PPSC Physics Chapter 5 Waves and Wave Properties of Light

Sr	Questions	Answers Choice
1	X-rays are similar in nature to.	A. Alpha particles B. Beta particles C. Gama rays D. Photons
2	Beats occurs because of.	A. Reflection B. Refraction C. Interference D. Doppler's effect
3	The pitch of sound depends on its	A. Wavelength B. Frequency C. Wave amplitude D. Harmonic content
4	In the experiment of production od x rays electrons are accelerated towards the anode by	A. Thermionic emission B. Potential difference C. Breaking potential D. Cut of currrent
5	A radiation spectrum which is continuously distributed over a frequency region without being broken up into lines or bands is known as.	A. Continuous spectrum B. Band spectrum C. discrete spectra D. Absorption spectrum
6	The unit of intensity level is.	A. Watt B. Joule C. Bel D. Sabin
7	A plane of polarization is one in which	A. vibrations take place B. No vibrations take place C. Longitudinal vibrations take place D. Transverse vibrations take place
8	Newton proposed his corpuscular theory on the basis on	A. Newton's rings B. Polarization C. Dispersion of white light D. Rectilinear property of light
9	The locus of all points in the same state of vibrations are known as.	A. half period zone B. A wavefront C. A half wave zone D. A full wave zone
10	LASER is a device for	A. Producing a beam of white light B. Producing a beam of monochromatic and coherent light C. Producing a beam of high intensity incoherent light. D. Producing highly penetrating's X-rays
11	On average there is no energy transfer in.	A. Sound waves B. Water waves C. Standing waves D. Mechanical waves
12	Which analysis is employed to convert a complex sound into notes.	A. Fourier theorem B. Milleman theorem C. Lissajoes theorem D. Demorgan's law
13	Light from the sun reaches the earth in	A. Spherical wave fronts B. Cylindrical wave fronts C. Plane wave fronts D. Packets
14	Which of the following factor will not affect the speed of sound i a medium.	A. Temperature B. Pressure C. Humidity D. Mass
		A. Density of medium

15	The shape of wave front depends on	B. Shape of medium C. Viscosity of medium D. Length of medium
16	The length of piano wire is 1 m and mass is 20 g and it is stretched by a fore of 200 N the fundamental frequency of sound waves produced by the piano will be	A. 50 Hz B. 100 Hz C. 150 HZ D. 250 Hz
17	Interference through thin films depends upon	A. Thickness of thin film B. Nature of material of thin film C. angle of incident light D. All of the above
18	Newton's rings are experimentally derived from the phenomenon of.	A. Polarization of light B. Resolution of light C. Interference of light D. Diffraction of light
19	Which of the following cannot be polarized.	A. Ultraviolet rays B. Radio waves C. T.V waves D. Sound waves
20	Bracket and plunk series of spectral lines lye in the	A. Visible region B. Ultraviolet region C. Far infrared region D. Infrared region
21	Beats are the results of.	A. Diffraction of sound waves B. Interference C. Polarization D. Timber
22	Pitch of the sound determines	A. Its shrillness B. Loudness of sund C. Intensity level D. Quality of sound
23	In a diffraction pattern, the width of any fringe	A. Is directly proportional to slit width B. Is inversely proportional to slit with C. Has no dependence on slit width D. Is zero
24	A wave that remains in a constant position is called.	A. Standing wave B. Transvers wave C. Shock wave D. Longitudinal wave
25	Monochromatic ight is of single.	A. Frequency B. Wave length C. Amplitude D. Pitch
26	Sounds of frequencies higher than 20,000 Hz are called.	A. Super sonics B. Infrasonic C. Ultrasounds D. Audible sound waves
27	The ripple tank is used to study various features of	A. Wave phenomenon B. Interferences C. Doppler's effect D. Reverberation
28	The ratio of the velocity of sound in hydrogen to the velocity of sound in oxygen is	A. 4:1 B. 16:1 C. 2:1 D. 8:1
29	interference and diffraction of light support the	A. Wave nature of light B. Transverse nature of light waves C. Quantum nature of light D. Electromagnetic nature of light
30	Which of the following is an example of continuous spectra.	A. Black body radiation spectrum B. Molecular spectra C. Atomic spectra D. grating spectrum
31	X-rays can cause	A. Malaria B. Dysentery C. Cancer D. Blood pressure
32	We can hear beats when the difference in the frequencies of two sounding bodies is not more than.	A. 2 B. 4 C. 6 D. 10

