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

Max. Marks: 8 **Questions:** 2

Section A (MCQ) — 1 question

Q.1 A telescope with objective diameter R is used to observe a distant star emitting light of wavelength 500 nm, at a resolution of 5×10^{-7} radian. The value of R is _____ cm.

[JEE Main 2026 (Online) 4th April Morning Shift]

(1) 61 (2) 122 (3) 244 (4) 305

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Section B (Numerical) — 1 question

Q.2 Some distant star is to be observed by some telescope of diameter of objective lens a, at an angular resolution of 3.0×10^{-7} radian. If the wavelength of light from the star reaching the telescope is 500 nm, the minimum diameter of the objective lens of the telescope is _____ cm. (nearest integer)

[JEE Main 2026 (Online) 8th April Evening Shift]

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ANSWER KEY

Section A (MCQ) — 1 question

Ques.	1										
Ans.	**2**										

Section B (Numerical) — 1 question

Ques.	2						
Ans.	**203**						