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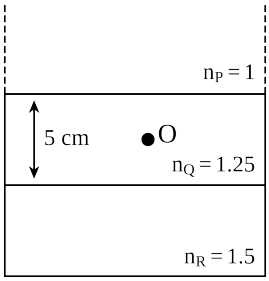
NEET RAY OPTICS AND OPTICAL INSTRUMENTS — REFRACTION, SNELL'S LAW, APPARENT DEPTH — PYQS

Max. Marks: 28 **Questions:** 7

Section A (MCQ) — 7 questions

Q.1 Consider three media P, Q and R with refractive indices 1, 1.25, and 1.5 respectively. The medium Q having a thickness of 5 cm is placed between extended media P and R as shown in the figure. An object O is placed at the centre of medium Q. If viewed from medium P near the normal direction, the apparent depth of O is h_1. For similar observation from medium R, the apparent depth is h_2. The value of $|h_1 - h_2|$, in cm, is:

[RE-NEET (UG) 2026]



(1) 3 (2) 0 (3) 1 (4) 2

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Q.2 An air bubble in a glass slab with refractive index 1.5 (near normal incidence) is 5 cm deep when viewed from one surface and 3 cm deep when viewed from the opposite face. The thickness (in cm) of the slab is [NEET 2016 (Phase 2)]

(1) 8 (2) 10 (3) 12 (4) 16

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Q.3 The frequency of a light wave in a material is 2×10^{14} Hz and wavelength is 5000 Å. The refractive index of material will be [AIPMT 2007]

(1) 1.50 (2) 3.00 (3) 1.33 (4) 1.40

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Q.4 A microscope is focussed on a mark on a piece of paper and then a slab of glass of thickness 3 cm and refractive index 1.5 is placed over the mark. How should the microscope be moved to get the mark in focus again ? [AIPMT 2006]

(1) 2 cm upward (2) 1 cm upward
(3) 4.5 cm downward (4) 1 cm downward

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Q.5 A beam of light composed of red and green rays is incident obliquely at a point on the face of a rectangular glass slab. When coming out on the opposite parallel face, the red and green rays emerge from [AIPMT 2004]

(1) two points propagating in two different non-parallel directions
(2) two points propagating in two different parallel directions
(3) one point propagating in two different directions
(4) one point propagating in the same directions

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Q.6 A ray of light travelling in air has wavelength λ, frequency n, velocity v and intensity I. If this ray enters into water then these parameters are λ', n', v' and I' respectively. Which relation is correct from following? [AIPMT 2001]

(1) λ = λ' (2) n = n' (3) v = v' (4) I = I'

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Q.7 A bubble in glass slab (μ = 1.5) when viewed from one side appears at 5 cm and 2 cm from other side, then thickness of slab is [AIPMT 2000]

(1) 3.75 cm (2) 3 cm (3) 10.5 cm (4) 2.5 cm.

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ANSWER KEY

Ques.	1	2	3	4	5	6	7				
Ans.	3	3	2	2	2	2	3				