real and diminished B. Real and enlarged C. Virtual and enlarged D. Virtual and diminished
115	In Bragg's formula, the path difference should beam integral multiple of the wavelengths	A. d sin θ = nλ B. d sin 2θ = nλ C. 2 d sin θ = nλ D. None of these
		A. Phase difference = (2π) x path difference B. Phase difference = (2<span style="color: rgb(34, 34, 34); font-family: "Times New Roman"; font-size: 24px; text-align: center; background-color:

116	The path difference and phase difference are related to each other as	rgb(255, 255, 248);">π /λ) x path difference C. Phase difference = (λ /2) x path difference D. Phase difference = (2λ /π) x path difference
117	A monochromatic source of light gives light of	A. one colour B. two colours C. four colours D. seven colours
118	The bending of light when it passes from one medium to another is known as	A. Refraction B. Interference C. Polarization D. Diffraction
119	Optical fibres are of	A. Five type B. Two type C. Three type D. None of these
120	In an astronomical telescope the eye piece has the focal length f_e if	A. Short B. Long C. Extremely long D. None of these
121	If a glass slab is placed in the path of a converging beam of light The point of convergence of light	A. Moves away from the glass slab B. Moves towards the glass slab C. Remains at the same point D. Moves straight
122	Angular magnification of a simple microscope is given as	
123	When two light waves travelling in the same direction are out of phase at any point, their resultant amplitude	A. increases B. decreases C. remains unchanged D. increases rapidly
124	Angle subtended by any side of the eight-sided mirror at the center is	A. π/8 B. π/4 C. 2π/8 D. 2π/4
125	A mode of propagation of light through optical fibre in which the light within the fibre is	A. Reflected B. Refracted C. Continuously refracted D. None of these
126	Two lenses of power +12 and -2 diopters are placed in contact the power of combination is	A. 10 diopters B. 8 diopters C. 6 diopters D. 12 diopters
127	When the length of a microscope tube increases its magnifying power	A. Decreases B. Increases C. Does not change D. May increase or decrease depending on the observer and the place of observation
128	A fiber of 50μm diameter capable of carrying white light at _____ distances is called _____ index fiber	A. Large, multi-mode step B. Small, multi-mode step C. Small, multi-mode graded D. Large, single mode step
129	X-ray diffraction has been very useful in determining structure of	A. Hemoglobin B. Double helix structure of DNA C. Blood speed D. a and b
		A. Rays are normal to wave front

130	Choose the correct statement	A. Rays are normal to wave front B. Rays may be normal to wave front C. Rays are not normal to wave front D. There is no relationship between rays and wave fronts
131	A single step index fibre can carry more than	A. 14 TV channels B. 14,000 phone calls C. 16 TV channels D. a and b
132	Finger prints on paper are identified by sprinkling fluorescent powder on it and observing it under	A. Sun light B. Sodium light C. Infrared D. UV
133	The minimum number of lenses used in compound microscope is	A. 1 B. 2 C. 3 D. 4
134	If the vibrations of the light wave are confined to one plane only, then this light is called	A. unpolarized ligth B. polarized light C. sunlight D. none of them
135	Which type of fibre is used to send the signals of long distances?	A. single mode step index fibre B. multimode step index fibre C. multimode graded index fibre D. all of them
136	Which one of the following can act approximately as a source of monochromatic light:	A. Neon lamp B. Fluorescent tube C. Sodium lamp D. None of these
137	The limit of which a microscope can be used to resolve details of an object, demands	A. Wider objective and light of short wavelength B. Narrow objective and light of short wavelength C. Narrow objective and light of longer wavelength D. None of these
138	The twinkling of stars is due to	A. The fact that stars do not emit light continususly B. The refractive index of the earth's atmosphere fluctuate C. Intermittent absorption of star light by its own atmosphere D. None of these
139	Diffraction effect is	A. More for a round edge B. More for a sharp edge C. Less for a sharp edge D. None of these
140	Michelesion's interferometer is an instrument usually used to measure	A. intensity of light B. speed of light C. wavelength of light D. dispersion of light
141	The optical resolution of microscope or a telescope tells us how close together, the two point sources of light can be so that they are still seen as two separate sources	A. Angular magnification B. Resolution C. Magnification D. None of these
142	In Michelsion's interoferometer, if the moveable mirror is moved through a distance 0.05 mm and 500 finges are observed, then the wavelength of light used is	A. 1 x 10⁻⁷m B. 2 x 10⁻⁷m C. 1.5 x 10⁻⁷m D. 1 x 10⁻⁸m
143	If the two reflected waves reinforce each other then the firm as seen from the parallel beam of monochromic light will look	A. Dark B. Bright C. Sometimes bright and dark D. None of these
144	Speed of light in vacuum is	A. 0 ms⁻¹ B. 3 x 10⁸ms⁻¹ C. 1.5 x 10⁸ms⁻¹ D. None of these
145	The information received at the other end of a fibre can be inaccurate due to	A. dispersion of light signal B. spreading of light signal C. both of them D. none of them

146	Diffraction is concerned with the superposition of	A. very large number of secondary wavelets B. a few secondary wavelets C. two secondary wavelets D. no secondary
147	In YDS experiment, if the distance between the slits and also the distance between slits and screen is doubled, the fringe width:	A. Becomes doubled B. Becomes 4 times C. Is halved D. Remains the same
148	The astronomical telescope consists of objective and eye piece.The focal length of he objective is	A. Equal to that of the eye piece B. Greater than that of eye piece C. Shorter than that of eye piece D. Five times shorter than that of the eye piece
149	The final image obtained by astronomical telescope is	A. Inverted w.r.t object B. Magnified C. Virtual D. All of them
150	In which mode, the refractive index steps down form 1.52 to 1.48 at the boundary with the cladding?	A. Single mode step index B. multimode step index C. multimode graded index D. all of them
151	A two-slit arrangement is set up to produce an interference pattern on a screen. The fringes are too close together for convenient observation. How could the distance between them be increased?	A. by using a light of longer wavelength B. by increasing the width of the slits C. by decreasing the distance between the screen and slits D. the distance between the fringes is impossible
152	Optical device used in spectrometer	A. Simple microscope B. Compound microscope C. Telescope D. Any of them
153	For glass-air boundary, the value of the critical angle is	A. 42° B. 45° C. 30° D. 60°
154	The phenomenon of diffraction also contains the phenomenon of	A. Polarization B. Interference C. Dispersion D. None of these
155	Fringe spacing in YDS experiment will be maximum if we use	A. Red light B. Green light C. Violet light D. Blue light
156	While viewing a distant object with a telescope suddenly a housefly sits on objective lens.The correct statement is that	A. Housefly will be seen enlarged in image B. Housefly will be seen reduced in image C. Intensity of image will be decreased D. Intensity of image will be increased
157	In thin film colours are due to	A. Reflection B. Interference C. Diffraction D. Refraction
158	The property of bending of light around the obstacle is known is	A. Interference B. Polarization C. Diffraction D. None of these
159	The critical angle for a ray of light suffering total internal reflection will be smallest for the ray traveling from	A. Water to glass B. Water to air C. Glass to air D. Glass to water
160	How many major components of fibre optic communication system are	A. 4 B. 5 C. 3 D. 2
161	The least distance of distinct vision changes with	A. Time B. Health C. illness D. Age
		A. Real B. Virtual

162	When the object lies between F and 2F the image formed by a convex lens is	B. Virtual C. Diminished D. Erect
163	The brilliance of diamond is	A. Entirely due to refractive index B. Entirely due to total internal reflection C. Partly due to total internal reflection D. None of the above
164	Who proposed wave theory of light	A. Huygens B. Galileo C. Einstein D. Newton
165	Which of the following colors suffers maximum deviation in a prism?	A. Yellow B. Blue C. Green D. Orange
166	The lower refractive index the fibre core has	A. 1.48 B. 1.40 C. 1.54 D. 1.42
167	If Young s double slit experiment is immersed in water then the fringes with	A. Decreases B. Remains unchanged C. Becomes infinite D. Increases
168	The organic substances which shows optical rotation when they are in solution	A. Tartaric acid B. Sugar C. Alcohol D. a and b
169	If the power of a lens is 4 diopters then is focal length is	A. 20 cm B. 25 cm C. 50 cm D. 400 cm
170	Wavelength of a laser beam can be used as a standard of	A. Time B. Angle C. Length D. Temperature
171	Which type of optical fiber has the largest diameter	A. Single mode step index fiber B. Multi-mode step index fiber C. Multi-mode graded index fiber D. None of these
172	A light wave produced by oscillating charge consists of a periodic variation of	A. electric field B. magnetic field C. either of them D. both of them
173	The principle of Michelson's interferometers is	A. Refraction B. Dispersion C. Interference D. Reflection
174	When the movable mirror moves, the distance λ/4 the total path difference would be	A. 2λ B. λ C. 2λ/4 D. None of these
175	When a ray of light enters a denser medium from a rarer medium,its:	A. Wavelength increases B. Velocity increases C. Frequency decreases D. Wavelength decreases
176	If the plane polarized light is incident on the second sheet of Polaroid, no light is emitted when their axes are	A. Parallel to each other B. Perpendicular to each other C. In between two positions D. None of these
177	The index of refraction of diamond is 2.0 velocity of light in diamond in m/s is	A. 6 x 10⁸ B. 3 x 10⁸ C. 2 x 10⁸ D. 1.5 x 10⁸
178	The object is placed at the principle focus of a simple microscope if the focal length of the lens is 2cm what is the magnifying power of the microscope	A. 13.5 B. 12.5 C. Infinity D. None of these
179	The resolution of microscope depends on objective's	A. Focal length B. Material C. Diameter D. None of these

180	The length of a telescope is 36 cm.The focal lengths of its lenses can be	A. 30 cm,6 cm B. -30 cm,-6 cm C. 30 cm,-6 cm D. -30 cm,-6 cm
181	In diffraction grating has feature/features like	A. A glass plate B. A large numbers of lines are ruled C. Spacing between two lines acts as a slit D. All of these
182	Every point of a wavefront may be considered as a	A. Source B. Source of wavefront C. Source of secondary wavefront D. None of these
183	The wave propagates in space by the motion of the	A. Particles B. Wavefronts C. Wavelength D. None of these
184	A diffraction grating of length 2cm has 4000 lines The grating element is	A. 0.5 x 10⁻² cm B. 5 x 10⁴ C. 5 x 10⁻⁴ D. 0.5 x 10⁻⁴ cm
185	In Young s double slit experiment the separation between the slits in halved and the distance between the slits and the screen is doubled the fringe with will	A. Be doubled B. Be quadrupled C. Remain the same D. Be halved
186	Which of the following properties show light is transverse wave in nature?	A. Interference B. Reflection C. Diffraction D. Polarization
187	The minimum distance between an object and its image in a convex lens is	A. 2 f B. 2.5 f C. 3 f D. 3.5 f
188	The frequency of light ray is 6 x 10^{14} Hz. The frequency when it propagates in a medium of refractive index 1.5 will be	A. 6 x 10¹⁴ Hz B. 4 x 10¹⁴ Hz C. 9 x 10¹⁴ Hz D. 1.67 x 10¹⁴ Hz
189	Light waves are:	A. Transverse waves B. Longitudinal waves C. Compressional waves D. None of them
190	The typical wavelength of light source in transmitter is	A. 1.1 µm B. 1.2 µm C. 1.3 µm D. 1.4 µm
191	In viewing the distant objects the angle subtended at the telescope is	A. Smaller B. Bigger C. Very large D. None of these
192	The bright fringes are termed as	A. minimum B. maximum C. bright spots D. dark spots
193	A spectrum which contains all wavelengths without any break is called	A. Emission spectrum B. Line spectrum C. Continuous emission spectrum D. All of them
194	The image formed after objective lens of an astronomical telescope is	A. Inverted B. Diminished C. Real D. All of these
195	By which principle we can locate the position of new wavefront after a later time?	A. principle of irreversibility B. principle of light C. Archimedes principle D. Huygen's principle
196	Electromagnetic waves transport:	A. Energy only B. Momentum C. Both A and B are correct

