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PHYSICS · EAPCET (EAMCET)

Wave Optics

Previous Year Questions with answers

136 questions · **127** papers · **2010–2026** · newest paper first

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What is in this PDF: every Wave Optics question we hold from past AP and TS EAPCET (called EAMCET until 2020 in Andhra Pradesh and 2023 in Telangana) papers, with its options and answer. Where an answer comes from a source other than the official final key, it says so next to the answer.

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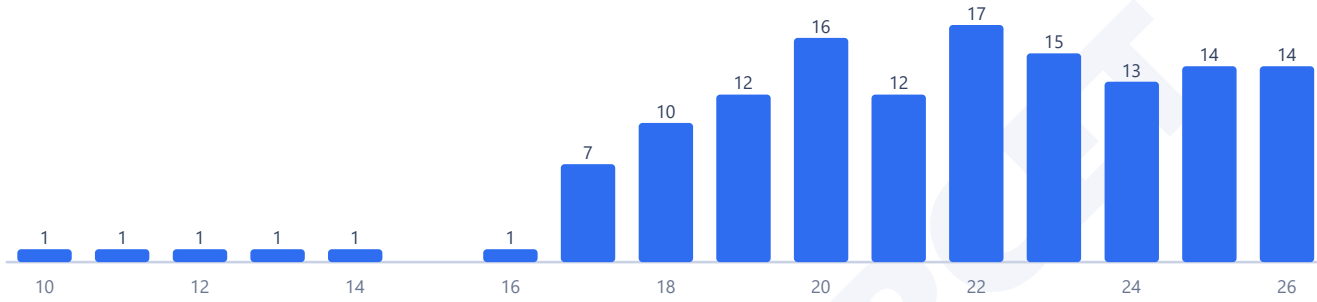
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Chapter at a glance

2.4%	136	68 of 77	136 / 0
of Physics questions, 2022–2026	questions, 2010–2026	papers asked it, 2022–2026	MCQ / numerical, 2010–2026

Trend. Steady: 0.9 questions per paper in 2024–2026 against 1 in 2022–2023.

Questions per year



Counts are the questions we hold: 136 in 127 papers. 2 questions in this chapter came back in more than one paper.

Most-asked topics in this chapter (2010–2026)

Interference	84
Diffraction & Polarisation	42
Huygens' Principle	10

How often it comes up

Wave Optics offers a concise theoretical chapter in the Class 12 physics sequence. Within our collection of AP and TS EAPCET papers from 2022 to 2026, students encountered 73 questions from this topic across 77 exam papers, which amounts to 0.9 questions per sitting and 2.4% of all physics questions. Taking in all 149 papers in our archive from 2010 to 2026, Wave Optics delivered 136 questions, giving an overall rate of 0.9 questions per paper and a 2.3% share. During the earlier window between 2010 and 2021, our records show 63 questions in 72 papers (2.2% share). Over the last three exam years from 2024 to 2026, the topic accounted for 41 questions in 46 sittings, representing a 2.2% share. Comparing the last three years to early papers, the chapter's share of the subject is about the same, and compared to the recent five-year window it is also about the same.

State-wise breakdowns show very similar weighting on both sides. AP EAPCET papers between 2022 and 2026 yielded 45 questions across 48 papers in our set, with 41 papers containing at least one question (0.9 per paper, 2.3% share). Over the same period, TS EAPCET brought 28 questions across 29 papers in our set, with 27 papers featuring the chapter (1.0 per paper, 2.4% share). Wave Optics has appeared every year since 2022, though across all 77 recent papers in our collection, nine papers omitted it, meaning it did not feature in all 77 sittings. By volume of questions from 2022 to 2026, it occupies the 27th position among the 28 physics chapters. Its highest single-year total occurred in 2022, when 17 questions appeared across 16 papers.

Most-asked topics

Questions group into three distinct syllabus modules:

- **Interference**: This dominant section brought 42 questions between 2022 and 2026, contributing to 84 questions across all years in our archive. It tests Young's double slit experiment, fringe width $\beta = \lambda D / d$, optical path differences, thin mica sheet shifts, and intensity distribution on screens.

- **Diffraction & Polarisation**: Recent examinations supplied 24 questions, out of 42 questions in the complete record. Key concepts cover Fraunhofer single slit diffraction, angular width of central maxima, circular apertures, Brewster's law, Malus's law, and Polaroid sheets.
- **Huygens' Principle**: A focused pool of 7 questions appeared in the recent five-year window, out of 10 questions across the entire archive. Questions evaluate wavefront shapes from point, line, and planar sources, laws of reflection and refraction using wave theory, and the Fresnel distance.

What the questions look like

Young's double slit interference calculations form the primary testing ground. A typical problem immerses the entire experimental apparatus in water or another liquid of refractive index n, asking for the new fringe width or the positional coordinates of a higher-order maximum. Because wavelength shrinks to λ / n while slit spacing d and screen distance D remain fixed, fringe width contracts to β / n. Another recurring setup inserts a thin transparent plate of thickness t and refractive index μ across one slit, asking for the central fringe shift Δy = (μ - 1) t D / d.

Diffraction problems concentrate on single slit patterns and circular apertures. A classic configuration gives a single slit illuminated by two wavelengths and asks at what angle the third minimum of one wavelength coincides with the second secondary maximum of the second wavelength. Polarisation problems test Malus's law I = I_zero $\cos^2$ θ across rotating Polaroid analyzers or require calculating Brewster's angle from the tangent of the polarizing angle tan i_p = n.

How to practise it

Start by mastering interference relations in Young's double slit experiment. Path difference at screen position y is Δx = y d / D. Constructive interference bright fringes appear where Δx = n λ, yielding positions y_n = n λ D / d. Destructive interference dark fringes occur where Δx = (two n - 1) λ / two, giving positions y_n' = (two n - 1) λ D / (two d). Fringe width is uniform across the screen: β = λ D / d. Resultant intensity for two coherent sources of equal intensity I_zero is I = four I_zero $\cos^2$(φ / two), where phase difference is φ = (two π / λ) Δx.

Next, study Fraunhofer single slit diffraction. For a slit of width a, minima occur at angles satisfying a sin θ = n λ. The central diffraction maximum extends between the first minima on either side, giving linear width w = two λ D / a and angular width 2θ = two λ / a. Notice that central diffraction width is double the secondary peak width. For a circular aperture of diameter D_aperture, the angular radius of the central Airy disk is θ = one point two two times λ / D_aperture.