33	Which of the following is a mechanical wave.	A. X rays B. Radio waves C. Sound wave D. Light wave
34	The speed of bodies exceeding the speed of sound is called.	A. Superesonic B. Ultrasonic C. Infrasonic D. Super fast
35	Which physical properties is most responsible for resonance.	A. Frequency B. Intensity C. Pitch D. Loundness
36	Huygen's wave theory falls to explain	A. Diffraction B. polarization C. Interference D. Refraction
37	In a diffraction pattern, the width of any fringe is.	A. Directly proportional to slit width B. Inversely proportional to slit width C. independent of slit width D. Zero
38	The fact that the edge of a shadow formed by a point source of light shining on an object is not sharp is an example of.	A. Refraction B. Diffraction C. Polarization D. Dispersion
39	Light of passing through a polaroid is	A. Plane polarized B. Unpolarized C. Circularly polarized D. Elliptically polarized
40	The light rays which combine destructively would mean that resultant	A. Intensity increases B. Intensity decreases C. Amplitude increases D. Amplitude decreases
41	On which characteristics the loudness of sound pends upon.	A. Pitch B. Speed C. Wavelength D. Amplitude
42	When stationary waves are formed in a closed organ pipe.	A. A node is formed at the closed end of the pipe B. An antinode is formed at the closed end of the pipe C. Each particle at the node experience zero acceleration D. The maximum pressure occurs at the nodes
43	A polaroid is	A. A red light filter B. A device used for a analyzing polarized light C. A device used in polarimeter D. An adjustable shutter
44	Ultrasonic sound waves	A. Can be heard by a normal human ear B. Can be heard with the help of hearing apparatus C. Can be heard with the help of microphone D. cannot be heard
45	Velocity of sound in air at a given temperature	A. Increases with increase in pressure B. Is independent of the pressure C. Decreases with increases in density D. Increases with increase in density
46	When two waves travelling through the same medium arrive at the same point 180 ^{o} out of phase, they give rise to.	A. Polarization B. Destructive interference C. Refraction D. Constructive interference
47	The quality of sound	A. Decreases with pitch B. Varies directly as its pitch C. Varies inversely as its pitch D. Depends upon the overtones present there
		A. They look like similar B. They produce sound of same

48	Two sources of sound are said to be in resonance when.	frequency C. They are enacted by the same agent D. They differ from each other
49	For how long the sensation of sound persists in our brain.	A. 0.1 s B. 0.2 s C. 0.3 s D. 0.4 s
50	The main advantage of a grating over Young's apparatus is the	A. Sharpness of the bright lines B. Absence of dark fringes C. Absence of bright fringes D. Greater deviation of light
51	Increase in velocity of sound in air for 1 ^{o}C rise in temperature is.	A. 0.61 m s-1 B. 1.61 m s-1 C. 2.00 m s-1 D. 61.0 m s-1
52	When temperature increases, frequency of an organ pipe	A. Decreases B. Increases C. Remain the same D. Become zero
53	Palaroids can be used	A. To control headlight glare in right driving B. To determine the concentration of the optically active substances C. In curtain less windows to adjust the amount of light D. all of the above
54	Which of the following properties of light does not very with the nature of the medium.	A. Amplitude B. Frequency C. Wavelength D. Time period
55	The variation in the speed of sound with temperature is greater in.	A. Gases B. Metals C. Liquids D. Insulators
56	The speed of bodies exceeding the speed of sound is called.	A. Superesonic B. Ultrasonic C. Infrasonic D. Super fast
57	According to Huygen's principle	A. Light bends round corners B. Light travels in a straight line C. All points on primary wave front are considered centre of distances D. Light has wave nature
58	The interference between two sounds of slightly differed frequency is	A. shock wave B. Beats C. Sonic boom D. Doppler's effect
59	What is an elementary particle, the basic unit of light and all other form of electromagnetic radiation.	A. Phonon B. Photon C. Neutron D. Proton
60	The speed of a sound wave is independent of	A. Nature of medium B. Pressure C. Temperature D. Mass and energy
61	Any frequency higher than the fundamental frequency of a sound is known as.	A. Overtone B. Beat C. Acoustics D. Shockwaves
62	In order to har an echo what is the minimum distance between the sound and reflecting surface.	A. 0.65 m B. 16.5 m C. 1.65 m D. 165 m
63	Frequency less than 120 Hz are known as	A. Infrasonic B. Ultra sonics C. Super sonics D. Infrared
64	A wave which consists of a single, non repetitive disturbance is called a	A. Continous wave B. Pulse C. Longitudinal wave D. Transverse wave

65	Which term best describes the nature of light from modern view point.	A. Waves B. Rays C. Particles D. Photons
66	The frequency of the fundamental mode of transverse vibration of a stretched wire 1,000 mm long is 256 Hz When the wire is shortened to 400 mm at the same tension	A. 640 Hz B. 680 Hz C. 720 Hz D. 780 Hz
67	The maximum energy of photons emitted from ab X rays tube is certain to be increased by	A. Increasing the voltage across the tube B. Decreasing the voltage across the tube C. Heating the metal target D. Putting a barrier in the way of photons
68	When a newton's right interference pattern a viewd from above by means of reflected light , the central spot is	A. Multicoloured B. Alternately white and black C. Bright D. Dark
69	Plane polarized light can be produce dby	A. Simple reflection B. Double refrraction C. Scattering of light D. All of these
70	The use fulness of x rays is largely due to their	A. Mass B. Density C. Penetrating power D. Rest mass
71	X-rays travels ins straight line with velocity	A. Less than light B. Greater than light C. Equal to light D. Equal to sound
72	The velocity of the wave could be increased by	A. Reducing the amplitude B. Decreasing the frequency C. Increasing the period D. Stretching the spring more
73	Beats occur due to	A. Reflection B. Refraction C. interference D. Diffraction
74	On which parameter the path difference between two interfering waves depends upon.	A. Amplitude B. Pitch C. Intensity D. Phase angle
75	A sheet of transparent material with fine equality spaced lines ruled parallel on its surface is called.	A. Interferometer B. Grating element C. ruler D. Patch
76	The phase different between the particles vibrating's between two consecutive nodes is.	A. 0 B. Lamda /2 C. 2 D. 2 lamda
77	Which of the following proves that light waves are transverse in nature.	A. Diffraction B. Interference C. Polarization D. Refraction
78	The sound waves used sonography are	A. Less than 20 KHz B. of 20 Khz C. Greater than 20 KHz D. Of 20 MHz
79	Which of the following form of electromagnetic energy has the highest frequency.	A. X rays B. Game rays C. Ultraviolet waves D. Infrared waves
80	Hygen's principle states that	A. Light travels in straight line B. Light travels in electromagetic waves C. All points of primary wave front are source of secondary wavelets D. Light has dual nature
81	The phenomenon of beats takes place due to	A. Longitudinal waves B. Transverse waves C. Stationary waves D. Both a and b