		C. Both A and B are correct D. None is correct
197	In Young's double slit experiment fringe width (or fringe spacing) depends	A. inversely on wavelength B. directly on wavelength C. directly on square of wavelength D. inversely on square of wavelength
198	The appearance of colours in the shape (or oil) film results from:	A. Dispersion B. Interference C. Reflection D. Refraction
199	The relation d sinθ = nλ, where 'n' is the	A. Number of bright fringes B. Number of dark fringes C. Order of the spectrum D. None of these
200	For interference to occur, the light coming from the two slits should	A. be monochromatic B. come from the same source C. have a constant path difference D. all of them
201	A telescope has an objective of focal length 10 cm the magnifying power of telescope is 5.Its length in normal adjustment is	A. 7.5cm B. 10.5 cm C. 12 cm D. 15 cm
202	Longitudinal waves do not exhibit	A. Refraction B. Reflection C. Diffraction D. Polarization
203	Huygen's theory cannot explain:	A. Diffraction B. Interference C. Polarization D. Photoelectric effect
204	If d = 0.25 cm Y = 0.059 cm L = 100 cm m = 2 then λ is equal to	A. 567 nm B. 569 nm C. 590 nm D. 596 nm
205	Two wave of intensities I an 4I superpose then the maximum and minimum intensities are	A. 5I and 3I B. 9I and I C. 9I and 3I D. 5I and I
206	Which of the following radiation will be focused farthest from a convex lens	A. X - rays B. γ - rays C. Microwaves D. β - rays
207	In Young's double slit experiment for the interference of light, the central region of the fringe system is	A. Bright B. Dark C. Bright and dark D. None of these
208	The cause of power loss in optic fibre is	A. Absorption B. Scattering C. Dispersion D. All
209	In Newton's rings the point of contact of the lens and the glass plate, the air film is	A. Minimum B. Maximum C. Zero D. None of these
210	If the focal length of objective is 10 mm find its magnification	A. 18 B. 19 C. 20 D. 21
211	Television signal are converted into light signals by	A. Decoder B. Transistor C. Photodiode D. Optical fibre
212	The disadvantage of the step-index fibre can be reduced by	A. graded index fibre B. non-graded index fibre C. both of these D. none of these
213	Star twinkle due to	A. The fact that they do not emit light continously B. The refractive index of earth's atmosphere fluntuates C. The star's atmosphere absorbs its light intermittently

		D. None of these
214	The direction of a ray of light is.....to the wave front.	A. Parallel B. Equal C. Opposite D. Perpendicular
215	An image formed by a concave lens is always	A. Virtual B. Real C. Inverted D. None of these
216	The speed of light in a medium depends upon	A. Its wavelength B. Its frequency C. Refractive index D. All of these
217	If the magnification M_1 = 20.0 for objective and M_2 = 12.0 then total magnification is	A. 200 B. 240 C. 260 D. 280
218	A line which represents the direction of travel of a wave is known as	A. Wave front B. Locus C. Ray of light D. Either b and c
219	X-rays is a type of electron magnetic radiations of much shorter wavelengths of the order of	A. 10⁻⁸ m B. 10⁻⁹ m C. 10⁻¹⁰ m D. 10⁻¹² m
220	Repeaters are the devices which regenerate the signals and are placed at about	A. 20 km B. 30 km C. 40 km D. 50 km
221	Due to Plano convex lens and the plane glass plate the thickness of air film changes from the center to outward	A. Increasing gradually B. Decreasing gradually C. It is constant at the centre D. None of these
222	A compound microscope is consists of objective of	A. Long focal length and short focal length of eye piece B. Objective of very short focal length and eye piece of long focal length C. Objective of very short focal length end eye piece of also short focal length D. None of these
223	An object is placed between two parallel mirrors the number of images formed is	A. 2 B. 4 C. 8 D. Infinite
224	The typical example/examples of optically active crystals	A. Quartz B. Crystals of sodium chlorate C. Crystals of sodium chloride D. a and b
225	The distance between the two adjacent slits is called	A. Thickness of the slit B. Distance between and two slits C. Grating element D. None of these
226	Source of light used in the fibre optic communication	A. Led B. Laser C. Photo diode D. Both a and b
227	How many fringes will pass a reference point if the moveable mirror of a Michelson s interferometer is moved 0.06 mm The wavelength of light used is 5.89 $x10^{-3}$ mm	A. 200 B. 300 C. 20.4 D. 2.3
228	A glass plate on which a large number of very fine equidistant parallel lines are drawn is called	A. convex lens B. thin film C. diffraction grating D. interferometer
229	Diffraction of light occurs, due to the interference between rays coming from the same wavefront of	A. The same parts B. The different parts C. Mixed rays D. None of these
230	The scattering of X-rays from atoms in a crystalline lattice gives rise to	A. Interference B. Diffraction C. Reflection

		C. Reflection D. None of these
231	Which of the following is conserved when light waves interfere?	A. Intensity B. Energy C. Amplitude D. Momentum
232	A polaroid is:	A. An adjustable shutter B. A device used to analyze polarized light C. A device used in polarimeter D. A light filter
233	In case of constructive interference of two waves, the amplitude of the resultant wave is_____either of the waves:	A. Greater than B. Equal to C. Smaller than D. None of these
234	Who attempted to measure the speed of light	A. Gallileo B. Michelson C. Newton D. None of these
235	In the formula α_{amino} = 1.22λ/D, D denotes	A. Distance between source and the object B. Diameter of lens C. Power of the lens in Diopters D. None of these
236	An optical fiber carries data in the form	A. Lights signals B. Sound signals C. A wave D. A particle
237	A fly is sitting on the objective of a telescope pointed towards the moons what effect is impacted in a photograph of the moon taken through the telescope	A. The entire field of vision is blocked B. There is image of the fly on the photograph C. There is no effect at all D. There is the reduction in intensity of the image
238	A tourmaline crystal is being used as an analyzer In one complete rotation of the crystal the number of excitation will be	A. 0 B. 1 C. 2 D. 4
239	When crest of one wave falls on the crest of the other wave. This phenomenon is known as:	A. Destructive interference B. Diffraction C. Polarization D. Constructive interference
240	If 5000 lines/cm are ruled on a diffraction grating, the element is:	A. 5 x 10⁻⁵m B. 2 x 10⁻⁶m C. 5 x 10⁻⁶m D. 2 x 10⁻⁵m
241	In YDS experiment, fringe spacing means the distance between two consecutive_____fringes:	A. Bright B. Dark C. Any of A or B D. None of these
242	Successive dark and bright fringes are formed each time the moveable mirror in Michelsion's interferometer is moved a distance	A. λ/2 B. λ/4 C. λ D. 3/2λ
243	The transmission of information by light waves may be	A. An audio signal B. A television signal C. A computer data signals D. All of them
	A converging lens is used to form an image on a screen when the upper half of the lens is	A. Half the image will disappear B. No change either in size or in

244	A converging lens in used to from an image on a screen when the upper half of the lens is covered by an opaque screen	intersity C. Intensity of image will increase D. Intensity of the image will decrease
245	Which electromagnetic wave would cause the most significant diffraction effect for an atomic lattice of spacing around 10^{-10}m?	A. microwave B. infrared C. ultraviolet D. X-ray
246	The optical fibre has a layer over the central layer is called cladding of refractive index	A. High B. Low C. Very high D. None of these
247	A line which represents the direction of travel of a wave is known as:	A. Spherical wavefront B. Locus C. Ray D. Either B or C
248	A spectrometer is an optical device used to study the spectra from different sources of light which is	A. Absorption spectra B. Emission spectra C. Discrete spectra D. None of these
249	When light signal travels along fibres, the power losses are mainly due to	A. scattering B. absorption C. both of them D. either of them
250	The diffraction grating is used to determine	A. Intensity of light B. Wavelength of light C. Refractive index of prism D. None of these
251	For destructive interference the path difference is give by:	A. (m-1/2)λ B. (m+1/2)λ C. mλ D. 1/2 mλ
252	If light of low wavelength is used in Young's double slit experiment then width of the fine will	A. Decreases B. Increase C. Not fixed D. No change
253	When seen in green light the saffron and green portions of our National Flag will appear to be	A. Black B. Black and green respectively C. Green D. Green and yellow respectively
254	If focal length of objective is increased	A. Magnifying power of compound microscope decreased B. Magnifying power of astronomical telescope increases C. The diameter of the objective lens D. None of these
255	Graham Bell photo phone used a modulated beam of	A. Reflected sun light B. Refracted sun light C. Diffracted sun light D. None of these
256	In which situation does diffraction occur?	A. a wave bounces back from a surface B. a wave meets another wave to produce a new wave C. a wave passes from one medium into another D. a wave passes through an aperture
257	A line normal to the wavefront including the direction of motion is called	A. perpendicular line B. parallel line C. a ray of light D. none of them
258	The practical use of services by optic fiber is	A. Two way television B. World processing C. Image transmitting and receiving equipment D. All of these
259	Question Image	
260	The speed of secondary wavelets as mentioned in Huygen's principle is_____the speed of propagation of the wave itself:	A. Equal to B. Greater than C. Smaller than D. None of these
		A. dispersion

261	When crest of one wave coincides with the trough of the other wave, it give rise to	A. dispersion B. constructive interference C. destructive interference D. polarization
262	Sky seems blue due to	A. Diffraction B. Polarization C. Dispersion D. Scattering
263	Two layers optical fibre in which central layer is called core which has refractive index	A. High B. Low C. Very low D. None of these
264	A point source in a homogeneous medium gives rise to:	A. A plane wavefront B. A spherical wavefront C. A cylindrical wavefront D. An elliptical wavefront
265	The image of the tip of a needle is never sharp because of	A. Polarization of light B. Interference of light C. Diffraction of light D. Reflection of light
266	Which characteristics of wave, established the Huygen's wave theory in 1801?	A. polarization B. interference C. propagation D. all of them
267	Identify the incorrect statement	A. The distance between the objective and eye-piece is 16.02 cm B. The angular magnification of the planet is 800 C. The image of the planet is inverted D. The objective is larger than the eye-piece
268	Who proposed that light energy form a luminous source travels in space by means of wave motion?	A. Newton B. Maxwell C. Einstein D. Huygen
269	Propagation of light in an optical fiber requires that light should be	A. Refracted from air to fiber B. Continuously refraction C. Totally reflected within the fiber D. Both B and C
270	A polarizer is used to	A. Reduced intensity of light B. Produce polarized light C. Increase intensity of light D. Produce unpolarised light
271	The magnification of a compound microscope of object and eye piece of focal lengths $f_0$and f_e, respectively is	
272	In Young's double slit experiment, the widths of dark and bright fringes are	A. different B. equal C. zero D. variable
273	Michelson interferometer is based upon	A. Interference B. Diffraction C. Polarization D. Reflection
274	Which of the following types of optical fibre has a very thin core of about 5μm diameter and has a relatively large cladding?	A. single mode step index fibre B. multi-mode step index fibre C. multi-mode graded index fibre D. none of them
275	A diffraction grating contains 5000 lines per centimeter, its grating element will be	A. 1 x 10⁻⁴nm B. 1 x 10⁻¹⁴m C. 1 x 10⁻¹⁴cm D. 1 x 10⁻⁴cm
276	The range of the diameter of core in multimode graded index fibre is	A. 50 to 100 μm B. 50 to 1000 μm C. 50 to 1000 μm D. None of these
277	When a movable mirror moves λ/4 distance and the light used is 400 nm, then the distance measured highly precise is	A. 100 nm B. 10⁻⁴ nm C. 10⁻⁶ nm D. 10⁻⁵ mm
278	If red light is incident on sea water it appears	A. Red B. Green C. Blue

