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NEET WAVE OPTICS — RESOLVING POWER OF OPTICAL INSTRUMENTS (OLD SYLLABUS) — PYQS

Max. Marks: 20 **Questions:** 5

Section A (MCQ) — 5 questions

Q.1 Assume that light of wavelength 600 nm is coming from a star. The limit of resolution of telescope whose objective has a diameter of 2 m is : [NEET (UG) 2020]

(1) 1.83×10^{-7} rad (2) 7.32×10^{-7} rad
(3) 6.00×10^{-7} rad (4) 3.66×10^{-7} rad

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Q.2 The ratio of resolving powers of an optical microscope for two wavelengths $\lambda_1 = 4000$ Å and $\lambda_2 = 6000$ Å is [NEET 2017]

(1) 9 : 4 (2) 3 : 2 (3) 16 : 81 (4) 8 : 27

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Q.3 The angular resolution of a 10 cm diameter telescope at a wavelength of 5000 Å is of the order of [AIPMT 2005]

(1) 10^6 rad (2) 10^{-2} rad (3) 10^{-4} rad (4) 10^{-6} rad.

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Q.4 A telescope has an objective lens of 10 cm diameter and is situated at a distance of one kilometer from two objects. The minimum distance between these two objects, which can be resolved by the telescope, when the mean wavelength of light is 5000 Å, is of the order of [AIPMT 2004]

(1) 0.5 m (2) 5 m (3) 5 mm (4) 5 cm

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Q.5 Diameter of human eye lens is 2 mm. What will be the minimum distance between two points to resolve them, which are situated at a distance of 50 metre from the eye? The wavelength of light is 5000 Å. [AIPMT 2002]

(1) 2.32 m (2) 4.28 mm
(3) 1.25 cm (4) 12.48 cm

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ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	4	2	4	3	3						