		D. Both a and b
82	Which of the following refers to the distance from crest to crest of a wave.	A. Frequency B. Wavelength C. Amplitude D. Period
83	If a wave vibrates 10 times in one second with a speed of 10 m s-1 the wavelength will be.	A. 1 m B. 10 m C. 20 m D. 100 m
84	Velocity of sound in air at a given temperature.	A. Increases with increase in pressure B. Decrease with increases in pressure C. Is independent of pressure D. Becomes quadruples
85	Which of the following gives discrete emission spectrum.	A. Sun B. Candle C. Incandescent filament D. Mercury vapour lamp
86	Which effect explain the frequency shift that occurs when there is motion sound a listener or both relative to the medium.	A. Early effect B. Doppler's effect C. Hall effect D. Zeeman effect
87	Velocity of sound in any medium deepness upon.	A. Elasticity B. Density C. Volume D. Mass
88	When two identical waves are superimposed the velocity of the reasultant wave.	A. Increases B. Decreases C. Become zero D. Remain unchanged
89	Longitudinal waves cannot be	A. Reflected B. Difracted C. Dispersed D. Polarized
90	Which of the title for combining of notes that produce jarring effect on the ear.	A. Noise B. Melody C. Harmony D. Discord
91	A LASER beam may be used to measure very large distance because it is.	A. Unidirectional B. Coherent C. Monochromatic D. Massive
92	When amplitude of a wave becomes double its energy becomes.	A. Xero B. Double C. 4 times D. 6 times
93	A large ripple tank with a vibrator working at a frequency of 30 Hz produce 25 complete waves in a distance of 50 cm. The velocity of the wave is.	A. 9.53 cm s-1 B. 60 cm s-1 C. 750 cm s-1 D. 1500 cm s-1
94	A wave source of frequency 1000 Hz emits waves of wavelength 0.1 m How long does is take for the waves to travel 2500 m.	A. 20 s B. 25 s C. 40 s D. 100 s
95	Michelson's interferometer can be used to measure.	A. Wavelength of light B. Intensity of light C. Amplitude of disturbances D. Frequency of light
96	Three tuning forks of frequencies 400 Hz. 401 Hz and 402 Hz are sounded together The frequency of beats per sound is.	A. 0 B. 1 C. 2 D. 3
97	Wave motion in air consist of	A. Longitudinal waves B. Transverse waves C. Seismic waves D. Polarized waves
98	Which of the following is nearly monochromatic light.	A. Light from fluorescent tube B. Light from neon lamp C. Light from sodium lamp D. Light from simple lamp

99	Waves that have the same direction of vibration as their direction of travel are.	A. Longitudinal waves B. Transverse wave C. Standing waves D. hair wave
100	Which are different types of emission spectrum	A. Continues spectrum B. Line spectrum C. Band spectrum D. all of the above
101	When two identical travelling waves are superposed, velocity of the resultant wave	A. Remains unchanged B. Decreases C. Increases D. Become zero
102	What is the emission of light by a substance that has observed light or others electromagnetic radiations of a difference wavelength.	A. Fluorescence B. Illuminance C. Luminance D. Incandescence
103	A sheet of transparent material with many fine equally spaced lines ruled parallel on its surface is called	A. Interferometer B. Grating element C. Ruler D. Patch
104	X-rays are a part of electromagnetic spectrum and are characterized by frequencies higher that those of.	A. Infrared radiation B. Ultraviolet radiation C. Far ultraviolet radiation D. Far infrared radiation
105	The heat frequency is the	A. Sum of the two frequenceis B. Produce of the two frequency C. Difference of the two frequencies D. Ratio of the two frequencies
106	Which of the following characteristics of a wave is independent of the others.	A. speed B. Frequency C. Amplitude D. Wavelength
107	Which of the following is a method of energy transfer.	A. Conduction B. Wave motion C. Radiation D. All of these
108	When light enters glass from air it suffers a change in.	A. Wavelength B. Wave front C. Velocity D. All of these
109	Polarization is characteristic of.	A. Light wave B. sound waves C. Waver waves D. x-rays
110	Diffraction is a special type of.	A. Polarization B. Interference C. Dispersion D. Scattering
111	A body travels with a speed greater than the speed of sound What would be the wave front shape.	A. Ellipitical B. Spherical C. Conical D. Parabolical
112	It is possible is distinguish between transvers and longitudinal waves from the property of.	A. Refraction B. Interference C. Diffraction D. Polarization
113	Light product by a single Nicole is	A. Unpolarized B. Plane polarized C. Circulatory polarized D. Elliptically polarized
114	Which of the following properties of sound is affected by change in air temperature.	A. Amplitude B. Intensity C. Frequency D. Wavelength
115	Which one of the following cannot be polarized.	A. Radiowave B. Ultraviolet rays C. X- rays D. Sound waves
116	The phase velocity is the velocity of a point that moves with a wave at constant phase it is also called.	A. Phase speed B. Wave speed C. Wave velocity