		D. Yellow
279	If the wavelength of light used in Michelsion's interferometer is 400 nm and the moveable mirror only moved through$\lambda/4$, then the length moved will be	A. 10 nm B. 10⁻²mm C. 1 nm D. 10⁻⁴mm
280	Basic principle of an optical fibre is	A. Reflection B. Scattering C. Polarization D. Total internal reflection
281	Michelson's interferometer is an instrument used to measure the distance with	A. Precision B. High precision C. Extremely high precision D. None of these
282	The conversion of electrical signals into light signals taken place due to	A. Generator B. Transmitter C. Receiver D. None of these
283	Geometrical optics cannot give following characteristics for a microscope	A. Image position B. Image size C. Resolution of image D. Any of the above
284	Which of the following is conserved when light waves interfere	A. Intensity B. Energy C. Amplitude D. Momentum
285	The speed of light in a medium of refractive index 1.5 is	A. 3 x 10⁸ms⁻¹ B. 4.5 x 10⁸ms⁻¹ C. 2.0 x 10⁸ms⁻¹ D. None of these
286	Inspite of different dispersion, all the wavelengths arrive at the other end of the fibre at the same time. With a step-index fibre overall time difference may be about	A. 40 ns B. 30 ns C. 32 ns D. 33 ns
287	Can two lights of car can produce interference	A. Yes B. No C. Partly produce interference D. None of these
288	In Bragg's Equation 2d sin θ = nλ, where 'n' is	A. Order of spectrum B. Number of reflections C. Order of reflection D. None of these
289	For a monochromatic light passing from air to glass, which one of the following statement is true?	A. Frequency and wavelength decreases B. Frequency increases and wavelength decreases C. Frequency stays same, wavelength increases D. Frequency stays the same, wavelength decreases
290	Huygen's wave theory of light cannot explain	A. Diffraction B. Interference C. Polarization D. Photoelectric effect
291	Newton's rings are formed due to	A. Refraction of light B. Diffraction of light C. Interference of light D. None of these
292	The magnification of a simple microscope of focal length 5cm is	A. 3 B. 5 C. 6 D. 20
293	In Multimode step index fibre the refractive index from its centre to the boundary is	A. 1 B. 1.55 C. 1.52 D. 1.43
294	The diameter of an optical fibre with its protective case may be typically	A. 7.62 cm B. 67.62 mm C. 6.0 mm D. 90 mm

295	The speed at which light travels within the material depends upon	A. Refractive index of medium B. Wavelength C. Frequency D. Intensity
296	The distance between the top adjacent slits on diffraction grating is called	A. element B. grating element C. aperture D. slit
297	When the light waves of the same frequency and amplitude travelling in the same direction superimose each other , they give rise to	A. interference B. diffraction C. dispersion D. polarization
298	If the distance of a surface from light source is doubled,then the luminance will become	A. 1/4 times B. 1/2 times C. 2 times D. 4 times
299	Wavelength of red color as compared to that of violet color is	A. Smaller B. Longer C. Equal D. None of these
300	Light of wavelength 800 n m is incident on a pair of slits, forming fringes 4.0 mm apart on a screen. What is the fringe when light of 400 nm is used and the slit separation is halved?	A. 2.0 mm B. 1.0 mm C. 4.0 mm D. 0.5 mm
301	When observed by transmitted light, the central band of newton's ring system consists of:	A. Bright circular ring B. Dark circular ring C. May be bright or dark circular ring D. No interference bands
302	A double convex lens acts as a diverging lens when the object is	A. Between f and 2f B. At the foucs C. Inside the focus D. All of these
303	In Michelsion's interferometer the path difference is varied by moving	A. compensatory plate B. moveable mirror C. fixed mirror D. telescope
304	Wavelength of light, on the average, is given by	A. 10⁻¹⁴m B. 10⁻¹⁰m C. 10⁻⁶m D. 10⁻⁴m
305	The multi-mode step index optical fibre, the central core has	A. high refractive index and low density B. low refractive index and density C. low refractive index and low density D. high refractive index and high density
306	In an interference pattern of Ypung's double Slit (YDS) experiment:	A. Bright fringes are wider than dark fringes B. Dark fringes are wider than bright fringes C. Both dark and bright fringes are of equal width D. Central fringes are wider than the outer fringes
307	For interference to occur,the interfering beams of light must be	A. Of different frequencies B. Coherent C. White light D. Added
308	In compound microscope magnification of objective is 2 and magnification of eyepiece is 4 magnification of compound microscope is	A. 2 B. 6 C. 8 D. None
309	The relation for the diffraction pattern, when it is minimum	A. d/2 sin θ = λ B. sin θ = λ/2 C. d sin θ = λ D. None of these
310	In the phenomenon of interference, the bright and dark fringes are of	A. Different width B. Equal width C. Dark fringes are thicker than bright D. Nona of these
311	A spherical wavefront is that which has	A. A source B. A point source C. An extended source

		C. An extended source D. None of these
312	A typical diffraction grating has lines per centimeter	A. 10 to 100 B. 100 to 1000 C. 1000 to 5000 D. 400 to 5000
313	Whenever high magnification is desired	A. A telescope is used B. A compound microscope is used C. A microscope is used D. None of these
314	The regular array of atoms in a crystal forms a natural diffraction grating of spacing typically	A. ≈ 10⁻¹⁰ m B. ≈ 10⁻¹² m C. ≈ 10⁻⁸ m D. ≈ 10⁻⁹ m
315	The distance between the two mirrors can be varied by	A. Moving glass plate B. Movable mirror C. Compensator plate D. None of these
316	Layer of oil on water in sunlight appears coloured due to	A. diffraction of light B. dispersion C. interference of light D. polarization of light
317	Speed of light in vacuum depends upon:	A. Frequency B. Wavelength C. Amplitude D. None of above
318	In Michelson's interferometer, if a dark fringe is seen in the beginning, the next dark fringe will appear by moving the moveable mirror through a distance	A. λ/2 B. λ/4 C. λ D. 2λ
319	At the point of contact of the lens and the glass plate, the Newton's ring is	A. dark B. bright C. either of them D. neither of them
320	The refractive index of a medium is defined as a ratio	
321	One cannot see through fog becuase	A. Fog absorbs light B. The refractive index of fog is infinity C. Light suffers total reflection at the droplet in a fog D. Light is scattered by the droplets in fog
322	The eye piece of a compound microscope acts as a	A. Diverging lens B. Converging lens C. Diverging mirror D. Converging mirror
323	The time taken by light for its passage from M to m and back is	A. 2c/d B. d/2c C. 2d/c D. d²/2c
324	Proportion of light in an optical fibre requires that the light-should be within the fibre	A. Very little confined B. Largely confined C. Totally confined D. None of these
325	Which of the following is an optical fibre in which the density of central core decreases towards its periphery?	A. multi-mode step index fibre B. multi-mode graded index fibre C. both of them D. none of them
	Which of the following types of optical fibre has a core which rages in diameter from 50 to	A. single mode step fibre

326	Which of the following types of optical fibre has a core which rages in diameter from 50 to 1000$\mu m?$	B. multi-mode step index fibre C. multi-mode graded index fibre D. none of them
327	Which one of the following phenomenon cannot be explained on the bases of Huygen's theory?	A. Refraction B. Reflection C. Diffraction D. Formation of spectrum
328	For single slit diffraction the first minimum occurs when	A. dsinθ = λ B. dsinθ = λ/2 C. dsinθ = 2λ D. dsinθ = mλ
329	Conditions for interference are that the two sources should be coherent and	A. At a far off distance B. Close together C. Coinciding D. None of these
330	In multi-mode step index optical fibre, that layer is called cladding which has	A. higher refractive index B. lower refractive index C. both of them D. none of them
331	Light has:	A. Wave nature B. Particle nature C. Dual nature D. None of them
332	A planet is observed by an astronomical refracting telescope having an objective of focal length 16 m and an eyepiece of focal length 2 cm.	A. The distance between the objective and the eyepiece is 8m B. The angular magnification of the planet is 200 C. The image of the planet is inverted D. The objective is smaller than the eyepiece
333	If the thickness of the film and angle of incidence are such that two reflected waves cancel each other the film will look	A. Dark B. Bright C. May be partly bright D. None of these
334	Cladding means a layer of _____ refractive index over the central core of _____ refractive index	A. Lower, lower B. Higher, lower C. Lower, higher D. None of these
335	The typical wavelength of the signal which we sent in the optical fibre is	A. 1000 nm B. 100 m C. 1.3 mn D. 1.3μm
336	Huygen principle is used to determine:	A. Speed of light B. Location of wavefront C. About polarized and unpolarized light D. None of them
337	Two sources are said to be coherent if they have:	A. Same amplitude B. Same wavelength C. Definite phase relation with each other D. None of them
338	A thin film is a transparent medium whose thickness is comparable with the wavelength of	A. light B. sound C. any one of them D. none of them
		A. One convex lens B. Two convex lenses

339	A compound microscope is consists of	B. Two convex lenses C. Two concave lenses D. None of these
340	The splitting of white light into several colors on passing through a glass prism is due to	A. Refraction B. Reflection C. Interference D. Diffraction
341	Michelson's interferometer is an instrument that is capable of measuring distance with	A. low precision B. high precision C. extremely high precision D. extremely low precision
342	Which of the following is not an advantages of using optical fibres over copper cables?	A. signal attenuation B. number of signals carried per wire C. cost of installation D. none of the above
343	Which of the following converts electrical signals into light signals?	A. optical fibre B. receiver C. reflector D. transmitter
344	The relation between displacement of the mirror 'L' and wavelength λ of the light used	A. L = 2mλ B. L = λ/2m C. L = mλ/2 D. None of these
345	Which phenomenon of light conclusively prove that light waves are transverse waves	A. Reflection B. Diffraction C. Interference D. Polarization
346	How the fringe spacing varies as the separation of the slits increases	A. Increases B. Decreases C. Increases very little D. None of these
347	For the normal setting of a telescope	A. Only the object is at infinity B. Only the final image is at infinity C. Both the object and the final image is at infinity D. Neither the object nor the final image has to be at infinity
348	A typical diffraction grating has lines per centimeter is about	A. 500 to 6000 B. 400 to 5000 C. 450 to 5500 D. 425 to 5670
349	When light travels from one medium to another which are separated by a sharp boundary the characteristic which does not change is	A. Velocity B. Wavelength C. Frequency D. Amplitude
350	In case of point source of light, shape of wavefront is:	A. Spherical B. Cylindrical C. Plane D. None of these
351	Glare produces when light reflects from water snow and rough road surfaces when their angle of incidence is	A. Small B. Large C. Very large D. None of these
352	For constructive interference the path difference is	A. mλ B. (m-1)λ C. m²λ D. 1/2mλ
353	Polaroid glass is used in sun glasses because	A. It is fashionable B. It has good color C. It is cheaper D. It reduces the light intensity to half on account of polarization
354	Experimental demonstration of wave nature of light was given in 1801 by:	A. Newton B. Maxwell C. Thomas young D. Compton
355	A simple telescope is consists of	A. One convex lens B. Two convex lenses C. Three convex lenses D. None of these
356	Which does not show polarization	A. Longitudinal wave in gas B. Transverse wave in gas C. Both a and b