Finally, master polarisation formulas. Brewster's law states that reflected light is completely linearly polarised when incident at angle i_p satisfying tan i_p = n, with reflected and refracted rays remaining mutually perpendicular. Malus's law states that unpolarised light passing through a polarizer emerges with half intensity I_zero / two, and subsequent transmission through an analyzer oriented at angle θ yields I = (I_zero / two) $\cos^2$ θ.

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Q1 AP EAPCET 2026 · 18 May · Shift 1 MCQ

The percentage of decrease in the intensity of polarized light when it is passed through an analyser at an angle of 60° is

(A) 25%
(B) 50%
(C) 75%
(D) 60%

Answer: (C) 75% · The council's preliminary key

Q2 AP EAPCET 2026 · 15 May · Shift 1 MCQ

Interference fringes produced by a double slit arrangement using a monochromatic light of wave length 5,890Å, have an angular fringe width 0.28°. If the entire arrangement is immersed in water. The new angular fringe width will be $({}^a\mu_\omega = 4/3)$

(A) 0.24°
(B) 0.21°
(C) 0.18°
(D) 0.36°

Answer: (B) 0.21° · The council's preliminary key

Q3 AP EAPCET 2026 · 15 May · Shift 2 MCQ

In Young's double slit experiment, the fringe width is β. If the distance between slit and screen is doubled and separation between slits is made $\frac{1}{4}$ of initial value, then new fringe width is

(A) 4β
(B) $\frac{\beta}{4}$
(C) $\frac{\beta}{8}$
(D) 8β

Answer: (D) 8β · The council's preliminary key

Q4 AP EAPCET 2026 · 14 May · Shift 1 MCQ

In Young's double slit experiment, the ratio of intensities of maxima and minima in the interference experiment is 25:9. The ratio of intensities of two slits is

(A) 18:3
(B) 4:1
(C) 8:1
(D) 16:1

Answer: (D) 16:1 · The council's preliminary key

Q5 AP EAPCET 2026 · 14 May · Shift 2 MCQ

The direction of the second order diffraction minima in Fraunhoffer diffraction at a single slit is (a=slit width) given by

(A) $\sin\theta = \frac{\lambda}{2a}$
(B) $\sin\theta = \frac{2\lambda}{a}$
(C) $\sin\theta = 2\lambda a$
(D) $\sin\theta = \frac{a}{2\lambda}$

Answer: (B) $\sin\theta = \frac{2\lambda}{a}$ · The council's preliminary key

Q6 AP EAPCET 2026 · 13 May · Shift 1 MCQ

In a Young's double slit experiment, the intensity at a point where the path difference is $\frac{\lambda}{6}$ (λ being the wavelength of the light used) is I. If I_0 denotes the maximum intensity, $\frac{I}{I_0}$ is

(A) $\frac{1}{\sqrt{2}}$
(B) $\frac{\sqrt{3}}{2}$
(C) $\frac{1}{2}$
(D) $\frac{3}{4}$

Answer: (D) $\frac{3}{4}$ · The council's preliminary key

Q7 AP EAPCET 2026 · 13 May · Shift 2 MCQ

The correct relation between fringe width (β) and distance between the slits (d) is

The correct relation between fringe width (β) and distance between the slits (d) is

పట్టీ వెడల్పు (β) మరియు చీలికల దూరం (d) ల మధ్య సరియైన సంబంధం

Options :

1. 

2. 

3. 

4. 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (B) · The council's preliminary key

Q8 AP EAPCET 2026 · 12 May · Shift 1 MCQ

Young's double slit experiment is conducted in water. The refractive index of water is 1.33. Wavelength of incident light is 6000 Å and the separation between the slits is 2 mm. Fringe width is given by $0.63\ mm$. The distance between screen and slits is

(A) $1.4\ m$

(B) $1.04\ m$

(C) $2.79\ m$

(D) $1.72\ m$

Answer: (C) $2.79\ m$ · The council's preliminary key

Q9 AP EAPCET 2026 · 12 May · Shift 2 MCQ

In Young's double slit experiment, the Y- coordinates of central maxima and 10^{th} maxima are 2cm and 5cm respectively. When this apparatus is immersed in a liquid of refractive index 1.5, the corresponding Y- coordinates will be

(A) $2\ cm\ , 7.5\ cm$
(B) $3\ cm\ , 6\ cm$
(C) $2\ cm\ , 4\ cm$
(D) $\frac{4}{3}\ cm\ , \frac{10}{3}\ cm$

Answer: (C) $2\ cm\ , 4\ cm$ · The council's preliminary key

Q10 TS EAPCET 2026 · 11 May · Shift 1 MCQ

When monochromatic light of wavelength λ is used in Young's double slit experiment, if I is the intensity of light at a point on the screen where path difference is $\frac{\lambda}{3}$, then the intensity of light at a point on the screen where path difference becomes λ is

(A) 2I
(B) 3I
(C) 4I
(D) I

Answer: (C) 4I · The council's preliminary key

Q11 TS EAPCET 2026 · 11 May · Shift 2 MCQ

A polaroid P is placed between two crossed polaroids Q and R such that when unpolarized light incident on Q emerges from R with maximum possible intensity. The ratio of intensity of polarized light incident on P and the intensity of polarized light emerged from R is

(A) $4:1$
(B) $2:1$
(C) $3:1$
(D) $1:1$

Answer: (A) $4:1$ · The council's preliminary key

Q12 TS EAPCET 2026 · 10 May · Shift 1 MCQ

In Young's double slit experiment, if the distance between the first dark fringe and the second bright fringe on the same side of the central maximum is 1.5 mm, then the distance between first dark fringe on one side and the second bright fringe on the other side of the central maximum is

(A) 2.5 mm
(B) 1.5 mm
(C) 3.0 mm
(D) 2.0 mm

Answer: (A) 2.5 mm · The council's preliminary key

Q13 TS EAPCET 2026 · 10 May · Shift 2 MCQ

In a single slit diffraction experiment, if the third minimum for light of wavelength 4800 Å coincides with the second secondary maximum of another light of wavelength λ, then the value of λ is

(A) 6000 Å
(B) 5500 Å
(C) 5760 Å
(D) 4320 Å

Answer: (C) 5760 Å · The council's preliminary key

Q14 TS EAPCET 2026 · 9 May · Shift 2 MCQ

If a parallel beam of light of wavelength 500 nm is incident on a convex lens of focal length 20 cm having a circular aperture of diameter 5 cm, then the radius of the central bright diffraction spot formed on the focal plane of the lens is nearly (in μm)