		D. All of these
117	On reflection of light from a source there occurs a change in	A. Wavelength B. Velocity C. Period D. Frequency
118	In a spectrometer experiment monochromatic light is incident normally on a diffraction gratin having 4.5 x 10^5 lines per metre The second order line is seen at an angle of 30 ^{o} to The normal What is the wavelength of the light.	A. 430 nm B. 556 nm C. 589 nm D. 625 nm
119	During a thunderstorm, an observer sees a lighting flash Six second later he hears the thunder The speed of sound is 330 m s-1. Approximately how far away is the observer from the lighting.	A. 1/2 km B. 1/3 km C. 2 km D. 1/20 km
120	A water wave is an example of	A. Electromagnetic wave B. Longitudinal wave C. Transverse wave D. Reverberation
121	In solid and liquids the variation of the speed of sound with temperature is.	A. Much greater than in air B. Slightly les than in air C. The same as in air D. Smell and usually negligible
122	The loudness of a sound deepness on its	A. Wavelength B. Frequency C. Wave amplitude D. Regularity
123	Which of the following represents an elastic wave.	A. Light waves B. Radiowaves C. X-rays D. Sound waves
124	When a monochromatic wave enters from one medium into another the property that remains unchanged.	A. Amplitude B. Velocity C. Frequency D. Nature of the wave
125	The spectrum of radiation due to transitions between energy levels in an atom, other absorption or emission is called.	A. Atomic spectrum B. Molecular spectrum C. Grating spectrum D. Normal specturm
126	Which of the following is not electromagnetic .	A. x-rays B. Gama rays C. Cathood rays D. Infrared rays
127	X-rays eject electrons from matter by	A. Pair production B. Pair annihilation C. Compton effect D. Photoelectric effect
128	A water wave is an example of.	A. Transverse wave B. Longitudinal wave C. Hair wave D. Shock wave
129	Blue colour of sky is due to.	A. Diffraction B. Reflection C. Polarization D. Scattering
130	Which instrument measures properties of light over a specific portion of the electromagnetic spectrum.	A. Photometer B. Spectrometer C. Hydrometer D. Lactometer
131	The unit of intensity of sound waves is.	A. W m-1 B. W m-2 C. N m-1 D. N m-2
132	When transvers wave travelling in a less dense medium is reflected at an interface will a more dense medium.	A. A trough becomes a crest B. There is no phase shift C. There is phase shift of 360 ^o D. A crest remains a crest
133	On loading the prong of a tuning fork with wax. Its frequency.	A. Increases B. Decreases C. Remain unchanged D. May increase or decrease
		A. Dispersion of light

134	Soap film in sunlight appears coloured due to	B. Diffraction of light C. Scattering of light D. Interference of light
135	Wave length of a LASER can be sued as a standard of.	A. Angle B. Time C. Length D. Temperature
136	The penetrating power of X rays is least with materials of.	A. High mass density B. High volume density C. High electron density D. High weight
137	A Spectrum of radiation in which the quantity being studied, such as frequency or energy takes on discrete values is called.	A. Continuous spectra B. Band spectra C. Discrete spectra D. Normal spectrum
138	A thin layer of oil the surface of water looks coloured due to.	A. Pillarization of light B. Different elements present in the oil C. Interference of light D. Transmission of light
139	Which is the correct statement regarding the nature of light.	A. It has wave nature B. It has particle nature C. It has both wave and particle nature at the same time D. It has wave nature sometime and particle nature at some other time.
140	A cork moes at 5 m s-1 on the crest of a wave The distance between the crests is 10 m. The frequency of the wave motion is.	A. 0.5 Hz B. 1.0 Hz C. 2.0 Hz D. 5.0 Hz
141	If the wavelength of a wave is 1 cm and its period is 0.02 s , velocity of the wave will be	A. 20 cm s-1 B. 50 m s-1 C. 60 cm s-1 D. 100 cm s-1
142	Polarized sunglasses decrease glare on a sunny day because they	A. Completely absorb light B. Block a portion of light C. Have a special colour D. refract light
143	Air bubble in water shines because of	A. Reflection B. Refraction C. Diffraction D. Total internal reflection
144	Tuning fork is a source of.	A. Heat B. Energy C. Light D. Sound
145	Ultra sonics are the	A. Frequencies in the audible range B. Frequencies greater than 20 Hz C. Frequencies greater than 20 KHz D. Frequency lower than 20 KHz
146	In an oscillating system damping means reduction in	A. Frequency B. Wavelength C. Amplitude D. Period
147	Which of the following is a transverse wave.	A. Sound wave B. Shock wave C. Hair wave D. Radiowave
148	Stationary waves only a discrete set of frequencies are set up in a medium. This fact is called.	A. Harmonics B. Overtones C. Quantization of frequencies D. Superposition of frequencies
149	Which of the following is an example band spectra.	A. Black body radiation spectrum B. Atomic spectra C. Molecular spectra D. Anomalous spectrum
150	Two waves which combine to produce a resultant by reinforcing each other of every point demonstrate.	A. Destructive interference B. constructive interference C. Refraction D. polarization
151	Which of the following phenomenon occurs when two sound waves of equal amplitude and	A. Resonance B. Doppler's effect