		C. Both a and b D. None of these
357	Which of the following atoms cannot be detected by X-ray crystallography?	A. carbon B. nitrogen C. hydrogen D. neon
358	All of the following statements are correct except	A. The total focal length of an astronomical telescope is the sum of the focal lengths of its two lenses B. The image formed by the astronomical telescope is always erect because the effect of the combination of the two lenses is divergent C. The magnification of an astronomical telescope can be increased by decreasing the focal length of the eyepiece.
359	A pulse of light in the optical fibres represents the number	A. 0 B. 1 C. 2 D. 3
360	How is the interference pattern in Young's double slit experiment affected if the sodium light is replaced by red light of the same intensity	A. The fringes will vanish B. The fringes will become brighter C. The fringes will increase D. The fringes will decrease
361	In an optical fibre the speed of light is	A. Directly proportional to its refractive B. Inversely proportional to its refractive inedex C. Independent of refractive index D. Directly proportional to square of refractive index
362	Sunlight is also partially polarized because of Earth's atmosphere due to scattering by	A. Water vapours B. Air particles C. Dust particles D. All of these
363	In Micheal sons interfrometes apparatus the numbers of mirrors and glas plates are used respectively ara	A. 2,2 B. 2,3 C. 3,2 D. 3,3
364	An object is placed at a distance 18 cm from a convex lens. The image is formed at a distance of 9 cm the focal length of the lens is	A. 6 cm B. 9 cm C. 10 cm D. 18 cm
365	We can achieve polarization by	A. Absorption B. Reflection C. Scttering D. All of above
366	Experimental demonstration of wave nature of light was given in 1801 by	A. New ton B. Maxwell C. Thomas young D. Huygen
367	We can observe only when the grating spacing is	A. of the order of the wavelength used B. greater than the wavelength used C. less than the wavelength used D. any one of them
368	The re conversion of light signals into electrical signals takes place due to	A. Transmitter B. Receiver C. Generator D. None of these
369	Bending of light around sharp edges is known as	A. Interference B. Diffraction C. Reflection D. Dispersion
370	What will be the colour of the sky as seen from the earth if there were no atmosphere ?	A. Black B. Blue C. Orange D. Red
371	Single mode step index fibre has feature/s like	A. Very thin core B. 5 (μm) miameter C. Relatively large cladding D. All of these
		A. Colour glass B. Infra red glass

372	Commercial polarizing material is	B. Infra red glass C. Polaroid glass D. None of these
373	Fraunhofer's lines commonly visible in the sun's spectrum are examples of	A. Line emission spectrum B. Line absorption spectrum C. Band emission spectrum D. Band absorption spectrum
374	If λ = 589 nm d=1.0 mm L=225 cm then fringe spacing ΔY is given by	A. 1.76 mm B. 1.80 mm C. 1.37 mm D. 1.33 mm
375	The ability of an instrument of reveal the minor details of an object under examination is called	A. Resolution B. Magnification C. Resolving power D. Dispersion
376	A prism splits a beam of white light into seven component colors. This is so because	A. Phase of different colors is different B. Amplitude of different colors is different C. Energy of different colors is different D. Velocity of different colors is different
377	The blending of light when it passes from one medium to another is known as:	A. Refraction B. Interfarance C. Polarization D. Both (B) and (C)
378	The danger signals are red while the eye is more sensitive to yellow because	A. Scattering in yellow colour is less than that of red B. Red light is longer in wavelength than yellow light C. Scattering in red is less than that of in yellow D. Red colour has greater frequency than yellow light
379	In YDS experiment using white light	A. Colored fringes will be obtained B. No fringes will be observed C. Alternative bright and dark fringes will be seen D. None of these
380	The light signals are sent from the source	A. A ordinary source B. A monochromatic light source C. A moulticolour source D. None of these
381	If a source of light is moving away from stationary observer then frequency of light wave appears to change because of	A. Doppler's effect B. Interference C. Diffraction D. None of the above
382	In the relations d sinθ = nλ, shows that the value of θ depends upon 'n' so the images of different colours are much separated in	A. Low orders B. Middle orders C. High order D. None of these
383	In which of the optical fibres, the propagation of light signal is through continuous refraction?	A. multi-mode step index fibre B. multi-mode graded index fibre C. both of them D. none of them
384	A material having high refractive index has	A. Low density B. High density C. Zero density D. None of these
385	In young's double slit experiment the separation between the slit is halved and distance between the slit and screen is doubled.The fringe width is	A. Unchanged B. Halved C. Doubled D. Quadrupled
386	In case of YDS experiment, the distance of the mth bright fringe on the screen from center is	A. Y = (m + 1)λL/d B. Y = mλ L/d

		C. Y = (m + 1/2)λL/d D. None of these
387	2 d sin θ = nλ can be used to determine the	A. Inter planar spacing B. Wavelength C. Incident angle D. All of these
388	Newton's rings are:	A. Rectangular B. Spherical C. Concentric circles D. None of these
389	Calculate the critical angle when core refractive index is 1.50 and cladding of refractive index 1.48	A. 70.3^o B. 80.9^o C. 80.6^o D. 89.6^o
390	When the object is closer to eye or near point, the image becomes	A. Sharp B. Clear visible C. Blurred D. None of these
391	In case of reflection of ray within a denser medium, angle of incidnet is _____ -angle of reflection	A. Greater then B. Smaller then C. Equal to D. None of these
392	In case of destructive interference of two waves, the amplitude of the resultant wave will be_____either of the waves:	A. Greater than B. Smaller than C. Equal to D. none of these
393	When the light is incident on polarizing angle which of the following is completely polarized?	A. Reflected light B. Refracted light C. Both reflected and refracted light D. Neither reflected nor refracted light
394	In compound microscope the focal length of eye piece is	A. Large B. Small C. Same as objective D. None of these
395	The ratio of size of the image to the size of the object is called	A. Resolving power B. Magnification C. Power D. None of these
396	Plane microwaves are incident on a long slit having a width of 5 cm.The wavelength of the microwaves if the first minima is formed at 30° is	A. 25 cm B. 5 cm C. 2.5 cm D. 5 mm
397	When an image is placed at the focal length of the eye piece, the final image formed at	A. 2 F B. 4 F C. 6 F D. Infinity
398	When 'θ' is small then	A. tan θ ≈ sin θ B. cos θ ≈ sin θ C. sin θ ≈ tan θ D. None of these
399	Frequency of red colour as compared to that of violet colour is:	A. Equal B. Smaller C. Greater D. None of these
400	A diffraction pattern is obtained using a beam of red light What will happen if the red light is replaced by blue light?	A. No change B. Diffraction bands become narrower and crowded together C. Bands become broader and farther apart D. Bands disappear
401	The fringe spacing varies directly with	A. Distance L B. Light of wavelength λ C. Phase coherence D. All of these
402	The different parts of spectrometer	A. Collimator B. Turn table C. Telescope D. All of these

403	Which is having minimum wavelength?	A. X-rays B. Ultra-violet rays C. Y-rays D. Cosmic rays
404	For a point source of light the wave front produced are	A. Circular B. Spherical C. Cylinrical D. None
405	A diffraction grating has 500 liens per mm. its slit spacing or grating element will	A. 500 mm B. 5 x 10⁻³mm C. 2 x 10⁻⁵mm D. 2 x 10⁻³mm
406	Least distance of distinct vision	A. Decrease with increasing age B. Increases with increasing age C. Does not vary with age D. May increase or decrease with age
407	Confining the light vibrations in one plane is called:	A. Reflection of light B. Interference of light C. Polarization of light D. Diffraction of light
408	The polarized can be achieved by using process like	A. Coherent sources B. Diffraction C. Selective absorption D. None of these
409	Let a ray of light enters from air into two media of different refractive indices. The speed of light will be _____ to refractive index	A. Directly proportional B. Inversely proportional C. Sometimes inversely D. Equal
410	Which of the following is the most common method to obtain polarized light?	A. selective absorption B. reflection from different surfaces C. refraction through crystals D. scattering by small particles
411	The light signal in an optical fibre requires that the light should	A. be partially confined within the fibre B. be totally confined within the fibre C. not be confined within the table D. none of them
412	In young's slit experiment on interference the ratio of the intensities of a bright band and a dark band is 6 : 1 the ratio of the amplitudes o the interfering waves is	A. 16 B. 5/3 C. 4 D. 1/4
413	The waves propagate in space by the motion of the	A. wavelengths B. frequencies C. wavefronts D. none of them
414	A compound microscope is consists of an eye piece of focal length	A. Short B. Very short C. Large D. Very large
415	A circular scale is attached and graduated in	A. One degree B. 2 degrees C. Half degree D. None of these
416	The resolving power of telescope depends on	A. Focal length of eye lens B. Focal length of objective lens C. Length of the telescope D. Diameter of he objective lens
417	In the thin film, the path difference between the two reflecting waves depends upon	A. thickness of film B. nature of film C. angle of incidence D. all of them
418	Which of the following cannot be polarized?	A. x-rays B. light rays C. sound waves D. ultraviolet rays
419	If 5000 lines per cm are ruled on different on a diffraction grating then the slit spacing will be	A. 5 x 10⁻³A° B. 2 x 10⁻⁴A°

419	If 5000 lines per cm are ruled on different on a diffraction grating then the slit spacing will be	C. 5 x 10⁻⁵A° D. 2 x 10⁴A°
420	The image of an object 5 mm length is only 1 cm high. The magnification of the lens is	A. 1 B. 0.2 C. 2 D. 0.1
421	Sunset makes sky appears reddish because of:	A. Diffraction of sun rays B. Refraction of light C. Scattering of light from dust particles D. Polarization of ligth
422	According to Huygen,every point on a wavefront may be regarded as a.....of secondary wavelets.	A. Base B. Source C. Producer D. Origin
423	The transmitter in optical fiber system contains a device called	A. LED B. Diode C. Transistor D. None of these
424	In the Young's double slit experiment the separation between the slits is halved and the distance between the slits and the screen is doubled the fringe width is	A. Halved B. Unchanged C. Doubled D. Quadrupled
425	Newton's rings are formed as a result of	A. diffraction of light B. dispersion of light C. interference of light D. polarization of light
426	If the focal length of the eye piece 25.0 mm find its magnification	A. 12.0 B. 14.0 C. - 11.0 D. - 13.0
427	The angle of incidence at which angle of refraction becomes 90^0 is called	A. Incident angle B. Angle of refraction C. Critical angle D. Phase angle
428	Point out angle/angle at which the sin θ and tan θ have the same value	A. 2° and 8° B. 4° and 6° C. 2° and 4° D. 8° and 10°
429	Ordinary light has components of vibrations in	A. one direction only B. two directions C. four directions D. all directions
430	Huygen's wave front which sends out secondary wavelets with a speed equal to	A. Speed of propagation of the wave B. Speed of propagation greater than wave C. Speed of propagation less than the wave D. None of these
431	X-rays interact with	A. solid crystal B. atoms in the crystal C. nuclei of atoms in the crystal D. electrons of atoms in the crystal
432	The property of light which does not change with the nature of the medium is:	A. Frequency B. Amplitude C. Wavelength D. None of these
433	The speed of light in vacuum or in air is	A. 3 x 10¹⁰ m ! s B. 3 x 10⁹ m ! s C. 3 x 10⁸ m ! s D. 3 x 10⁷ m ! s

434	Albert A. Michelson devised interferometer is	A. 1820 B. 1845 C. 1860 D. 1881
435	In Newton s rings the central spot appears dark due to	A. Phase change B. Destructive interference C. Small eye piece of optical device D. Both a and b
436	If the angle of refraction is 90°, for which the angle of incidence is called	A. Incident angle B. Critical angle C. Angle of emergence D. None of these
437	A convex ens acts as diverging lens when the object is placed	A. Between F and 2F B. At 2F C. Within the focal length D. Beyond 2F
438	The normal human eye can focus a sharp image of an object located anywhere form infinity to a certain point called	A. Far point B. Near point C. distant point D. None of these
439	To observe the phenomenon of interference of light, the light should be	A. Monochromatic B. Phase coherence C. Coherent sources D. All of these
440	The advantage/advantages of fiber optics than radio wave carriers	A. Much wider band width B. Capability C. Immunity D. All of these
441	In Michelsons interference the movable mirror is moved and a shift of two fringes is observed then the distance moved by the mirror is	A. λ /2 B. λ C. 2λ D. None
442	In an astronomical telescope is the objective has the focal length f_o is	A. Small B. Very small C. Long D. None of these
443	Which of the following is not an application of polarization	A. To reduce glare of light B. To check concentration sugar in solution C. Curtain less windows D. All of these
444	The distance between the concentric wavefronts is	A. half wavelength B. one wavelength C. one and a half wavelength D. none of them
445	The speed of the secondary wavelets as mentioned in Huygen's principle is _____ the speed of propagation of the wave itself	A. Equal to B. Greater than C. Smaller than D. None of these
446	The spacing between lines of diffraction grating is	A. Opaque B. Transparent C. Semi-transparent D. None of these
447	Which one of the following waves cannot be polarized	A. Radio waves B. X-rays C. Transverse waves in a string D. Longitudinal waves in a gas
448	The property of bending of light around obstacies is called	A. interference B. reflection C. diffraction D. polarization
449	The contrast in the fringes in any interference pattern depends on	A. Frings width B. Intensity ratio of the sources C. Distance between the slits D. Wavelength