(A) 1.83
(B) 0.61
(C) 1.22
(D) 2.44

Answer: (D) 2.44 · The council's preliminary key

Q15 AP EAPCET 2025 · 27 May · Shift 1 MCQ

In an experiment, two polariods are arranged such that the intensity of the polarised light emerged from the second polaroid is 37.5% of the intensity of the unpolarised light incident on the first polaroid. Then the angle between the axes of the two polaroids is

(A) 60°
(B) 90°
(C) 45°
(D) 30°

Answer: (D) 30° · The council's preliminary key

Q16 AP EAPCET 2025 · 26 May · Shift 1 MCQ

In Young's double slit experiment, if the distance between the slits is 2 mm and the distance of the screen from the slits is 100 cm, the fringe width is 0.36 mm. If the distance between the slits is decreased by 0.5 mm and the distance of the screen from the slits is increased by 50 cm, the fringe width becomes

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(A) 0.84 mm
(B) 0.96 mm
(C) 0.48 mm
(D) 0.72 mm

Answer: (D) 0.72 mm · The council's preliminary key

Q17 AP EAPCET 2025 · 26 May · Shift 2 MCQ

A narrow slit of width 2 mm is illuminated with a monochromatic light of wavelength 500 nm. If the distance between the slit and the screen is 1m, then first minima are separated by a distance of

(A) 5 mm
(B) 0.5 mm
(C) 1 mm
(D) 10 mm

Answer: (B) 0.5 mm · The council's preliminary key

Q18 AP EAPCET 2025 · 23 May · Shift 1 MCQ

In Young's double slit experiment, the distance between the slits is 0.2 cm, the distance between the screen and the slits is 1 m. If the wavelength of light used in the experiment is 5000 Å, then the distance between two consecutive dark fringes on the screen is

(A) 0.25 mm
(B) 0.26 mm
(C) 0.27 mm
(D) 0.28 mm

Answer: (A) 0.25 mm · The council's preliminary key

Q19 AP EAPCET 2025 · 23 May · Shift 2 MCQ

In Young's double slit experiment, if the distance between the slits is increased to 3 times initial distance, then the ratio of initial and final fringe widths is

(A) $1:9$
(B) $9:1$
(C) $3:1$
(D) $1:3$

Answer: (C) $3:1$ · The council's preliminary key

Q20 AP EAPCET 2025 · 22 May · Shift 1 MCQ

An unpolarised beam of light incidents on a group of three polarising sheets arranged such that the angle between the axes of any two adjascent sheets is 30°. The ratio of the intensities of polarised

light emerging from the second and third sheets is

(A) $1:1$
(B) $2:1$
(C) $4:3$
(D) $3:2$

Answer: (C) $4:3$ · The council's preliminary key

Q21 AP EAPCET 2025 · 22 May · Shift 2 MCQ

In Young's double slit experiment, the wavelength of monochromatic light is increased by 20% and the distance between the two slits is decreased by 25%. If the initial fringe width is 0.3 mm, then the final fringe width is

(A) 0.72 mm
(B) 0.60 mm
(C) 0.16 mm
(D) 0.48 mm

Answer: (D) 0.48 mm · The council's preliminary key

Q22 AP EAPCET 2025 · 21 May · Shift 1 MCQ

In Young's double slit experiment, the wavelengths of red and blue lights used are 7.5×10^{-5} cm and 5×10^{-5} cm respectively. If n^{th} bright fringe of red color coincides with $(n+1)^{th}$ bright fringe of blue colour, then the value of 'n' is

(A) 1
(B) 2
(C) 4
(D) 8

Answer: (B) 2 · The council's preliminary key

Q23 TS EAPCET 2025 · 4 May · Shift 1 MCQ

When two light waves of equal intensity superimpose, the maximum intensity obtained is I. If the intensity of one of the waves is quadrupled, then the maximum intensity obtained is

(A) $\frac{4I}{9}$
(B) $\frac{9I}{4}$
(C) $\frac{2I}{3}$
(D) $\frac{3I}{2}$

Answer: (B) $\frac{9I}{4}$ · The council's preliminary key

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Q24 TS EAPCET 2025 · 4 May · Shift 2 MCQ

The distance for which ray optics becomes a good approximation for an aperture of 0.3 cm and a light of wavelength 6000 Å is

(A) 12 m
(B) 15 m
(C) 24 m
(D) 30 m

Answer: (B) 15 m · The council's preliminary key

Q25 TS EAPCET 2025 · 3 May · Shift 1 MCQ

In Young's double slit experiment, if the distance between 5^{th} bright and 7^{th} dark fringes is 3 mm, then the distance between 5^{th} dark and 7^{th} bright fringes is

(A) 6 mm
(B) 3 mm
(C) 5 mm
(D) 4 mm

Answer: (C) 5 mm · The council's preliminary key

Q26 TS EAPCET 2025 · 3 May · Shift 2 MCQ

When unpolarised light from air incidents on the surface of a medium of refractive index $\sqrt{3}$, then the reflected light is totally polarised. The angle of refraction is

(A) 30°
(B) 53°
(C) 60°
(D) 37°

Answer: (A) 30° · The council's preliminary key

Q27 TS EAPCET 2025 · 2 May · Shift 1 MCQ

In Young's double slit experiment with light of wavelength λ, the intensity of light at a point on the screen where the path difference becomes $\frac{\lambda}{3}$ is

(I is intensity of the central bright fringe)

(A) I
(B) $\frac{I}{2}$
(C) $\frac{I}{3}$
(D) $\frac{I}{4}$

Answer: (D) $\frac{I}{4}$ · The council's preliminary key

Q28 TS EAPCET 2025 · 2 May · Shift 2 MCQ

For an aperture of 5×10^{-3} m and a monochromatic light of wavelength λ, the distance for which ray optics becomes a good approximation is 50 m, then $\lambda =$

(A) 5000 Å
(B) 6000 Å
(C) 5400 Å
(D) 6500 Å

Answer: (A) 5000 Å · The council's preliminary key

Q29 AP EAPCET 2024 · 23 May · Shift 1 MCQ

Two light waves of intensities I and 2I superimpose on each other. If the path difference between the light waves reaching a point is 12.5% of the wavelength of the light, then the resultant intensity at the point is (Both the light waves have same wavelength)

