

JEE MAIN WAVE OPTICS — POLARISATION, POLAROIDs AND MALUS'S LAW — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 2 questions

- Q.1** An unpolarized light of certain intensity passes through a combination of two polarizers whose transmission axes are at 30° and 90° , respectively, with respect to the horizontal axis. A third polarizer with its transmission axis at 60° with the horizontal axis is placed between the two existing polarizers. The ratio of the output intensities with and without the third polarizer is _____.

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

- (1) $3/4$ (2) $4/3$ (3) $9/4$ (4) $4/9$

Scan or tap for the full solution



- Q.2** Two polarisers P_1 and P_2 are placed in such a way that the intensity of the transmitted light will be zero. A third polariser P_3 is inserted in between P_1 and P_2 , at particular angle between P_2 and P_3 . The transmitted intensity of the light passing through all three polarisers is maximum. The angle between the polarisers P_2 and P_3 is :

[JEE Main 2025 (Online) 4th April Evening Shift]

- (1) $\pi/6$ (2) $\frac{\pi}{3}$ (3) $\frac{\pi}{4}$ (4) $\pi/8$

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Section B (Numerical) — 1 question

- Q.3** An unpolarized light of intensity I_0 passes through polarizer and then through a certain optically active solution and finally it goes to analyser. If the angle between analyser and polariser is 0° and intensity of light emerged from analyser is $\frac{3}{8}I_0$, the angle of rotation of the light by the solution with respect to analyser is _____ degrees.

[JEE Main 2026 (Online) 6th April Morning Shift]

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ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2									
Ans.	3	3									

Section B (Numerical) — 1 question

Ques.	3										
Ans.	30										