450	In YDS experiment, the condition for constructive interference of two coherent waves is that the path difference should be	A. Integral multiple ofλ /2 B. Integral multiple ofλ C. Even integral multiple ofλ /2 D. Both A and C
451	Alexander graham bell transmits a voice message via a	A. Beam of light B. Telescope C. Compound microscope D. Mirror
452	If we know the refractive index of glass, speed v of light in the glass can be found by	A. v = c n B. v = c/n C. v = n/c D. None of these
453	In Michelson interferometer if the moveable mirror is moved through a distance of 8λ then the number of fringes shifted are	A. 4 B. 8 C. 16 D. 32
454	In digital modulation, the LED or laser flashed on and off at a	A. Fast rate B. Very fast rate C. Extremely fast rate D. None of these
455	A spectrometer is used to find	A. Wavelength of light B. Refractive index of the prism C. Angle of minimum deviation of prism D. All of these
456	Single mode step index fibre is used to send	A. white light B. green light C. a strong monochromatic light D. yellow light
457	In Huygen's wave theory the locus of all points in the same state of vibration is called	A. A half-period zone B. Vibrator C. Wave front D. A ray
458	Phase change of 180° is equivalent to a path difference of	A. 2λ B. λ C. λ/2 D. λ/4
459	If 'd' 'm' and fringe spacing ΔY are known, the interference effect due to light of λ	A. Cannot be determine B. Can be determined in same cases C. Can be determined D. None of these
460	The phenomenon of blending of around edges of an obstacle is called:	A. Interfarance B. Defraction

460	The phenomenon of blending of around edges of an obstacle is called:	C. Polorisation D. None of above
461	For a system to transmit thousands of telephones conversations, several television programs and numerous data signals, it need the following number so threads of optical fibre	A. 100 to 200 B. 1000 to 10000 C. 100 to 1000 D. 1 or 2
462	There will be no change in _____ of light entering glass	A. Velocity B. Frequency C. Direction D. Wavelength
463	A ray of light reflected from a dense medium under goes a phase change of:	A. 30° B. 60° C. 90° D. 180°
464	An oil surface floating on water surface exhibits beautiful colour patter, which is due to	A. Reflection of light B. Diffraction of light C. Interference of light D. None of these
465	A simple astronomical telescope consists of	A. Two convex lenses B. Three convex and one cocave C. Two concave lens D. None of these
466	When light passes through a tourmaline crystal, it becomes	A. plane polarized B. directly polarized C. un-polarized D. spherically polarized
467	Michelsion devised the Michelson's interferometer in	A. 1981 B. 1891 C. 1851 D. 1881
468	What is the main cause of the shinning of diamond?	A. Reflection B. Refraction C. Total internal reflection D. Dispersion of light
469	Monochromatic light means waves of:	A. Same frequency B. Same colour C. Same wavelength D. All of them
470	Spherical aberration can be reduced by using	A. Convex lens B. All the portions of the lens C. Central portion of the lens D. Upper portion of the lens
471	Which of the following light move faster in water	A. Red B. Violet C. Green D. Blue
472	At the point of contact of the lens and the glass plate, the incident and reflected rays interfere	A. constructively B. destructively C. either of them D. none of them
473	The magnifying power of an instrument is expressed in	A. Radians B. Degrees C. No units D. None of these
474	Spectrometer using diffraction grating can measure	A. Wavelength of light B. Frequency of light C. Intensity of light D. None of these
475	Spectrometer can measure quite accurately prism	A. Deviation of light by a glass prism B. Angle of prism C. Refractive index of the material of prism D. None of these
476	The distance between different interference fringes are:	A. Variable B. Same

476	The distance between different interference fringes are:	C. Different D. None of these
477	The apparent size of an object depends on the angle subtended but it at the eye. As the angle increases the size of the object	A. Smaller B. Larger C. Very large D. None of these
478	A driver in a lake wants to signal his distress to a person sitting on the edge of the lake flashing his water proof torch He should direct the beam	A. Vertically up wards B. Horizontally C. At angle to the vertical which is slightly less than the critical angle D. At an angle to the vertical which is slightly more than critical angle
479	A convex lens has focal length F.An object is placed at P then	A. Image is formed at + ∞ and is real B. Image is formed at + ∞ and is virtual C. Image is formed at + ∞ and is real D. Image is formed at + and is virtual
480	In a compound microscope the intermediate image is	A. Virtual erect and magnified B. Real,erect and magnified C. Virtual,inverted and magnified D. Virtual,erect and reduced
481	If a light of λ = 588 nm falls on half silvered glass plate in Michelson s interferometer if movable mirror is moved through 0.233 mm the number of fringes will be observed to shift	A. 795 B. 792 C. 786 D. None
482	The wavefront formed at very large distance from the source is:	A. Cylindrical B. Spherical C. Elliptical D. Plane
483	The light source in the transmitter can be	A. semiconductor laser B. LED C. both of them D. either of them
484	The light from the sun reaches to earth with wavefronts	A. Spherical B. Cylindrical C. Plane D. None of these
485	An object is placed at a distance of 200 cm from a convex lens of focal length 10 cm the linear magnification is	A. 1/3 B. 2/3 C. 3/4 D. None
486	When refractive index of core is 1.50 and of 1.48 of cadding then find the angle of entry for an optical fibre is	A. 11.2^o B. 14.2^o C. 15.4^o D. 13.6^o
487	The distance between the objective and eye-piece of a telescope in normal adjustment is	A. f/₀-f_e B. f₀+f_e C. 2f_e-f_e D. None of these
488	The velocity of light in vacuum can be changed by changing:	A. Frequency B. Amplitude C. Wavelength D. None of these
489	Who devise the experimental arrangement in 1801 for studying interference effects of light	A. Huygen B. Young C. Newton D. None of these
490	The tip of a needle does not give a sharp image it is due to	A. Polarization B. Interference C. Diffraction D. None of these
491	Which one the following gives three regions of electromagnetic sepctrum in order of increasing wavelength?	A. Gamma rays, micro waves, visible light B. Radio waves, ultraviolet waves, X-rays C. Ultraviolet rays, Infrared rays, micro waves D. Visible light, gamma rays, radio waves

		waves
492	The sky appears blue because	A. Red light is absorbed B. Blue light is scattered the most C. Blue light is absorbed D. It is its natural color
493	Which of the following is an optically active material	A. Solution of cane sugar B. Liquid nitrogen C. Mercury D. Polaroid
494	Why laser rays are used to measure long distance?	A. Laser rays propagate in a straight B. Laser rays are not absorbed C. Laser rays are most coherent waves D. Laser rays are high velocity waves
495	In case of a point source, the shape of the wavefront is	A. straight B. elliptical C. oval D. spherical
496	A wider objective and the use of blue light of short wavelength produces	A. Interference B. Diffraction C. Less diffraction D. Polarization
497	The terms phase difference and path difference are:	A. Same B. Different C. Equal D. None of these
498	Wavelength of light of frequency 100 Hz is	A. 2 x 10⁶m B. 3 x 10⁶m C. 4 x 10⁶m D. 5 x 10⁶m
499	At points where the crest (or trough) of one wave coincides with the crest (or trough) of the other wave, the wave produces	A. destructive interference B. constructive interference C. diffraction D. dispersion
500	At certain speed, the time taken by light in moving from M to m and back to M is equal to the time taken by	A. Face 4 to 1 B. Fact 6 to 1 C. Face 3 to 1 D. Face 2 to 1
501	On a diffraction grating a large number of close parallel equidistant slits are ruled on it	A. By hand B. electronically C. mechanically D. none of them
502	If yellow light emitted by sodium lamp in Young's double slit experiment is replaced by blue light of the same intensity:	A. Fringe width will decrease B. Fringe width will increase C. Fringe width will remain unchanged D. Fringe will become less intense
503	According to Young s experiment the distance between two adjacent bright fringes of blue light is _____ than for oranges light	A. Less B. Maximum C. Equal D. May be less may be greater depending upon slit spacing
504	A limited region taken on a wavefront which is far away form the source is	A. plane wavefront B. circular wavefront C. spherical wavefront D. elliptical wavefront
505	In multimode graded index fibre core and cladding has boundary	A. Noticeable B. No noticeable C. No boundary D. None of these
506	In order to observe interference , the interfering beams must be	A. monochromatic B. coherent C. either of them D. both of them
507	Ultra-violet rays differ from X-rays in that ultra - violet rays	A. Cannot be diffracted B. Cannot be polarized C. Do not affect a photographic plate D. Have a lower frequency
		A. The objective lens should be of large focal length and eyepiece should be of short focal length B. The objective and eyepiece both should be of large focal lengths

508	To increase the magnification of a telescope	C. Both the objective and eyepiece should be of smaller lengths D. The objective should be small focal length and eyepiece should be of large focal length
509	The wave nature of light was proposed by	A. Einstein B. Maxwell C. Huygen D. Newton
510	Light is a type of energy which produces sensation of	A. Sound B. Feeling C. Vision D. None of these
511	A lens of 2 cm focal length is to be used as a magnifying glass. Its magnification is	A. 13.5 B. 12.5 C. 0.5 D. 2.5
512	Inverse square law for luminance is valid for	A. Search light B. Isotropic point source C. Cylindrical source D. All types of sources
513	Spectrometer can be used to	A. Measure wave length of light B. Measure refractive index of the materials C. Study spectra of light D. All
514	For the sustained interference of light the necessary condition is that the two sources should	A. Have constant phase difference B. Be narrow C. Be close to each other D. Of same amplitude
515	If N is the number of rulings on the grating, then the resolving power in the mth order diffraction equals to	A. R = N × m B. R = N/m C. R = m/N D. R = N × m²
516	In a simple microscope if the final image is located at infinity then its magnifying power is	A. 25/f B. 25 C. f/25 D. [1 + (25/f)]
517	The wavelength of light is 6000°A, the number of waves continued in 0.01 m distance will be	A. 1.6 x 10⁴ B. 3 x 10³ C. 2 x 10⁶ D. 4 x 10⁸
518	In young s interference experiment one slit is covered with a cellophane paper which absorbs half the intensity then	A. No fringes are observed B. All fringes will be darks C. bright fringes will be less bright and dark will be less dark D. Bright fringes will be brighter and dark fringes will be darks
519	Phenomenon of interference and diffraction support the:	A. Quantum nature of light B. Tranverse nature of light C. Wave nature of light D. Complex nature of light
520	YDS experiment can be used to determine:	A. Grating element B. Fringe spacing C. Wave length of monochromatic light D. Frequency of wave light
521	The interference fringes are of	A. equal width B. variable width C. zero width D. non-uniform width
522	Mirage is a phenomenon due to	A. Reflection of light B. Refraction of light C. Total internal reflection of light D. Diffraction of light
523	When one mirror of Michelson interferometer is moved a distance of 0.5 mm. 2000 fringes are observed, the wavelength of light used is	A. 5000 nm B. 5000 A° C. 500 cm D. 2000 A°