(A) I
(B) 9I
(C) 3I
(D) 5I

Answer: (D) 5I · The council's preliminary key

Q30 AP EAPCET 2024 · 22 May · Shift 1 MCQ

If a slit of width 'x' was illuminated by red light having wavelength $6500\ \text{Å}$, the first minima was obtained at $\theta = 30^\circ$. Then the value of 'x' is

(A) $1.4 \times 10^{-4}\ \mu\text{m}$
(B) $1.2 \times 10^{-5}\ \text{m}$
(C) $1.3\ \mu\text{m}$
(D) $1.2\ \mu\text{m}$

Answer: (C) $1.3\ \mu\text{m}$ · The council's preliminary key

Q31 AP EAPCET 2024 · 22 May · Shift 2 MCQ

The angle between the axes of a polariser and an analyser is 45°. If the intensity of the unpolarized light incident on the polariser is I, then the intensity of the light emerged from the analyser is

(A) $2I$
(B) $\frac{I}{2}$
(C) I
(D) $\frac{I}{4}$

Answer: (D) $\frac{I}{4}$ · The council's preliminary key

Q32 AP EAPCET 2024 · 21 May · Shift 1 MCQ

The angle of polarisation for a medium with respect to air is 60°. The critical angle of this medium with respect to air is

(A) $\text{Sin}^{-1}\sqrt{3}$
(B) $\text{Tan}^{-1}\sqrt{3}$
(C) $\text{Cos}^{-1}\sqrt{3}$
(D) $\text{Sin}^{-1}\frac{1}{\sqrt{3}}$

Answer: (D) $\text{Sin}^{-1}\frac{1}{\sqrt{3}}$ · The council's preliminary key

Q33 AP EAPCET 2024 · 21 May · Shift 2 MCQ

When a wave enters into a rarer medium from a denser medium, the property of the wave which remains constant is

(A) Wavelength
(B) Frequency
(C) Velocity
(D) Amplitude

Answer: (B) Frequency · The council's preliminary key

Q34 AP EAPCET 2024 · 21 May · Shift 2 MCQ

In case of diffraction, if 'a' is a slit width and λ is the wavelength of the incident light, then the required condition for diffraction to take place is

(A) $\frac{a}{\lambda} = 1000$
(B) $\frac{a}{\lambda} \leq 1$
(C) $a \ll \lambda$
(D) $a \gg \lambda$

Answer: (B) $\frac{a}{\lambda} \leq 1$ · The council's preliminary key

Q35 AP EAPCET 2024 · 20 May · Shift 1 MCQ

In Young's double slit experiment, two slits are placed 2 mm from each other. Interference pattern is observed on a screen placed 2 m from the plane of the slits. Then the fringe width for a light of

wavelength 400 nm is

(A) 0.4×10^{-6} m
(B) 4×10^{-6} m
(C) 0.4×10^{-3} m
(D) 400 m

Answer: (C) 0.4×10^{-3} m · The council's preliminary key

Q36 AP EAPCET 2024 · 19 May · Shift 2 MCQ

In Young's double slit experiment, the intensity at a point where the path difference is $\frac{\lambda}{6}$ (λ being the wavelength of the light used) is I. If I_0 denotes the maximum intensity, I/I_0 is equal to

(A) $1/\sqrt{2}$
(B) $\sqrt{3}/2$
(C) $1/2$
(D) $3/4$

Answer: (D) $3/4$ · The council's preliminary key

Q37 AP EAPCET 2024 · 18 May · Shift 1 MCQ

In young's double slit experiment with monochromatic light of wave length 6000 Å, the fringe width is 3 mm. If the distance between the screen and slits is increased by 50 % and the distance between the slits is decreased by 10 %, then the fringe width is

(A) 12 mm
(B) 5 mm
(C) 6 mm
(D) 10 mm

Answer: (B) 5 mm · The council's preliminary key

Q38 TS EAPCET 2024 · 11 May · Shift 1 MCQ

When a monochromatic light is incident on a surface separating two media, both the reflected and refracted lights have the same _____

(A) frequency
(B) wavelength
(C) velocity
(D) amplitude

Answer: (A) frequency · The council's preliminary key

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Q39 TS EAPCET 2024 · 10 May · Shift 1 MCQ

In Young's double slit experiment, intensity of light at a point on the screen where the path difference becomes λ is I. The intensity at a point on the screen where the path difference becomes $\frac{\lambda}{3}$ is,

(A) $\frac{I}{4}$
(B) $\frac{I}{3}$
(C) $\frac{2I}{3}$
(D) $3I$

Answer: (A) $\frac{I}{4}$ · The council's preliminary key

Q40 TS EAPCET 2024 · 10 May · Shift 2 MCQ

The Brewster angle for air to glass transition of light is
(Refractive index of glass = 1.5)

(A) $\text{Sin}^{-1}\left(\frac{3}{2}\right)$
(B) $\text{Cos}^{-1}\left(\frac{3}{2}\right)$
(C) $\text{Tan}^{-1}\left(\frac{3}{2}\right)$
(D) $\text{Cos}^{-1}\left(\frac{2}{3}\right)$

Answer: (C) $\text{Tan}^{-1}\left(\frac{3}{2}\right)$ · The council's preliminary key

Q41 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Young's double slit experiment is performed with monochromatic light of wavelength 6000 Å. If the intensity of light at a point on the screen where path difference of 2000 Å is I_1 and the intensity of light at a point on the screen where the path difference is 1000 Å is I_2, then $I_1 : I_2 =$

(A) $1:3$
(B) $2:1$
(C) $1:1$
(D) $4:5$

Answer: (A) $1:3$ · The council's preliminary key

Q42 AP EAPCET 2023 · 19 May · Shift 1 MCQ

In a Young's double slit experiment, a laser light of wave length 560 nm produces an interference pattern with consecutive bright fringe's separation of 7.2 mm. Now another light is used to produce an interference pattern with consecutive bright fringes' separation of 8.1 mm. The wavelength of second light is

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(A) 680 nm
(B) 630 nm
(C) 650 nm
(D) 540 nm

Answer: (B) 630 nm · The council's preliminary key

Q43 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Angular width of central maximum of a diffraction pattern due to a single slit does not depend upon

(A) Distance between slit and source
(B) Wavelength of light used
(C) Width of the slit
(D) Frequency of light used

