SECOND MID TERM TEST PHYSICS

 Marks: 35 L. Choose the Correct Answers: In a Young's double-slit experiment, the slit separation is doubled. To maintain the same fringe spacing on the screen, the screen-to-slit distance D must be changed to, a) 2D b D D D D D D D D D D D D D D D D D	Sto	j: 12	Time: 1.30 Hrs
 Choose the Correct Answers: In a Young's double-slit experiment, the slit separation is doubled. To maintain the same fringe spacing on the screen, the screen-to-slit distance D must be changed to, a) 2D Two coherent monochromatic light beams of intensities I and 41 are superposed. The maximum and minimum possible intensities in the resulting beam are a) \$1 and 1 b) \$1 and 31 c) \$1 and 31 d) \$1 and 31 e) \$1 and 31 first diffraction minimum due to a single slit of width 1.0 x 10⁵ cm is at 30°. Then wavelength of light used is a) 400A° b) \$500A° c) \$600A° d) \$700A° d) \$700A°	Mar	rks: 35	
a) 2D b) \(\frac{1}{2} \) c) \(\sqrt{2D} \) d) \(\frac{1}{\sqrt{2}} \) 2 Two coherent monochromatic light beams of intensities I and 4I are superposed. The maximum and minimum possible intensities in the resulting beam are a) 5I and 1 b) 5I and 31 c) 9I and 1 5I first diffinction minimum due to a single slit of width 1.0 x 10 ⁵ cm is at 30°. Then wavelength of tight used is a) 400Λ ² b) 500Λ ² c) 600Λ ² d) 700Λ ² 6I. The transverse nature of light is shown in a) interference b) diffraction c) scattering d) polarisation a) interference b) diffraction c) scattering d) polarisation a) 405° d) 700Λ ² 6I. The wavelength λ _π of an electron and λ _π of a photon of same energy E are related by a) 45° d) 60° c) 90° d) 30° 6I. The wavelength λ _π of an electron and λ _π of a photon of same energy E are related by a) λ _π αλ _π b) λ _π αλ _π c) 3x10 ⁻³ ms ⁻¹ the wave associated with a moving particle of mass 3x10 ⁻⁶ g has the same wavelength as an electron moving with a velocity δx10° ms ⁻¹ . The velocity of the particle is a) 1.82x10 ⁻¹⁸ ms ⁻¹ b) 9x10 ⁻³ ms ⁻¹ c) 3x10 ⁻³¹ ms ⁻¹ d) 1.82x10 ⁻¹⁸ ms ⁻¹ a) 1.82x10 ⁻¹⁸ ms ⁻¹ b) 9x10 ⁻³ ms ⁻¹ c) 3x10 ⁻³¹ ms ⁻¹ d) 1.82x10 ⁻¹⁸ ms ⁻¹ a) 1.82x10 ⁻¹⁸ ms ⁻¹ b) 9x10 ⁻³ ms ⁻¹ c) 3x10 ⁻³¹ ms ⁻¹ d) 1.82x10 ⁻¹⁸ ms ⁻¹ a) 1.14 b) 1.3 c) 1.11 d) 1.14 b) 1.3 c) 1.11 d) 1.14 b) 1.3 c) 1.11 d) 1.14 d) 1.15 ms ⁻¹ the work function of the metal is 0.6eV, then the ratio of maximum speeds of emitted electrons will be a) 1.4 b) 1.3 c) 1.11 d) 1.12 ms ⁻¹ ms ⁻¹ b) 9x10 ⁻³ ms ⁻¹ c) 3x10 ⁻³ ms ⁻¹ d) 3x10 ⁻³ ms ⁻¹ d) 3x2 ⁻⁶ ms ⁻¹ ms			10x1=10
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