524	Which phenomenon of light takes place in Young's double-slit experiment?	A. polarization of light B. diffraction of light C. interference of light D. reflection of light
525	A fibre optic communication system consists of	A. one major component B. two major components C. three major components D. four major components
526	A lens behaves as a converging lens in air and a diverging lens in water the refractive index of the material is	A. Equal to unity B. Equal to 1.33 C. Between unity and 1.33 D. Greater than 1.33
527	In Young's double slit experiment,the separation between the slits is made 3 fold the fringe width becomes	A. 1/3 times B. 1/9 times C. 3 times D. 9 times
528	Which light travels faster in optical fibres?	A. visible light B. ultraviolet C. infra-red D. any one of them
529	Michelson,s interferometer can be used to measure	A. Wavelength of light B. Intensity of light C. Amplitude of wave D. None of these
530	Inverse square law for luminace is valid for	A. Search light B. Isotropic point source C. Cylindrical source D. All types of source
531	Multimode step index fibre is useful for	A. short distance B. long distance C. both a and b D. none of them
532	When $\theta = 0$ in relation $d \sin\theta = \lambda$, the path difference between the rays coming out from the slits of the grating will be zero. So the image in this directions is	A. Dark B. Bright C. Non image formed D. None of these
533	In order to get interference using two light rays:	A. The sources should be monochromatic and coherent B. The sources should have the same frequency C. Superposition should be linear D. All of these
534	A compound microscopes consists of objective of	A. Very short focal length B. Large focal length C. Very large focal length D. None of these
535	Soap bubble looks colored due to	A. Dispersion B. Reflection C. Interference D. Any one of these
536	Spectrum of sun consists of	A. Bright lines B. Dark lines C. Bright bands D. Dark bands
537	According to Young s experiment if frequency of light used is halved then fringe width becomes	A. 2/3 B. Double C. Remains constant D. Fringe
538	Maximum detail of object can be seen from a microscope wen light used is of	A. Shorter wavelength B. Longer wavelength C. White light D. Any light
539	How many types of the optical fibres are	A. One B. Two C. Three D. Four
540	Which Phenomenon proves that nature of light is transverse	A. Interference B. Diffraction C. Scattering D. None
		A. Telescope

541	An optical instrument used to see very far off objects is called	B. Camera lens C. Microscope D. Spectrometer
542	Polaroids are used in	A. Sun glasses B. The production and analysis of plane polarized light C. Stereoscopic motion picture D. All of these
543	For which color of light the refractive index of glass is larger	A. Red B. Green C. Blue D. Violet
544	Intensities of the two waves of light are I and 4I.The maximum intensity of the resultant wave after superposition is	A. 5I B. 9I C. 16I D. 25I
545	Due to dispersion effects, white light source is useful for	A. Long distance B. Short distance C. Very long distances D. None of these
546	Single mode step index fibre has	A. Thick core and large cladding B. Thick core and shorter cladding C. Thin core and shorter cladding D. Thin core and larger cladding
547	When the light from two lamps falls on a screen, no interference pattern can be obtained. Why is this?	A. the light from the lamps is white B. the lamps emit light of different amlitudes C. the light from the lamps is not coherent D. the lamps are not point sources
548	Analyzer is use to	A. Polarize the light B. Un-polarize the light C. Check whether the light is polarized or un polarized D. Rotate the plane of polarized light
549	The phenomenon of polarization proves that the light waves are	A. Transverse wave B. Longitudinal waves C. Stationary waves D. None of these
550	Which device converts the light signals which these amplified and decoded	A. Photo cell B. Photo diode C. Photo transistor D. None of these
551	The digital modulation is expressed in	A. Bytes B. Codes C. Bits D. None of these
552	Measurement of a standard metre in terms of the wavelength of red cadmium light is	A. 1,563,163.5 B. 1,553,363.5 C. 155,553.5 D. 1,553,163.5
553	In YDS experiment, data given is λ= 500 nm, L = 100 cm, Δy comes out to be	A. 0.5 cm B. 0.5 mm C. 0.5 nm D. 0.5 m
554	The least distance of he distinct vision is	A. 20 cm B. 22 cm C. 25 cm D. 30 cm
555	Light waves are:	A. Mechanical waves B. Electromagnetic waves C. All of above D. None of above
556	Which of the following gives three regions of the electromagnetic spectrum in order of increasing wavelength?	A. Gamma rays,microwaves,visible radiation B. Ultraviolet infra-red microwaves C. Radio waves ultraviolet X-rays D. Visible radiation gamma rays radio waves
557	According to WH Bragg and WL Bragg monochromatic beam of X-rays was reflected form a crystal plane is like a	A. Smooth and regular B. Mirror C. Thin film D. None of these

558	The superposition of the two waves of same frequency and amplitude travelling in the same direction gives rise to an effect called:	A. Diffraction B. Interference C. Polarization D. Dispersion
559	Light waves produce interference when	A. source are monochromatic B. source are phase coherent C. sources are close together D. all of them
560	Such a surface on which all the points have the same phase of vibration is known as	A. wavefront B. amplitude C. displacement D. all of them
561	A plane wavefront is that which has source	A. Nearest B. Distant C. Near D. None of these
562	Which of the following theories of light are explained by the Young's double slit experiment?	A. wave theory of light B. particle nature of light C. dual nature of light D. corpuscular nature of light
563	The light form Sun reaches earth in the form of	A. plane wavefront B. circular wavefront C. spherical wavefront D. elliptical wavefront
564	Optically active substance are those substance which	A. Produce polarization of polarized light B. Rotate the plane of polarization of polarized light C. Produce double refraction D. Both a and b
565	If f = 5 cm and d = 25 cm then the magnification will be	A. 2 B. 4 C. 5 D. 6
566	If a lens is cut into two piece perpendicular to the principal axis and only part is used the intensity of the image:	A. Remains same B. 1/2 times C. 2 times D. Infinite
567	On a rainy day if there is an oil drop on tar road colored rings are seen around this drop This is because of	A. Interference pattern produced due to thin oil film B. Diffraction pattern C. Polarization D. Total internal reflection of light
568	The total internal reflection takes place for glass-air boundary is then the angle is	A. Equal to 41.8^o B. Greater than 41.8^o C. Less than 41.8^o D. None of these
569	Multimode step index fibre has diameter as	A. 40 μm B. 50 μm C. 60 μm D. None of these
570	The least distance of distinct vision for a normal eye is	A. 15 cm B. 25 cm C. 35 cm D. 1 m
571	Turn table is the plateform over which we place	A. Diffraction grating B. Prism C. Glass slab D. a and b
572	We can divide the optical fibres on the basis of the mode by which they propagate light in	A. two types B. three types C. four types D. many types
573	A _____ lens is used in the apparatus to get Newton,s rings	A. Plano-concave B. Plano-convex C. Convexo-concave D. Double convex
574	A beam of light enters air from water.Which of the following characteristics of light will not change in water	A. Frequency B. Wavelength C. Velocity D. Amplitude

575	To find wavelength of light by his experiment. Newton utilized:	A. Principle of phase change B. Snell's Law C. Bragg's law D. Both (A) and (C)
576	Who confirm the wave theory of light ?	A. Newton B. Michelson C. Newton D. Thomos Young
577	Characteristics of optic fibre is/are	A. Much thineer B. Light weight C. Extremely wide bandwidth D. All of these
578	If the light travels in a straight line, the central region should appear	A. Bright B. Dark C. No effect D. None of these
579	Electromagnetic waves from a source were found to be significantly diffracted when passing through gaps of the order of 10 m. What type of waves are they likely to be?	A. gamma waves B. light waves C. microwaves D. radiowaves
580	The magnification is negative for	A. Real image B. Virtual image C. Sometimes for real sometimes for real D. Only for cancave lens
581	In YDS experiment, at the center of screen is formed a:	A. Dark fringe B. Bright fringe C. No fringe at all D. None of these
582	Refractive index of material depends upon	A. Nature of material B. Wave length C. Temperature D. All of these
583	Critical angle of light passing from glass to air is minimum for	A. Red B. Green C. Yellow D. Violet
584	The function of compensator plate in interferometer is to	A. Interfere properly B. To equalize the distance of M₁ and M₂ C. Reflecting light properly D. None of these
585	Which of the following spectrum have all the frequencies from high to low frequency range?	A. Band spectrum B. Continuous spectrum C. Line spectrum D. Discontinuous spectrum
586	The speed of light in vacuum is 3 x 10^8 ms^{-1}.Its speed in a medium of refractive index 1.5 will be	A. 6.5 x 10⁸ B. 2 x 10⁸ ms⁻¹ C. 4.5 x 10⁸ cm D. 5.5 x 10⁸
587	X-ray crystallography can be used to get what information about the structure of a compound?	A. the bond angles in a molecules B. the number of molecules per unit cell C. a picture of the electron density in a unit D. all of them
588	An oil film floating on water surface show colours due to	A. Interference B. Diffraction C. Scattering D. Reflection
589	The dichronic substances are used in the process getting plane polarized light	A. Selective absorption B. Refraction through crystals C. Reflection from different surfaces D. None of these
590	Fiber optics also used to transmit light	A. Around corners B. Into inaccessible place C. Formerly unobservable objects D. All of these
591	For interference to occur the two light waves should be:	A. Of two different frequencies B. Coming from opposite directions C. Of high intensity D. Monochromatic

		D. Monochromatic
592	In YDS experiment, if the distance between the slits and also the distance between slits and screen is doubled, the fringe width	A. Becomes doubled B. Becomes 4 times C. Is halved D. Remains the same
593	Sun has elliptical shape when it rises and sets due to	A. Refraction B. Reflection C. Scattering D. Dispersion
594	An optical fibre with its protective case may be typically 6.0 mm in diameter and yet it can replace bundle of copper of diameter	A. 6.79 cm B. 6.95 cm C. 7.52 cm D. 7.62 cm
595	The path difference involved in interference in thin films depends upon	A. Thickness and nature of thin films B. Angular of incidence of light C. Nature of media on both sides of thin film D. All of these
596	The components of a fibre optic communication system is/are	A. At transmitter B. An optical fibre C. Receiver D. All of these
597	The contrast in the fringes in an interference pattern depends upon	A. Fringe width B. Relative intensities of the two sources C. Distance between the slits D. Wavelength
598	Just before setting the sun may appear to be elliptical This happens due to	A. Diffraction B. Reflection C. Dispersion D. Refraction
599	The light waves and radio waves differ in	A. Speed B. Frequency C. Wavelength D. Both B and C
600	On a diffraction grating which thing acts as a slit	A. the lines which are ruled on it B. the spacing between the lines C. either of them D. none of them
601	The wavelength of X-rays is about	A. 10⁻¹⁴m B. 10⁻¹⁰m C. 10⁻⁶m D. 10⁻⁴m
602	To demonstrate the phenomenon of interference we require two sources that emit radiation	A. Of same frequency B. Different wavelength C. Of the same frequency and having definite phase relationship D. Of nearly the same frequency
603	Signal from a remote control to the device operated by it travels with the speed of:	A. Sound B. Light C. Ultrasonics D. Supersonics
604	The diffraction grating is used to measure	A. wavelength of light B. focal length of a lens C. refractive index of prism D. polarization of light
605	In Newton's rings the thickness of air film at the point of contact is	A. maximum B. minimum C. equal to wavelength D. zero
606	The position of a new wavefront after a certain interval of time can be found by constructing a surface that is	A. A tangent B. A tangent envelope C. Curved surface D. None of these
607	When interference of light takes place	A. Energy is created in the region of maximum intensity B. Energy is destroyed in region of maximum intensity C. Conservation of energy hold goods and energy is redistributed D. Conservation of energy does not hold good