Answer: (A) Distance between slit and source · The council's preliminary key

Q44 AP EAPCET 2023 · 18 May · Shift 2 MCQ

When a light ray incidents on the surface of a medium, the reflected ray is completely polarized. Then the angle between reflected and refracted rays is

(A) 45°
(B) 90°
(C) 120°
(D) 180°

Answer: (B) 90° · The council's preliminary key

Q45 AP EAPCET 2023 · 17 May · Shift 1 MCQ

The frequency of a light ray is 6×10^{14} Hz. Its frequency when it propagates in a medium of refractive index 1.5, will be

(A) 1.67×10^{14} Hz
(B) 9.10×10^{14} Hz
(C) 6×10^{14} Hz
(D) 4×10^{14} Hz

Answer: (C) 6×10^{14} **Hz** · The council's preliminary key

Q46 AP EAPCET 2023 · 17 May · Shift 1 MCQ

Two coherent light sources having intensity in the ratio 2x produce an interference pattern. Then the value of $\frac{I_{max}-I_{min}}{I_{max}+I_{min}}$ will be

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(A) $\frac{2\sqrt{2x}}{x+1}$
(B) $\frac{\sqrt{2x}}{2x+1}$
(C) $\frac{2\sqrt{2x}}{2x+1}$
(D) $\frac{\sqrt{2x}}{x+1}$

Answer: (C) $\frac{2\sqrt{2x}}{2x+1}$ · The council's preliminary key

Q47 AP EAPCET 2023 · 16 May · Shift 1 MCQ

The relation $I = I_0 \cos^2\theta$ is

(I_0 – Intensity of incident light on the analyser, I – intensity of emergent light from the analyser, θ – angle between plane of polarization and the axis of analyser)

(A) Newton's law
(B) Snell's law
(C) Brewster's law
(D) Malus's law

Answer: (D) Malus's law · The council's preliminary key

Q48 AP EAPCET 2023 · 16 May · Shift 2 MCQ

A diffraction pattern is obtained by using a beam of red light. If the red light is replaced by the blue light

(A) bands will be narrower
(B) bands become broader
(C) no change in the width of the bands takes place
(D) bands disappear

Answer: (A) bands will be narrower · The council's preliminary key

Q49 AP EAPCET 2023 · 15 May · Shift 1 MCQ

The property of light which cannot be explained by Huygen's construction of wavefront is

(A) Refraction
(B) Reflection
(C) Diffraction
(D) Origin of spectra

Answer: (D) Origin of spectra · The council's preliminary key

Q50 AP EAPCET 2023 · 15 May · Shift 2 MCQ

In a Young's double slit experiment, if the wavelength of light is increased by 50% and the distance between the slits is doubled then the percentage change in fringe width is

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(A) 75
(B) 50
(C) 25
(D) 15

Answer: (C) 25 · The council's preliminary key

Q51 TS EAMCET 2023 · 14 May · Shift 1 MCQ

A point source of light is placed at the focus of a concave mirror. Consider only paraxial rays. The shapes of the wavefronts of incident and reflected lights respectively are

(A) spherical, spherical
(B) spherical, planar
(C) spherical, cylindrical
(D) planar, spherical

Answer: (B) spherical, planar · The council's preliminary key

Q52 TS EAMCET 2023 · 14 May · Shift 2 MCQ

In a single slit diffraction, the slit is illuminated with light of wavelength $6000\ \text{Å}$. If the slit were illuminated by a light of wavelength λ the angular width of the central maximum decreases by $30\ \%$. Then λ is

(A) $6000\ \text{Å}$
(B) $4200\ \text{Å}$
(C) $3000\ \text{Å}$
(D) $1800\ \text{Å}$

Answer: (B) $4200\ \text{Å}$ · The council's preliminary key

Q53 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Two slits are made one millimetre apart and the screen is placed one metre away from the slits. The fringe width when light of wavelength 500 nm is used is

(A) 5 m
(B) 0.5 mm
(C) 0.5 m
(D) 5 cm

Answer: (B) 0.5 mm · The council's preliminary key

Q54 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Two slits separated by a distance of 1 mm are illuminated with light of wavelength 6.5×10^{-7} m. The interference fringes are observed on a screen placed at 1 m from the slits. The distance between the

third dark fringe and the fifth bright fringe is equal to

(A) 0.655 mm
(B) 1.625 mm
(C) 125 mm
(D) 4.785 mm

Answer: (B) 1.625 mm · The council's preliminary key

Q55 TS EAMCET 2023 · 12 May · Shift 1 MCQ

When Young's double slit experiment is performed in air, the Y-coordinates of central maxima and 10^{th} maxima are 2 cm and 5 cm respectively. If the apparatus is immersed in a liquid of refractive index 1.5, the corresponding Y-coordinates will be

(A) 2 cm, 7.5 cm
(B) 3 cm, 6 cm
(C) 2 cm, 4 cm
(D) $\frac{4}{3}$ cm, $\frac{10}{3}$ cm

Answer: (C) 2 cm, 4 cm · The council's preliminary key

Q56 TS EAMCET 2023 · 12 May · Shift 2 MCQ

If the slit width is 2 mm and wavelength of light used is 4000 Å, then Fresnel distance is nearly

(A) 2 mm
(B) 10 m
(C) 20 km
(D) 2 μm

Answer: (B) 10 m · The council's preliminary key

Q57 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

In an interference pattern of Young's double slit experiment, at a point we observe the 12^{th} order maximum for a monochromatic light source with wavelength 6000 $\mathring{A}$. What order will be visible here if the source is replaced by a light of wavelength 4800 $\mathring{A}$?

(A) 15
(B) 10
(C) 8
(D) 18

Answer: (A) 15 · The council's preliminary key

EdLoop EAPCET

Q58 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

In a Young's double slit experiment, if the distance between two slits is reduced by a factor of 2 and the wavelength of light is increased 4 times then the distance between two maxima will become _____ times the original value.