151	different frequencies travel through the same region.	C. Beats D. Echo
152	A girl standing 150 m in front of tall building fires a pistol A boy standing 350 m behind her hears two bangs 1 s apart from this information what is the speed of sound in air.	A. 150 m s-1 B. 300 m s-1 C. 280 m s-1 D. 330 m s-1
153	If the wave length of a wire is 1 cm and its period is 0.02 s, the velocity of the wave will be	A. 20 cm s-1 B. 50 cm s-1 C. 60 cm s-1 D. 100 cm s-1
154	The velocity of sound will be greater in.	A. Air B. Water C. Solids D. Vacuum
155	If Young's experiment is performed in water. which of the following change will occur.	A. Fringe width will increases B. Fringe width will decreases C. Fringe width will remain unchanged D. No fringe will be seen
156	In which of the following the speed of sound will be maximum under similar conditions.	A. N2 B. O2 C. CO2 D. H2
157	operation of a LASER depends upon	A. Spontaneous emission of radiation B. The existence emission of radiation C. The existence of atoms in normal state D. The existence of atoms in metastable state
158	What will be the sound speed if the frequency is doubled.	A. zero B. Half C. Double D. Unchanged
159	A monochromatic light beam when passed through a prism is.	A. Diffracted B. Devlated C. Polarized D. Dispersed
160	The wavelength is the distance along the line of wave propagation between two successive particles which have equal	A. Velocities B. Phases C. Amplitude D. Displacements
161	Plane polarized light can be produced by	A. Reflection B. Refraction C. Scattering of light D. All of these
162	Which property of waves is independent of the others.	A. Amplitude B. Velocity C. Frequency D. Wavelength
163	The loudness of a sound depend on its	A. Frequency B. Amplitude C. Speed D. Both a and b
164	With the increase of temperature, teh pitch of an organ pipe	A. Increase B. Descrease C. Remain the same D. May increase or decrease
165	If a rope in a hand makes 10 oscillations after every 2 s. the frequency of the wave is.	A. 2 C s-1 B. 5 C s-1 C. 10 C s-1 D. 20 C s-1
166	Which is the best sound source to produce a pure note.	A. Tuning fork B. Flute C. Drum D. Harmonium
167	The energy following per second through a unit area held perpendicular to the direction of wave is.	A. The loudness of the sound waves B. The pitch of the sound waves C. The intensity level of sound waves D. The intensity of sound waves
		A. More

168	The sound velocity in moist air as compared to dry air will be	B. Less C. Same D. zero
169	Which of the following medium can transmit both transverse and longitudinal waves.	A. Solid B. Gas C. Liquid D. Plasma
170	In case of longitudinal waves the individual particles of the medium move.	A. In circles B. In ellipses C. Parallel to wave propagation D. Perpendicular to wave propagation
171	When white light is incident on a diffraction grating, the light that will eb deviated from central image will be.	A. White B. Yellow C. Red D. Blue
172	Which form of electromagnetic radiation is used in RADAR.	A. Long wavelength ultraviolet waves B. short wavelength microwaves C. short wavelength infrared wave D. Long wavelength radiowaves
173	The fundamental frequency of a sound source is 256 Hz. What is the frequency of the first harmonic.	A. 64 B. 128 C. 256 D. 512
174	Echoes arise from	A. Reflection B. Refraction C. Diffraction D. Dispersion of sound waves
175	If the period of a wave motion is 2 s and the wave speed is 4 cm s-1 then its frequency is	A. 1/8 C s-1 B. 1/2 C s-1 C. 2 C s-1 D. 8 C s-1
176	A disturbance that travels through space and time usually accompanied by energy transfer is called.	A. sound B. Wave C. Echo D. Frequency
177	The loudness of a sound depends on its	A. Wavelength B. Frequency C. Wave amplitude D. Regularity
178	Balimer series lies in the	A. Visible region B. Invisible region C. Infrared region D. Far infrared region
179	A wave that consists of oscillations occurring perpendicular to the direction of energy transfer is called.	A. Transvers wave B. Longitudinal wave C. Stationary wave D. Shock wave
180	The phenomenon of polarization is done by	A. Selective absorption B. Scattering of light C. Refraction of light D. Dispersion of light
181	Light wave are	A. Longitudinal B. Transverse C. Sometimes longitudinal and sometimes transverse D. Neither longitudinal nor transverse
182	In the experiment of production of X rays the anti cathode should be bombarded with.	A. A particles B. Beta particles C. Electrons D. Protons
183	Light waves can be polarized because they	A. have short wavelength B. Have high frequency C. Can be reflected D. Are transverse
184	When wind blows in the same direction in which the sound travels, the sound velocity	A. Decreases B. Increases C. Remains unchanged D. Becomes zero
185	Which of the following is electromagnetic wave.	A. X rays B. Micro waves C. Light