608	Power loss taken place when a light signal travels along fibres by	A. Multiple reflection B. Light absorbed due to impurities in glass C. At joint some light is scattered by group of atoms D. All of these
609	Which of the following frequency ranges includes most of the electromagnetic waves emitted by the ultra - violet tubes used in a sun bed?	A. 5 x 10⁵ to 5 x 10⁸ Hz B. 5 x 10⁸ to 5 x 10¹¹ Hz C. 5 x 10¹¹ to 5 x 10¹⁴ Hz D. 5 x 10¹⁴ to 5 x 10¹⁷ Hz
610	As the object is brought from a far off point to he focus, the magnification goes on	A. Increasing B. Decreasing C. Do not change D. None of these
611	Resolving power of a telescope depends on:	A. The magnification of eyepiece B. The focal length of objective lens C. Diameter of objective lens D. Refractive index of objective lens
612	A completely transparent material will be invisible in vacuum when the refractive index n is	A. Unity B. More than unity C. Less than unity D. Equal to 1.33
613	The setting of Newton's rings is	A. A Plano convex lens and the plane glass plate B. A Plano convex lens and simple glass sheet C. A Plano convex lens (long focal length) and the plane of glass plate D. None of these
614	Light waves are	A. Transverse waves B. Longitudinal waves C. Compressional wave D. None of these
615	The idea of Michelsion's interferometer is based on the	A. reflection of light B. interference of light C. refraction of light D. all of them
616	The distance between the centres of two consecutive bright fringes (or dark fringes) is called	A. wavelength B. fringe width C. amplitude D. path difference
617	The light which has components in all directions is called	A. unpolarized light B. polarized light C. intense light D. none of them
618	If the incident light contains different wavelengths the images of each wavelength for a certain value is diffracted in the	A. Same directions B. Different direction C. Opposite direction D. None of these
619	Which mode can carry more than 14 TV channels or 14000 phone cells?	A. single mod step index B. multimode step index C. multimode graded index D. all of them
620	Conventionally, all the distances p, q, f, are measured from _____ of the lens	A. Focus B. Optical center C. Edges D. Centre of curvature
621	Wave length of red colour as compared to that of violet colour is:	A. Smaller B. Longer C. Equal D. None of these
622	How is the image formed by a convex lens affected if the upper half of the lens is covered with a paper	A. The upper half of the image is cut off B. The brightness of the image is reduce C. The brightness of the image is increased D. Lower half of the image is cut off
		A. The focal of the eye piece B. The least distance of the distinct

623	In a astronomical telescope the final image for normal vision is formed at	vision C. The focus of the objective lens D. Infinity
624	In Michelson's interferometer , the plates are placed in front of incident ray at an angle of:	A. 45° B. 60° C. 90° D. 120°
625	Magnification of a convex lens is	A. M = p/d B. M = p/q C. M = q/p D. None of these
626	Which one of the following can act approximately as a source of monochromatic light	A. Neon lamp B. Fluorescent tube C. Sodium lamp D. none of these
627	Wavelength of X-rays falling at a glancing angle of 30° on a crystal with atomic spacing 2 x 10^{-10}m for first order diffraction is	A. 4 x 10⁻¹⁰m B. 2 x 10⁻¹⁰m C. 0.2 x 10⁻¹⁰m D. 20 x 10⁻¹⁰m
628	Given that grating element = 0.2 x 10^{-3}cm in case of a diffraction grating. Then number of lines per centimeter will be	A. 500000 B. 5000 C. 50 D. 5
629	The wave nature of light was first proposed by	A. Huygen B. Thomas Young C. Newton D. Compton
630	A sun rise or sun set the sun looks reddish because	A. The sun is coldest at these times B. Of the effects of reflection and refraction C. The sun is hottest at these times D. Of the scattering of light
631	In electromagnetic waves electric and magnetic field ar	A. Parallel B. Antiparallel C. Perpendicular D. Sometimes parallel sometimes perpendicular
632	According to Huygen's principle, every point of a wavefront may be considered as a source of	A. primary wavelets B. secondary wavelets C. either of them D. both of them
633	When monochromatic light is incident, making certain angle, on a thin parallel film, the interference fringes formed are	A. straight B. circular C. square D. plane
634	The phase difference between two points on a wave front will be	A. 0° B. 4π C. 2π D. π/2
635	The reflected light is	A. Unpolarized B. Polarized C. Partially polarized D. None of these
636	The medium in which speed of light is the same in all directions is called	A. non-homogeneous medium B. homogeneous medium C. both of them D. empty medium
637	An optical fibre with its protective case may be typically	A. 6 m B. 6 mm C. 6 cm D. 6 nm
638	Monochromatic light directly means waves of	A. Same frequency B. Same color C. Same wavelength D. All of them
		A. 3<span style="color: rgb(34, 34,

639	The laser light used in an optical fiber system has a wavelength equal to	A. 0μ m B. 5μ m C. 1.3μ m D. 6μ m
640	In the thin film, the path difference of two reflected ray depends upon	A. Thickness of the film B. Nature of the film C. Angle of incidence D. All of these
641	Two monochromatic radiations X and Y are incident normally on a diffraction grating.The second order intensity maximum for X coincides with the third order intensity maximum for Y what is the ratio wavelength of X/wavelength of Y?	A. 1/2 B. 2/3 C. 3/2 D. 2/1
642	At what distance should a book be placed from a 50 Cd bulb so that the luminance on the book becomes 2 lm m^{-2}	A. 50 m B. 10 m C. 5 m D. 1 m
643	If tube length of astronomical telescope is 105 cm and magnifying power is 20 for normal setting calculate the focal length of objective	A. 100 cm B. 10 cm C. 20 cm D. 25 cm
644	Fringe spacing ΔY is the distance between two adjacent bring fringes on the screen is	A. ΔY = Lλ/d B. ΔY = Ld/λ C. ΔY = dλ/L D. ΔY = Lλ/d m
645	The wave length of x-rays is of the order of	A. 10⁻¹⁷ m B. 10⁻⁴ cm C. 10⁻⁹ m D. 10⁻¹⁰ m
646	An optical fiber of _____ cm in diameter id equivalent to 7.62 cm diameter bundle of _____ wires to carry the same amount of signals	A. 0.6, aluminum B. 6.0, copper C. 0.6, copper D. 6.0, aluminum
647	To get higher magnification we must use	A. Simple microscope B. A convex lens C. A compound microscope D. All of these
648	Consider telecommunication through optical fibers.Which of the following statements is not true?	A. Optical fibers may have homogeneous core with a suitable cladding B. Optical fibers can be of graded refractive index C. Optical fibers are subject to electromagnetic interference from outside D. Optical fibers have extremely low transmission loss
649	The colour of light is determined by is	A. Wavelength B. Frequency C. Velocity D. Amplitude
650	For glass-air boundary the critical angle θ_c is	A. 30° B. 41.8^o C. 42.0^o D. 44.0^o
651	In an interference fringes pattern the fringes are	A. Equally spaced B. Wider near the centre and narrower away from it C. Narrower near the centre and wider

		away from it D. None of these
652	A ray of light passing from a rarer to a denser medium	A. Bends towards normal B. Bends away from normal C. Suffers no change in direction D. None of these
653	In photo phone modulated beam of reflected sun light focused on a detector several hundred meters away with the divice	A. Germanium B. Selinium C. Silicon D. None of these
654	According to the relation for constructive destructive interference, the point of contact has zero thickness of air so it should have	A. No interference B. Conductive interference C. Destructive interference D. None of these
655	The medium in which speed of light is the same in all directions is called:	A. Homogeneous B. Heterogeneous C. Non-homogeneous D. Free space
656	To get three images of a single object,one should have two plane mirrors at an angle of	A. 90° B. 120° C. 30° D. 160°
657	The points on a Huygen's wave front which sends out secondary wavelets are also	A. Source B. Source of secondary wavelets C. Coherent sources of light D. None of these
658	The speed of light in other material is always	A. Greater than c B. Less than c C. Equal to c D. None of these
659	What is the time taken by light to travel 4 mm in a material of refractive index 3	A. 4 x 10⁻¹¹ s B. 2 x 10⁻¹¹ s C. 16 x 10⁻¹¹ s D. 8 x 10⁻¹¹ s
660	The ratio of fringes with for bright and dark fringes is	A. 1 : 2 B. 2 : 1 C. 1 : 4 D. 1 : 1
661	An object is placed between the focus and the optical center of the convex lens. The image formed is	A. Real, erect and magnified B. Virtual, inverted and magnified C. Virtual, erect and diminished D. Virtual, erect and magnified
662	One angshom is equal to?	A. 10⁻⁸cm B. 10⁻⁶m C. 10⁻¹⁰nm D. 10⁻⁸nm
663	We can use Fibre optics system for	A. Image transmitting B. Word processing C. Image processing and recelving D. All
664	Fraunhofer spectrum is a	A. Line absorption spectrum B. Band absorption spectrum C. Line emission spectrum D. Band emission spectrum
665	The experimental evidence in support of wave theory in Huygen's time was	A. not present B. not convincing C. convincing D. none of them
666	The study of atomic structures of crystals by X-rays was started in	A. 1890 B. 1905 C. 1914 D. 1944
667	The power loss can also take place due to	A. Information received can be inaccurate due to dispersion B. Light signal may not be perfectly monochromatic C. Signal accuracy may be affected by deflective source D. All of these

668	A new type of optical fibre in which central core has high refractive index and its density gradually decreases towards its periphery is called	A. Step index fibre B. Multimode step index fibre C. Multimode graded index D. None of these
669	The wavelength of refractive wave in a denser medium is	A. Same as that of the incident wave B. Become smaller than the incident C. Becomes greater than the incident wave D. None of these
670	The wave nature of light was proposed by:	A. Newton B. Thomas Young C. Huygen D. None of these
671	The blue color of sky is due to:	A. Dispersion B. Diffraction C. Polarization D. Scattering
672	For total internal reflection to take place, the angle of incidence must be _____ than critical angle and the light should travel from _____ to _____ medium	A. Greater, rarer, denser B. Smaller, rarer, denser C. Smaller, denser, rarer D. Greater, denser, rarer
673	The refracting edge of the prism must be parallel to the axis of rotation of the telescope, so that the turn table is leveled using	A. Screws of the spectrometer B. Leveling screws C. Turn table screw D. None of these
674	According to Huygen's principle:	A. Light travel in straight line B. Light is a transvers wave C. Light has dual nature D. All point on the primary wavefront are the sources of secondary wavelets
675	The length of the standard metre measured by Michelsion's interferometer comes out to be	A. 1,553, 163.5 wavelength B. 1553.5 wavelength C. 155316.5 wavelength D. none of them
676	When two lights waves travelling in the same direction are in phase at any point, they producing	A. constructive interference B. destructive interference C. dispersion D. polarization
677	One angstrom equal:	A. 10⁻⁸m B. 10⁻⁹m C. 10⁻¹⁰m D. 10⁻¹¹m
678	In YDS experiment, condition for constructive interference is that path difference is equal to	A. nλ B. mλ C. (n + 1/2)λ D. (m + 1/2)λ
679	Which effect provides direct experimental evidence that light is a transverse rather than a longitudinal wave motion?	A. Light can be diffracted B. Two coherent light waves can be made to interfere. C. The intensity of light from a point source falls off inversely as the square of the distance from the source D. Light can be polarized
680	To wavelength of light by his experiment , Newton utilized:	A. Wavelength of light B. Intensity of light C. amplitude wave D. None of above