(A) 2
(B) 4
(C) 8
(D) 16

Answer: (C) 8 · The council's preliminary key

Q59 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

In Young's double slit experiment for what order does the wavelength of red light ($\lambda = 780$ nm) coincide with $(\mathrm{m}+1)^{\mathrm{th}}$ order of blue light ($\lambda = 520$ nm)

(A) 1
(B) 2
(C) 3
(D) 4

Answer: (B) 2 · The council's preliminary key

Q60 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

In a double-slit experiment performed in air the angular width of a fringe is found to be 0.15° on a screen placed 80 cm away. The wavelength of light used is 490 nm. The angular width of the fringe if the entire apparatus is immersed in a medium of refractive index $\frac{5}{3}$ is

(A) 0.09°
(B) 0.7°
(C) 0.9°
(D) 0.11°

Answer: (A) 0.09° · Checked by our team

Q61 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

Two waves of amplitudes A_1 and A_2 respectively are superimposed. The ratio between the maximum and minimum intensities of the resultant waves is 9: 4. The value of $\frac{A_2}{A_1}$ is [Assume $A_1 > A_2$]

(A) 0.66
(B) 0.20
(C) 0.75
(D) 0.44

Answer: (B) 0.20 · The council's preliminary key

Q62 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

A Young's double slit experiment apparatus has slits separated by 0.2 mm and a screen 60 cm away from the slits. The whole apparatus is immersed in a liquid medium of refractive index $\frac{11}{9}$ and the slits are illuminated with green light ($\lambda = 550\ nm$ in vacuum). Find the fringe width of the pattern formed on the screen.

(A) $0.95\ \text{mm}$
(B) $1.25\ \text{mm}$
(C) $1.35\ \text{mm}$
(D) $1.45\ \text{mm}$

Answer: (C) $1.35\ \text{mm}$ · The council's preliminary key

Q63 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

The angular width of a fringe in a double slit experiment is found to be 0.2° on a screen 1 m away. The wavelength of light used is 600 nm. The change in angular width of the fridge if the entire measurement system is immersed in water is
[Use refractive index of water as 4/3]

(A) 0.05°
(B) 0.10°
(C) 0.15°
(D) 0.20°

Answer: (A) 0.05° · The council's preliminary key

Q64 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

Assertion [A] : For light diverging from a point source, the intensity at the wavefront does not depend on the distance.
Reason [R] : In a diverging beam of light from a point source, spherical wavefront is observed.

(A) (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true.

Answer: (D) (A) is false but (R) is true. · The council's preliminary key

Q65 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

A monochromatic light is incident on a single slit of width 0.014 mm. The angular position of the second bright line observed is 2.81°. Then the wavelength of the incident light is $[\sin(2.81^{\circ}) = 0.049072]$

(A) $4026\ \text{Å}$
(B) $5890\ \text{Å}$
(C) $6040\ \text{Å}$
(D) $2748\ \text{Å}$

Answer: (D) $2748\ \text{Å}$ · The council's preliminary key

Q66 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

In a Young's double slit experiment, the slits are separated by 0.28 mm and the screen is placed 1.4 m away from the slits. The distance between the central bright fringe and the 4^{th} order bright fringe is measured to be 1.2 cm. The wavelength of light used in this experiment is

(A) $2400\ \text{nm}$
(B) $600\ \text{nm}$
(C) $1200\ \text{nm}$
(D) $800\ \text{nm}$

Answer: (B) $600\ \text{nm}$ · The council's preliminary key

Q67 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

In Young's double slit experiment, light of wavelength 480 nm is incident on two slits separated by a distance of 4×10^{-4} m. If a thin plate of thickness 1.4×10^{-6} m and refractive index $\frac{13}{7}$ is placed between one of the slits and screen, the phase difference introduced at the position of central maxima is

(A) 5π
(B) $\frac{7}{3}\pi$
(C) $\frac{7}{4}\pi$
(D) 4π

Answer: (A) 5π · The council's preliminary key

Q68 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

A monochromatic light of wavelength 6000 Å coming from a star is detected in a 100 inch telescope. The limit of resolution of the telescope is approximately

(A) 3.4×10^{-7} rad
(B) 6.7×10^{-7} rad
(C) 2.9×10^{-7} rad
(D) 1.54×10^{-7} rad

Answer: (C) 2.9×10^{-7} rad · The council's preliminary key

Q69 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Two coherent sources O_1 and O_2 in Young's double slit experiment are illuminated with monochromatic light of wavelength 5000 Å. If a second order dark fringe is formed at a point R on the screen, the path difference $O_1R \sim O_2R$ is

(A) 7.5 μm
(B) 0.75 μm
(C) 0.075 μm
(D) 75 μm

Answer: (B) 0.75 μm · The council's preliminary key

Q70 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

Young's double slit experiment is conducted with monochromatic light of wavelength 5000 Å, with slit separation of 3 mm and observer at 20 cm away from the slits. If a 1 mm transparent plate is placed in front of one of the slits, the fringes shift by 6 mm. The refractive index of the transparent plate is

(A) 1.08
(B) 1.09
(C) 1.1
(D) 1.2

Answer: (B) 1.09 · The council's preliminary key

Q71 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

In Young's double slit experiment, the slits are 3 mm apart and are illuminated by light of two wavelengths 3750 Å and 7500 Å. The screen is placed at 4 m from the slits. The minimum distance from the common central bright fringe on the screen at which the bright fringe of one interference pattern due to one wavelength coincide with the bright fringe of the other is

(A) 2 mm
(B) 3 mm
(C) 1 mm
(D) 8 mm

Answer: (C) 1 mm · The council's preliminary key

Q72 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

A beam of light both reflects and refracts at the surface between air and glass. The index of refraction of the glass is 1.4. If the refracted and the reflected rays are perpendicular to each other, then the angle of incidence in the air is

(A) $\tan^{-1}(1.4)$
(B) $\sin^{-1}\left(\frac{1}{1.4}\right)$
(C) $\tan^{-1}\left(\frac{1}{1.4}\right)$
(D) $\sin^{-1}\left(\frac{1.4}{\pi}\right)$

Answer: (A) $\tan^{-1}(1.4)$ · The council's preliminary key

Q73 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

When monochromatic light of wavelength 600 nm is used in Young's double slit experiment, the fifth order bright fringe is formed at 6 mm from the central bright fringe on the screen. If the experiment is conducted with light of wavelength 400 nm from the central bright fringe, the third order bright fringe will be located at

(A) 1.6 mm
(B) 2 mm
(C) 2.4 mm
(D) 3 mm

Answer: (C) 2.4 mm · The council's preliminary key

Q74 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

The ratio of maximum and minimum intensities in an interference pattern is $36:1$. The ratio of the amplitude of the two interfering waves will be _____