		C. Light D. All of these
186	To produce beats it is necessary to use two waves.	A. Travelling in opposite direction B. Of slightly different frequencies C. Of equal wavelengths D. Of equal amplitudes
187	The quality of a note	A. Decreases with loudness B. Varies directly as its pitch C. Varies inversely as its pitch D. Depends upon the overtones
188	When a ray of light enters from rarer medium to a denser medium its wavelength.	A. Increases B. Decreases C. Remain constant D. Vanishes
189	A water wave is an example of	A. Electromagnetic wave B. Longitudinal wave C. Transverse wave D. Reverberation
190	The perceived fundamental frequency of a sound is called.	A. Pitch B. Timber C. Loudness D. Wavelength
191	If a wave vibrate 10 times in 1 s with a speed of 10 m s-1 the correct wavelength of the wave is.	A. 1 m B. 10 m C. 20 m D. 100 m
192	Good acoustic implies	A. Obtaining as much reverberations as possible B. Making the reverberation as small as possible C. Obtaining the optimum of reverberations D. Eliminating reverberations
193	Fringe spacing in double slit experiment can be increased by decreasing.	A. Wavelength of light B. Width of slits C. Slite separation D. Distance between the slits and screen
194	Michelson's interferometer can b e sued to find	A. Velocity of light B. Velocity of sound C. Wavelength of light D. Wavelength of sound
195	Newton's rings are formed due to	A. Diffraction of light B. Interference of light C. Polarization of light D. Reflection of light
196	What is the change in path when sound wave is reflected from a rigid support.	A. Lamda /2 B. Lamda C. 2 lamda D. Zero
197	The amplitude of a vibrating body at resonance place in vacuum is.	A. zero B. Maximum C. Minimum D. Infinite
198	Electromagnetic waves transmit.	A. Energy only B. Momentum only C. Energy and momentum D. Light
199	The apaceing between fringes is a Young's double slit pattern will be increased, if we decrease the	A. Wavelength of the souce light B. Distance from slite to screen C. Width of the slits D. Separation of the slits
200	The addition of two or more waves is termed as	A. Interferences B. Period C. Echo D. Polarization
201	The ratio of intensities of two sound waves is 4 : 9 what will be the ratio of their amplitudes.	A. 9:4 B. 2:3 C. 3:2 D. 4:9
		A. There is no phase shift B. There is a 180 ^o phase shift

202	When a transverse wave is reflected on going from a more dense to a less dense medium.	phase shift C. There is a phase shift of 360 ^o D. A crest is transformed to a trough
203	Light wave can be polarized because they	A. Are transverse in nature B. Can be reflected C. Have short wavelength D. Have high frequncies
204	What will be the effect on the speed of a Transerv wave in a string. If tension is made 4 times.	A. Remains the same B. Increase a times C. Becomes double D. Becomes 3 times
205	When a sound source moves towards a stationary observer there is.	A. An apparent increase in wavelength B. An apparent increase in frequency C. an apparent decreases in frequency D. A change in the velocity of the sound
206	Beats are the result of.	A. Interference B. Doppler's effect C. Ultrasound D. Polarization
207	LASER beam can be used to generate three dimensional images objects in the process called.	A. Tomography B. Holography C. Autography D. Biography
208	Huygen's concept of secondary waves.	A. Allow us to find the focal length of a thick lens B. Is a geometrical method to find a wave front. C. Is used to determine the velocity of light D. Is used to explain polarization
209	In case of stationary waves every particle of the medium has fixed	A. Velocity B. Displacement C. Amplitude D. Phase
210	The phenomenon of interference comes about because waves obey	A. the impulse momentum theorem B. An inverse square law of intensity C. The principle of reciprocity D. The principle of super position
211	If in Young's double slit experiments the separation between two slits is halved then the fringe width	A. Remains unchanged B. Becomes double C. Reduces to half D. Becomes 3 times
212	All particles, of a wave front vibrate	A. In same phase B. In opposite phase C. Upward down D. Left and right
213	A application of the phenomenon of polarization is in	A. The scattering of light beams B. Explaining the blue colour of sky C. Identifying chemicals elements D. Analysis of mechanical stress
214	The central ring is bright in case of Newton's rigs produced by	A. Reflection B. Wedges C. Refraction D. Transmission
215	A wave source of frequency 1,000 Hz emits waves of wavelength 0.1 m How long does it take for the waves to travel 2500 m.	A. 4 s B. 25 s C. 40 s D. 100 s
216	Two light waves which are not coherent cannot produce.	A. Interference B. Diffraction C. Reflection D. Dispersion
217	The same notes being played on sitar and veena differ in.	A. Pitch B. Quality C. Both quality and pitch D. Neither quality nor pitch
218	Infrared radiation is also known as	A. Radio signals B. Heat radiation C. Magnetic resonance waves