681	In Michelsion's interferometer, if 'm' number of fringes are passed in front of a reference point when the moveable mirror is moved a distance L, then	A. L = mλ B. L = 2mλ C. L = mλ/2 D. L = 3/2 mλ
682	In a spectrometer experiment monochromatic light is incident normally on a diffraction grating having 4.5 x 105 lines per meter.The second order line is seen at an angle of 30 to the normal what is the wavelength of the light?	A. 200 nm B. 430 nm C. 500 nm D. 556 nm
683	The light source in the transmitter can be either	A. Light emitting diode B. Semiconductor laser C. Light emitting in an invisible infra red D. All of these
684	When a plane polarized light is passed through certain crystals they	A. Are totally absorbed B. Are totally reflected C. Rotate the plane of polarization D. None of these
685	Certain light of wavelength 600 nm is used to view an object under the microscope. If the aperture of its objective is 1.22 cm, then the limiting angle of resolution will be	A. 6 x 10⁻⁵rad B. 7 x 10⁻⁵rad C. 8 x 10⁻⁵rad D. None of these
686	The property of light which does not change with the nature of the medium is	A. Frequency B. Amplitude C. Wavelength D. None of these
687	The ratio of diameters of two convex lenses is _____ the ratio of their focal lengths	A. Greater than B. Less than C. Equal to D. Square of
688	Single mode step index fibre has a very thin core of about diameter	A. 5.5 μm B. 9.5 μm C. 5.0 μm D. All of these
689	The variation if focal length of a lens when we pass from the central portion out words (to words the lens edges) is known as	A. Astigmatism B. Chromatic C. Spherical aberration D. Coma
690	The fringes produced in Young's double slit experiment will be wider if the distance between the two slits is	A. small B. large C. zero D. very large
691	The resolving power of a grating spectrometer is	
692	The cause of mirage observed in deserts in bright sunlight is due to:	A. Refraction of light B. Reflection of light C. Scattering of light D. Total internal reflection of light
693	For constructive interference path difference should be	A. Integral multiple of λ/2 B. Integral multiple of λ C. Odd integral multiple of λ D. Odd integral multiple of λ/2
694	A single converging lens placed close to the eye to see magnified image is called	A. A telescope B. Compound microscope C. Simple microscope D. None of these
695	If a point source of light is placed at the focus of a convex lens the rays coming out of the lens will constitute	A. Plane wave fronts B. Cylindrical wave fronts C. Spherical wave fronts

	lens will constitute	C. Spherical wave fronts D. All of above
696	If plane polarized light is incident on the second sheet of Polaroid, the light emitted is full light when their axes are	A. Parallel to each other B. Perpendicular to each other C. In between two positions D. None of these
697	The time taken by the mirror M to rotate through an angle 2π/8 is	A. 1/8 f B. 1/16 f C. 1/4 f D. 1/2 f
698	A thin film is a transparent medium whose thickness with the wavelength of light are	A. Not comparable B. Comparable C. Both D. None of these
699	If the path difference must be an integral multiple of wavelength	A. sin θ = md/λ B. d sin θ = mλ C. d sin θ = m/λ D. d sin θ = λ/m
700	The ultra-purity of optical fibre is	A. 90 % B. 99 % C. 99.9 % D. 99.99 %
701	If the slits in YDS experiment are made closer, fringe spacing will:	A. Increase B. Decrease C. Remain same D. None of above
702	In case of interference fringes:	A. Energy is destroyed at dark B. Energy is created at bright fringes C. Energy is transferred from dark to bright ringes D. None of these
703	The maximum size of an object as seen by the naked eye is obtained when it is placed of	A. Far point B. Near point C. Distant point None of these
704	The difference between 1st ring fringe and 1st dark fringe is measured as	A. λD/2d B. λD/d C. λD/4d D. 2λD/d
705	The unit of power of a lens is	A. Meter B. Watt C. Horsepower D. Dioptre
706	To get high resolving power for a telescope one should use	A. Objective of large aperture B. Objective of large focal length C. Eye piece of large focal length D. Eye piece of small focal length
707	Wavelength of X-rays falling at glace angle 30° on crystal with atomic spacing 2 x 10^{-9}m for the first order diffraction is	A. 4 x 10⁻⁶m B. 2 x 10⁻¹⁰m C. 0.2 x 10⁻¹⁰m D. 20 x 10⁻¹⁰m
708	A prism splits a beam of white light into its seven constituent colors.This is so because	A. Phase of different colors is diferent B. Amplitude of different colors is different C. Energy of different colors is different D. Velocity of different colors if different
709	If the red light is replaced by blue light illuminating the object in a microscope the resolving power of the microscope	A. Decreases B. Increases C. Gets halved D. Remains unchanged
710	In normal adjustment, the length of the telescope is	A. f_e + f_o B. f_o - f_e C. f_e - f_o D. None of these
711	Newton's rings are formed due to:	A. Manetisation B. Diffractin C. Interference D. Polarization
712	The fine rulings on a compact disc as a diffraction grating but each line is wide like	A. 0.01 μm B. 0.5 μm C. 0.05 μm

		D. 0.6 µm
713	In Young s experiment the distance between two adjacent fringes for blue light is than that for green light	A. Lesser B. Greater C. Equal D. Lesser if distance between source and screen is large
714	Which one light source can travel faster through optical fibre is	A. Infra red B. Visible C. Ultra violet D. All of these
715	The light produced by a laser is all the following except	A. Incoherent B. Monochromatic C. In the form of a narrow beam D. Electromagnetic
716	With tremendous information carrying capacity is called	A. Data entry B. Band width C. Word processing D. None of these
717	A telescope is rotatable about the same vertical axis as the turntable, with a scale which is	A. Main scale B. Vernier scale C. Half degree scale D. None of these
718	Polaristion is a phenomenon associated with a certain type of wave. Which condition must be fulfilled if the wave is to be polarised?	A. It must be a light wave B. It must be a longitudinal wave C. It must be a light wave D. It must be a transverse wave
719	When an image formed by the objective lies at the focus of both the objective and the eye-piece, the telescope is said to be in	A. Final adjustment B. Normal adjustment C. Initial adjustment D. None of these
720	With the help of interferometer, we can find the	A. Wavelength B. Frequency C. Phase D. None of these
721	A usual way to obtain a plane wave is to place point source of light at the focus of a	A. concave lens B. convex lens C. both of them D. either of them
722	The total magnification of a combination of two lenses having individual magnification M1 and M2 is	A. M₁+ M₂ B. M₁M₂ C. M₁- M₂ D. M₁/ M₂
723	A line normal to the wave front is called	A. A beam of light B. A ray of light C. Both D. None of these
724	The cause of mirage observed in desert is	A. Refraction B. Reflection C. Scattering D. Total internal reflection
725	In an interference pattern of Young,s Double Slit (YDS) experiment	A. Bright fringes are wider than dark fringes B. Dark fringes are wider than bright fringes C. Both dark and bright fringes are of equally spaced D. Central fringes are wider than the outer fringes
726	Rainbow is formed due to combination of	A. Dispersion and total internal reflection B. Reflection and refraction C. Dispersion and focusing D. Refection and scattering
727	In newton's rings see through the reflected light, centeral spo is:	A. Bright B. Dark C. Either of the Two D. None of these
728	Propagation of light in an optical fibre requires	A. Total internal reflection B. Continuous refraction C. Both D. None of these
		A. Frequency

729	Wave front is the locus or all points in vibration are in the same	B. Phase C. Wavelength D. All of these
730	The optical fibre is covered for protection with	A. rubber jacket B. plastic jacket C. steel jacket D. copper jacket
731	The magnifying power of a simple microscope can be increased if we use eye piece of	A. Higher focal length B. Smaller focal length C. Higher diameter D. Smaller diameter
732	Two sources of waves are called coherent if	A. Both have the same amplitude of vibrations B. Both produce waves of the same wavelength C. Both produce waves of the same wavelength having a constant phase difference D. Both produce waves having the same velocity
733	Newton's rings are:	A. Concetric circles B. spherical C. None of these D. Rectangular
734	The distance between two concentric wave fronts is	A. A wave length B. A half wavelength C. Zero D. None of these
735	How are X-rays diffracted by crystals in X-rays crystallography?	A. they bounce off the nucleus B. they are diffracted whey they pass from between them acting as a slit C. they are diffracted by the electron clouds in the atoms D. they hit the side the nucleus and change direction and thus are diffracted
736	One cannot see through fog because	A. Fog absorbs light B. The refractive index of fog is infinity C. Light suffers total reflection at the droplet in a fog D. Light is scattered by the droplets in fog
737	Multimode graded index fibre core has diameter of	A. 40-200 μm B. 50-1000 μm C. 50-150 μm D. 50-300 μm
738	In YDS experiment, data given isλ=500 nm, d=1 mm, L=100cm,Δy come out to be:	A. 0.5 cm B. 0.5 mm C. 0.5 nm D. 0.5 m
739	The focal length of the lens of human eye	A. Is fixed B. Varies from zero to infinity C. Can be increased only D. Can be decreased only
740	The light signal in an optical fibre is totally confined due to the	A. total internal reflection B. continuous refraction C. both of them D. either of them
741	Ordinary light has components of vibrations in all possible planes. Such light is	A. Unpolarized light B. Polarized light C. Both D. None of these
742	A convex lens is dipped in a liquid whose refractive index is equal to the material of the lens. Then its focal length will become	A. Infinite B. Zero C. Extremely small D. Extremely large
743	An object is placed at a distance of f/2 from a convex lens.The Image will be	A. At one of the foci,virtual and double its size B. At,3/f real and inverted C. At 2f,virtual and erect D. At f,real and inverted
744	The phenomenon is found to be prominent when size of the opening (aperture) is	A. Grater than wavelength of light B. Smaller than wavelength of light C. Equal of light used

		D. None of these
745	The plane of polarization is rotated many degrees when a thickness of such crystal is	A. One millimeter B. Less than one millimeter C. A few millimeter D. None of these
746	The idea of light as wave produced by	A. Huygen B. Newton C. Thomos Young D. Michelson
747	A _____ lens is used in the apparatus to get newton's ring:	A. Plano-concave B. Plano-convex C. Convexo concave D. Double covex
748	Optic fibers are related with	A. Communication B. Light C. Computer D. None of these
749	Wavelength of light, on the average, is given by:	A. 10⁻¹⁴m B. 10⁻¹⁰m C. 10⁻⁶m D. 10⁻⁴m
750	Snell's Law is defined as	A. n1 sin θ₂ = n₂ sin θ B. n sin θ₁ = n₁ sin θ₂ C. n₁ sin θ₁ = n₂ sin θ₂ D. None of these
751	Light traveling through vacuum enters water which characteristic of light does not charge	A. Velocity B. Frequency C. Wavelength D. Amplitude
752	All possible process/processes to get plane polarized light	A. Reflection from different surfaces B. Refraction through crystals C. Scattering by small particles D. All of these
753	If the bright fringe into be observed then we have relation	A. Y = mLd/λ B. Y = mλL/d C. Y = λd/mL D. Y = λL/md
754	The light signal in graded index fibre is totally confined due to	A. Total inernal reflection B. Continuous refraction C. Both a and b D. Dispersion
755	The phenomenon of diffraction can be exhibited by	A. Polarized waves only B. Un polarized waves only C. Longitudinal waves only D. All polarized or un polarized waves and longitudinal or transverse waves
756	In light waves, the components of electric and magnetic fields are	A. parallel to each other B. anti-parallel to each C. right angle to each other D. none of them
757	The magnifying power of a compound microscope can be increased if we use objective lens of	A. Large focal length B. Small focal length C. Same focal length D. None of these
758	According to Huygen's principle, the new position of the wavefront after a time can be found by constructing a surface that touches all the	A. primary wavelets B. secondary wavelets C. either of them D. none of them
759	In single slit diffraction the condition for second minimum is	A. Sinθ = λ B. d Sinθ =2λ C. d Sinθ =3λ D. d Cosθ =0
760	The fibre core has constant refractive index such as	A. 1.48 B. 1.5 C. 1.52 D. 1.56

761	Angle between ray of light and the corresponding wavefront is:	A. 0<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">° B. 60<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">° C. 90<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">° D. 120<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">°
762	Optical fibres function on the principle of	A. reflection B. refraction C. total internal reflection D. total internal refraction
763	In Newton,s rings apparatus, we also use	A. Spectroscope B. Telescope C. Microscope D. Turn table
764	Which part of the spectrum is most visible?	A. Red B. Violet C. Yellow D. Yellow-green
765	The function of colimator is	A. To converge the incoming rays B. To make the parallel rays from source C. In which the source of light is kept D. None of these
766	The diffraction is found to be prominent when the wavelength of light is	A. small as compared with the size of obstacle B. large as compared with the size of obstacle C. equal as compared with the size of obstacle D. Very small as compared with the size of the obstacle
767	Such type of fibre in which center core is of high refractive index and the layer over the central core is low refractive index is called	A. Step index fibre B. Multi mode step index fibres C. Multimode graded index fibre D. None of these
768	The velocity of light in vacuum can be changed by changing	A. Frequency B. Amplitude C. Wavelength D. None of these
769	The angle with the horizontal at which an underwater swimmer will see the setting sun is	A. 91° B. 32° C. 49° D. 69°