(A) $5 : 7$
(B) $7 : 4$
(C) $4 : 7$
(D) $7 : 5$

Answer: (D) $7 : 5$ · The council's preliminary key

Q75 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

In a double slit experiment, when the distance between slits is increased 10 times, while their distance from the screen is halved, then the fringe width _____

(A) Becomes $\left(\frac{1}{20}\right)$ times the original
(B) Becomes $\left(\frac{1}{90}\right)$ times the original
(C) Remains the same
(D) Becomes $\left(\frac{1}{10}\right)$ times the original

Answer: (A) Becomes $\left(\frac{1}{20}\right)$ times the original · The council's preliminary key

Q76 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

If the ratio of amplitudes of two interfering waves is 4 : 3, then the ratio of maximum and minimum intensity is:

(A) $16 : 18$
(B) $18 : 16$
(C) $49 : 1$
(D) $94 : 1$

Answer: (C) $49 : 1$ · The council's preliminary key

Q77 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

The position of the direct image obtained at O, when a monochromatic beam of light is passed through a plane transmission grating at normal incidence is shown in figure. The diffracted images A, B and C correspond to the first, second and third order diffraction. When the source is replaced by another source of shorter wavelength

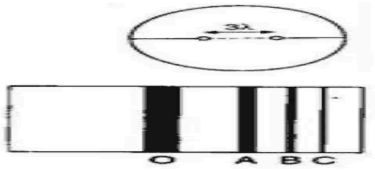
(see the figure above)

Mandatory : No

AP EAPCET 2021
AP EAPCET 2021

The position of the direct image obtained at O, when a monochromatic beam of light is passed through a plane transmission grating at normal incidence is shown in figure. The diffracted images A, B and C correspond to the first, second and third order diffraction. When the source is replaced by another source of shorter wavelength

ఒక సమతల ప్రసార గ్రేటింగు ద్వారా ఒక విక్ష పథకాంతి పంపినప్పుడు, ప్రతిబింబము O వద్ద ఏర్పడినది. A, B, C లు మొదట, రెండవ, మూడవ విక్షణ ప్రతిబింబాలను సూచిస్తాయి. కాంతి జనకాన్ని మరియొక అల్ప తరంగదైర్ఘ్యము కలిగిన కాంతి జనకముతో మార్చినచో ఏమవుతుంది _____



Options :

1. all the four will shift in the direction C to O
   నాలుగు ప్రతిబింబాలు C నుండి O వైపుకు కదులును
2. all the four will shift in the direction O to C
   నాలుగు ప్రతిబింబాలు O నుండి C వైపుకు కదులును
3. the images C, B and A will shift towards O
   C, B, A లు O వైపుగా కదులును
4. the images C, B and A will shift away from O
   C, B, A లు O నుండి దూరముగా కదులును

(A) all the four will shift in the direction C to O
(B) all the four will shift in the direction O to C
(C) the images C, B and A will shift towards O
(D) the images C, B and A will shift away from O

Answer: (C) the images C, B and A will shift towards O · The council's preliminary key

Q78 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

The wave front is a surface in which _____

(A) all points are in the same phase
(B) there are pairs of points in opposite phase
(C) there are pairs of points with phase difference $(\pi/2)$
(D) there is no relation between the phases

Answer: (A) all points are in the same phase · The council's preliminary key

Q79 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

In a diffraction pattern due to a single slit of width 'a', the first minimum is observed at an angle 30° when light of wavelength $500\ nm$ is incident on the slit. The first secondary maximum is observed at an angle of _____

(A) $\sin^{-1}\frac{1}{2}$

(B) $\sin^{-1}\frac{3}{4}$

(C) $\sin^{-1}\frac{1}{4}$

(D) $\sin^{-1}\frac{2}{3}$

Answer: (B) $\sin^{-1}\frac{3}{4}$ · The council's preliminary key

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Q80 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

In Young's double slit experiment, the separation between the slits is halved and the distance between the screen is doubled. The fringe width is _____

(A) Unchanged

(B) Halved

(C) Doubled

(D) Quadrupled

Answer: (D) Quadrupled · The council's preliminary key

Q81 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

In Young's double slit experiment, point A on the screen has a path difference of λ and point B on the screen has a path difference of $\frac{\lambda}{4}$. What is the ratio of the intensities at point A to B?

(A) 1 : 1

(B) 2 : 1

(C) 1 : 2

(D) 4 : 1

Answer: (B) 2 : 1 · The council's preliminary key

Q82 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

White light is used to illuminate the two slits in a Young's double experiment. The observed central fringe is

(A) Black

(B) White

(C) Blue

(D) Red

Answer: (B) White · The council's preliminary key

EdLoop EAPCET

Q83 TS EAMCET 2021 · 5 Aug · Shift 2 MCQ

The fringe widths are found to be ω_1 and ω_2 respectively if a Young's double slit experiment is performed in medium of refractive index n_1 and n_2 respectively. The correct statement is

(A) $\omega_1 > \omega_2$ if $n_1 > n_2$
(B) $\omega_1 > \omega_2$ if $n_1 < n_2$
(C) $\omega_1 = \omega_2$ if $n_1 < n_2$
(D) $\frac{\omega_1}{\omega_2} = \frac{n_1}{n_2}$

Answer: (B) $\omega_1 > \omega_2$ if $n_1 < n_2$ · The council's preliminary key

Q84 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

What would be the angular separation between the consecutive bright fringes in Young's double slit experiment with blue green light of wavelength 400 nm? The separation between the slits is 0.001 m.

(A) 4×10^{-4} rad
(B) 3×10^{-4} rad
(C) 2×10^{-4} rad
(D) 1×10^{-4} rad

Answer: (A) 4×10^{-4} rad · The council's preliminary key

Q85 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

In Young's double slit experiment using monochromatic light of wavelength λ, the intensity of light at a point on the screen where the path difference is $\frac{\lambda}{3}$, is I_0. What is the intensity of light at a point where the path difference is λ?