		C. Magnetic resonance waves D. RADAR
219	The dispersive power of a grating is	A. Light used B. Separation of lines C. Frequency of light used D. Independent of wavelength
220	Interference fringe spacing depends on	A. The wavelength of light used B. The distance screen from the coherent sources C. Separation between the sources D. All of the above
221	We get light inside a room in a day time due to	A. Interferences B. Polarization C. Diffraction D. Refraction
222	Which of the following are examples of transverse and a longitudinal wave.	A. Radio and sound waves B. Radio and light waves C. Light and water ripples D. Light and sound waves
223	The locus of all points in a medium having the same phase of vibration is called.	A. Creast B. trough C. Wavelength D. Wave front
224	The average amount of energy transported by a wave per unit area per unit time is termed as	A. Wave speed B. Wave intensity C. Wavelength D. Wave amplitude
225	Hearing damage is possible at sound pressure of	A. 0 dB B. 50 dB C. 130 dB D. 195 dB
226	Maximum number of orders available with a grating is.	A. Independent of grating element B. Directly proportional to grating element C. Inversely proportional to grating element D. Directly proportional to wavelength
227	Sound wave in air are	A. Longitudinal waves B. Transvers waves C. Electromagnetic waves D. Matter waves
228	Two waves of the same frequency and amplitude travelling in opposites directions along the same path in the same medium produce.	A. Stationary waves B. Transverse wave C. Longitudinal waves D. Compressional waves
229	Which type of oscillations produce resoncance.	A. Free B. Forced C. Damped D. All of these
230	A pulse on the string is inverted when it is reflected from	A. Free end B. Fixed end C. Either of the two D. Rubber cord
231	The sweetness or harshness of a sound depends upon its	A. Wavelength B. Frequency C. Amplitude D. Regularity
232	The appearance of colures in their film is due to	A. Diffraction B. Dispersion C. Interference D. Polarization
233	The energy content of a wave is proportional to its.	A. Wave velocity B. Wave velocity squared C. Frequency D. Amplitude squared
234	Two tuning forks of frequencies 260 Hz and 257 Hz are sounded together the number of beats produced per seconds is.	A. 1 B. 3 C. 4 D. 257
235	Mostly widely used types of gas LASER are.	A. Neon B. Argon ion C. Helium D. All of these

236	The wave phenomenon that classifies light as a transverse wave is.	A. Polarization B. Diffraction C. Interference D. Refraction
237	For polarization , the direction of oscillation has to be perpendicular to the direction of travel sound waves are longitudinal waves so they cannot be.	A. Reflected B. Deflected C. Diffracted D. polarized
238	Electromagnetic waves are produced by	A. Charge at rest B. Accelerated changes C. Heating a conductor D. Electroplating
239	Laser light is considered to be coherent because it consists of.	A. Many wavelengths B. Uncoordinated wavelengths C. Coordinated waves of exactly the same wavelength D. Divergent beams
240	A point source of light is situated at large distance The nature of the wave front at the point will be.	A. Cylindrical B. Spherical C. Plane D. Ellipical
241	Difference in the density of two medium when waves are passing from one into another medium always results in the change in.	A. Wave speed B. Wave direction C. Both speed and direction D. Wave frquency
242	Which term is used for the persistence of sound in a hall.	A. Resonance B. Acoustics C. Symphony D. Reverberation
243	The wavelength of Pascha series lies is the	A. Visible region B. Ultraviolet region C. Infrared region D. Invisible region
244	Which of the following devices can be used to produce both transvers and longitudinal waves.	A. A string B. A ripple tank C. a helical spring D. A turning fork
245	With which factor disputative power of a grating increases.	A. Order of spectrum B. Number of lines per centimeter C. Order and number of lines per centimeter D. Shape of the grating
246	Which effect produce ultrasonic is quartz.	A. Pyroelectric effect B. Piezoelectric effect C. Hall effect D. Magnetostriction effect
247	A light beam is said to be plane polarized when	A. its vibrations are restricted to only one plane B. Its vibrations are very strong in one plane C. Its vibrations take place in any plane D. Its vibrations are very weak in one plane
248	A longitudinal sinusoidal wave has a wavelength of 1 cm and a period of 2s. Its wave velocity is.	A. 50 cm s-1 B. 0.00t m s-1 C. 100 cm s-1 D. 5 m s-1
249	When sound waves enter a different medium the quantity that remains unchanged a.	A. Wavelength B. Speed C. frequency D. Intensity
250	Sound of frequencies lower than 20 Hz are called.	A. Supersonics B. Infra sonics C. Ultrasonic D. Audible sound waves
251	The phenomenon of interference occurs because waves obey	A. Laws of reflection B. Principle of super position C. Laws of motion D. Inverse square law of intensities
		A. Wavelength of the wave

