

Physics ECAT Pre Engineering Chapter 9 Physical Optics

Sr	Questions	Answers Choice
1	In the formula $R = N \times m$ for diffraction grating, N denotes:	A. No. of lines/cm B. No. of lines/meter C. Total number of lines D. None of above
2	A convex lens acts as diverging lens when the object is placed:	A. Between F and 2F B. At 2F C. With focal length D. Beyond 2F
3	Light has:	A. Wave nature B. Particle nature C. Dual nature D. None of these
4	Frequency of red color as compared to that of violet color is:	A. Equal B. Smaller C. Greater D. None of these
5	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
6	Stars twinkle due to	A. The fact that they do not emit light continuously B. The refractive index of earth's atmosphere fluctuates C. The Star's atmosphere absorbs its light intermittently D. None of these
7	The size of the image is maximum when its distance from the magnifying glass is:	A. 0.10 m B. 0.15 m C. 0.20 m D. 0.25 m
8	A grating with high resolving power can distinguish _____ difference in wavelengths :	A. Larger B. Zero C. None of these D. Smaller
9	Wave length of that color as compared to that of violet color is:	A. Smaller B. Longer C. Equal D. None of these
10	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
11	The velocity of light in vacuum can be changed by changing	A. Frequency B. Amplitude C. Wavelength D. None of these
12	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
13	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 equal width D. Central fringes are wider than the outer fringes

14	To 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
15	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
16	Angle between the ray of light and the corresponding wavefront is:	A. 0° B. 60° C. 90° D. 120°
17	A grating with high resolving power can distinguish _____ difference in wavelengths :	A. Smaller B. Larger C. Zero D. None of these
18	According to Huygen's principle	A. light travels in straight line B. Light is a transvers wave C. Light has dual nature D. All points on the primary wavefront are the sources of secondary wavelets
19	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. 6×10^{-5} rad B. 7×10^{-5} rad C. 8×10^{-5} rad D. None of these
20	The contrast in the fringes in an interference pattern depends upon	A. Fringe width B. Relative difference intensities of the two sources C. Distance between the slits D. Wavelength