

JEE MAIN WAVE OPTICS — COHERENT AND INCOHERENT SOURCES, INTERFERENCE — PYQS

Max. Marks: 12

Questions: 3

Section A (MCQ) — 2 questions

- Q.1** In a Young's double slit experiment, the source is white light. One of the slits is covered by red filter and another by a green filter. In this case:

[JEE Main 2025 (Online) 8th April Evening Shift]

- (1) there shall be alternate interference fringes of red and green.
- (2) there shall be an interference pattern for red distinct from that for green.
- (3) there shall be an interference pattern, where each fringe's pattern center is green and outer edges is red.
- (4) there shall be no interference fringes.

Scan or tap for the full solution



- Q.2** Two plane polarized light waves combine at a certain point whose electric field components are
- $$E_1 = E_0 \sin \omega t$$

$$E_2 = E_0 \sin \left(\omega t + \frac{\pi}{3} \right)$$

Find the amplitude of the resultant wave.

[JEE Main 2025 (Online) 7th April Morning Shift]

- (1) $1.7 E_0$ (2) E_0 (3) $0.9 E_0$ (4) $3.4 E_0$

Scan or tap for the full solution



Section B (Numerical) — 1 question

- Q.3** Two coherent monochromatic light beams of intensities $4I$ and $9I$ are superimposed. The difference between the maximum and minimum intensities in the resulting interference pattern is xI . The value of x is _____.

[JEE Main 2025 (Online) 3rd April Morning Shift]

Scan or tap for the full solution



ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2									
Ans.	4	1									

Section B (Numerical) — 1 question

Ques.	3										
Ans.	24										