Physics ECAT Pre Engineering Chapter 9 Physical Optics

Sr	Questions	Answers Choice
1	In the formula R = N x 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 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. Wavelength of different colors is different D. Velocity of different colors is different
3	A magnifier gives an image which is:	A. Virtual, inverted B. Real, erect C. Virtual, erect D. Real, inverted
4	When a source of light isat very large distance,the shape of wavefront is:	A. Spherical B. Cylindrical C. Plane D. None of these
5	Which one the following gives three regions of electromagnetic spectrum 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
6	The superposition of the two waves of same frequency and amplitude travelling in the same direction gives to an effect called	A. Diffraction B. Interference C. Polarization D. Dispersion
7	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
8	Angle between the 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;">°
9	If the object and its image are located at a distance of 5 cm from the focus of a convex lens, the focus length of the lens will be:	A. 5 cm B. 10 cm C. 20 cm D. 25 cm
10	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
11	Monochromatic light means waves of:	A. Same frequency B. Same colour C. Same wavelength D. All of them
12	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
13	Electromagnetic waves transport:	A. Energy only B. Momentum only C. Both A and B are correct D. None of is correct
14	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 wave-front are the sources of secondary wavelets
15	With age, least distance of distinct vision:	A. Increases B. Decreases C. Is not affected D. None is correct
16	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
17	The locus of all points in a medium having same phase of vibration is called	A. Crest B. Trough C. Wavelength D. Wave-front
18	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
19	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 of these
20	Frequency of red color as compared to that of violet color is:	A. Equal B. Smaller C. Greater D. None of these