252	The energy transported by a wave is proportional to the square of the.	B. Period of the wave C. Amplitude of the wave D. Frequency of the wave
253	A wave reflected from the boundary of a denser medium will have phase change	A. 45 ^o B. 60^o C. 90 ^o D. 180 ^o
254	If a wave vibrate 10 times in 1 s with a speed of 10 m s-1 the correct wavelength of the wave is.	A. 1 m B. 10 m C. 20 m D. 100 m
255	A fringe is a path of.	A. Constant amplitude B. Constant phase C. Same wavelength D. Constant frequency
256	Diffraction is the property according to which light waves.	A. Change their direction on entering a different medium B. Produce chemical effects C. Bend round the corners D. Bend towards the centre
257	The energy transmitted per second though unit are held perpendicular to the direction of propagation of the wave is called.	A. Intensity of sound B. Pitch of sound C. Loudness of sound D. Quality of sound
258	The distance between any two consecutive bright or dark fringes is called.	A. Wavelength B. Amplitude C. Fringe spacing D. Wavelet
259	Two tuning forks have same natural frequency One of them is now loaded with wax. When both the forks are sounded together the will	A. Produce interference B. Produce vibrations C. Remain in resonance D. Produce beats
260	What is shapes of a pure note	A. Sinwave B. Sawtooth C. Square wave D. Triangular wave
261	Which technique uses underwater sound propagation to detect and locate submerged objects.	A. RADAR B. LIDAR C. SONAR D. LASER
262	A stretched wire with clamped ends has a fundamental frequency of 1,000 Hz. What will be the new fundamental frequency if tension in the wire is increased by 2%	A. 980 Hz B. 1,000 Hz C. 1,010 Hz D. 1,020 Hz
263	Which of the following is nearly monochromatic	A. Light from sodium lamp B. Light from candle C. Light from gas lamp D. Light from sun
264	In a stationary wave the particle velocity at the node is	A. Zero B. Constant C. Minimum D. Maximum
265	x-rays can cause fluorescence in materials such as	A. Cadmium B. Zinc sulphide C. Palatinocyanide D. All of these
266	Huygen's principle is used to explain the	A. Speed of light B. Dispersion of light C. Propagation of light D. Reflection of light
267	A pendulum vibrates with a time period of 1 s which range of sound is produced by it	A. Audible B. Infrasonic C. Ultrasonci D. Super sonic
268	The note of the lowest frequency is called	A. beat B. Overtone C. Fundamental note D. Harmonic note
269	One of the device to produce plane polarized light is.	A. A prism B. A bi prism C. A plane mirror D. A nicol prism

270	The pitch of sound a determined by its	A. Speed B. Frequency C. Direction D. Number of beats
271	Waves transfer	A. Frequency B. Velocity C. Energy D. Wavelength
272	When mas of a string is increased 4 times its original valve, the velocity of the wave.	A. Becomes double B. Reduces to one half C. Reduces to one fourth D. Increases 4 times to its original value
273	A bat while flying determines the location and nature of object in his way by sending.	A. Infrasonic waves B. Ultrasonic waves C. Supersonic waves D. Ultraviolet waves
274	Stationary waves are produced when two identical waves are moving on the string.	A. Along the same direction B. Along the opposite direction C. Along the perpendicular direction D. Of length 1 m
275	A wave reflected from the boundary of a rarer medium will have phase change	A. 0 ^o B. 60 ^o C. 90 ^o D. 180 ^o
276	Intensity of the dark bands in interference pattern becomes zero when two waves.	A. Of light are monochromatic B. Are of the same frequency C. Are of the same amplitude D. Travel in opposite direction
277	LASER is a device which can produce	A. Monochromatic beam of light B. Coherent beam of light C. An intense beam of lgiht D. All of these
278	A sound wave is an example of	A. Transverse wave B. longitudinal waves C. Hair wave D. Stationary wave
279	The closed end of an organ pipe having longitudinal stationary waves in it behaves as	A. Antinode B. Source of waves C. Node D. Antinode
280	Polarization of light shows that light is.	A. Corpuscular in nature B. Of extremely short waves C. Longitudinal waves D. Transverse waves
281	the amplitude of a wave indicates	A. Wavelength B. Frequency C. Intensity of wave D. Nature of wave
282	The polarization of an electromagnetic wave is determined by	A. The magnetic field B. The electric field C. The electric and magnetic fields D. The field direction of propagation of electromagnetic waves
283	A sonometer or audiometer is a device based on the principle of.	A. Resonance B. Beats C. Overtones D. Harmonics
284	Which of the following forms of electromagnetic energy has the longest wavelength.	A. Microwaves B. Radio waves C. Infrared waves D. ^{Visible light}
285	Doppler's effect can be applied to.	A. Light wave only B. sound wave only C. Both light waves and sound waves D. Study various features of a wave
286	What will be the frequency it an employ vessel is filled with water.	A. Increases B. Decreases C. Remain unchanged D. Fundamental
		A. they are transverse waves

287	Sound wave do not travel in vacuum because.	B. They are stationary waves C. They require material medium for propagation D. They do not have enough energy
288	In vacuum all electromagnetic waves have the same.	A. Frequency B. Amplitude C. Speed D. Wavelength
289	Distance between two consecutive nodes or antinodes is equal to.	A. Lamda /4 B. Lamda C. Lamda /2 D. 2 lamda
290	When the source and observer are moving away from each other the apparent pitch will	A. Increases B. Decreases C. Be zero D. Be infinite
291	Reverberation is the	A. Presence of large number of overtones B. presence of harsh and discordant notes C. Presence of ultrasonic vibrations D. Persistence of audible sound after the source has stopped
292	The maximum displacement from the undisturbed position of the medium to the crest top is called.	A. Wavelength B. Amplitude C. Period D. Frequency
293	The amplitude of sound wave determines its	A. Pitch B. Loudness C. Reverberation D. Interference
294	Which characteristics successively increases in the musical scale.	A. Pitch B. Quality C. Loudness D. Amplitude