(A) $2I_0$
(B) $4I_0$
(C) $\frac{I_0}{2}$
(D) $\frac{\sqrt{3}}{2}I_0$

Answer: (B) $4I_0$ · The council's preliminary key

Q86 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

A mixture of Yellow light of wavelength $580\ \text{nm}$ and blue light of wave length $450\ \text{nm}$ is incident normally on an air film of thickness $2.9 \times 10^{-4}\ \text{mm}$. The colour of reflected light is

(A) Red
(B) Blue
(C) Violet
(D) Yellow

Answer: (B) Blue · The council's preliminary key

Q87 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Two-point white dots are 2mm apart on a black paper. They are viewed by eye of pupil diameter $3\ \text{mm}$. What is the maximum distance at which these dots can be resolved by the eye? ($\lambda = 500\ \text{nm}$)

(A) $5\ \text{m}$
(B) $1\ \text{m}$
(C) $6\ \text{m}$
(D) $10\ \text{m}$

Answer: (D) $10\ \text{m}$ · The council's preliminary key

Q88 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Conditions of diffraction is _____

(A) $\frac{a}{\lambda} \neq 1$
(B) $\frac{a}{\lambda} \gg 1$
(C) $\frac{a}{\lambda} \ll 1$
(D) $\frac{a}{\lambda} \leq 1$

Answer: (D) $\frac{a}{\lambda} \leq 1$ · Checked by our team

Q89 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

The central fringe in the interference pattern obtained in Young's double slit experiment will be a dark fringe when the phase difference between the waves from the two slits is

(A) 0
(B) $\frac{\pi}{2}$
(C) π
(D) $\frac{\pi}{3}$

Answer: (C) π · The council's preliminary key

Q90 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Which of the following generates a plane wave front?

(A) Point source
(B) Extended source
(C) Monochromatic source
(D) All light sources

Answer: (B) Extended source · The council's preliminary key

Q91 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

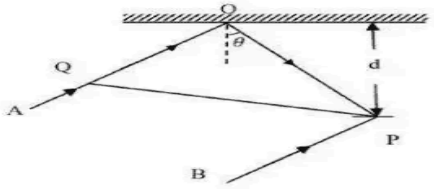
PQ represents a wave front and AO and BP, the corresponding two rays. Find the condition on Q for constructive interference at P between ray BP and reflected ray OP
(see the figure above)

Orientation : Vertical

AP EAMCET 2020
AP EAMCET 2020

PQ represents a wave front and AO and BP, the corresponding two rays. Find the condition on Q for constructive interference at P between ray BP and reflected ray OP

పటములో PQ తరంగాగ్రము యొక్క రెండు కిరణాలు AO మరియు BP చూపబడినవి. కిరణము BP మరియు పరావర్తనమయిన కిరణము OP ల మధ్య Q పై P వద్ద కాంతి సంపోషిత వ్యతికిరణము జరగడానికి గల నిభందన



Options :

1. $\cos\theta = \frac{3\lambda}{2d}$
2. $\cos\theta = \frac{\lambda}{4d}$
3. $\sec\theta - \cos\theta = \frac{\lambda}{d}$
4. $\sec\theta - \cos\theta = \frac{4\lambda}{d}$

(A) $\cos\theta = \frac{3\lambda}{2d}$
(B) $\cos\theta = \frac{\lambda}{4d}$
(C) $\sec\theta - \cos\theta = \frac{\lambda}{d}$
(D) $\sec\theta - \cos\theta = \frac{4\lambda}{d}$

Answer: (B) $\cos\theta = \frac{\lambda}{4d}$ · The council's preliminary key

Q92 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

A Fraunhofer diffraction pattern due to a narrow slit is obtained on a screen placed at a distance D from the slit whose slit width is 'a'. The distance of first secondary maximum from the central maximum is

(A) $\frac{3D\lambda}{a}$
(B) $\frac{3D\lambda}{2a}$
(C) $\frac{2D\lambda}{3a}$
(D) $\frac{2D\lambda}{a}$

Answer: (B) $\frac{3D\lambda}{2a}$ · The council's preliminary key

Q93 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Which of the following phenomena produces the colour in soap bubble?

(A) Diffraction
(B) Interference
(C) Polarization
(D) Refraction

Answer: (B) Interference · Official TGCHE final key

Q94 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

If in a Young's double slit experiment the slit separation is doubled and the distance of the screen from the slits is reduced to half, then, the fringe widths become how many times their original value.

(A) $\frac{1}{2}$
(B) 2
(C) $\frac{1}{4}$
(D) 4

Answer: (C) $\frac{1}{4}$ · Official TGCHE final key

Q95 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

What minimum separation between two objects a human eye would be able to resolve, if the eye pupil diameter is 2mm, and the two objects are 20m away from the eye.
(Assume human eye to be equivalent to a convex lens and consider the average wave length of light as 600nm)

(A) 7.32 mm
(B) 8.72 mm
(C) 6.2 mm
(D) 4.71 mm

Answer: (A) 7.32 mm · Official TGCHE final key

Q96 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

The shape of wavefront of light diverging from point source

(A) spherical
(B) planar
(C) cylindrical
(D) circular

Answer: (A) spherical · Official TGCHE final key

Q97 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

On using red light ($\lambda = 6600$ Å) in Young's double slit experiment, 60 fringes are observed in the field of view. If violet light ($\lambda = 4400$ Å) is used, the number of fringes observed will be

(A) 30
(B) 120
(C) 60
(D) 90

Answer: (D) 90 · Official TGCHE final key

Q98 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Young's double slit experiment is carried out by using green, red and blue light, one color at a time. The fringe width recorded are $\beta_G, \beta_R, \beta_B$ respectively then

(A) $\beta_G > \beta_B > \beta_R$
(B) $\beta_B > \beta_G > \beta_R$
(C) $\beta_R > \beta_B > \beta_G$
(D) $\beta_R > \beta_G > \beta_B$

Answer: (D) $\beta_R > \beta_G > \beta_B$ · Official TGCHE final key

Q99 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Two coherent plane waves of identical frequency, polarization and intensity (I) interfere at a point where they differ in phase by 60^0. What is the resulting intensity?

(A) I
(B) $2I$
(C) $3I$
(D) $4I$

Answer: (C) $3I$ · Official TGCHE final key

Q100 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Two beams of monochromatic light with intensities 64 mW and 4 mW interfere constructively to produce an intensity of 100 mW. If one of the beams is shifted by an angle θ, the intensity is reduced to 84 mW. The magnitude of θ is

(A) 30^0
(B) 60^0
(C) 45^0
(D) $\cos^{-1}\left(\frac{1}{3}\right)$

Answer: (B) 60^0 · Official TGCHE final key

Q101 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Identify the incorrect statement:

(A) the fringe width in a Young's double slit experiment reduces when the width between the two slits increases
(B) the central fringe observed for in a single slit diffraction experiment is a bright fringe
(C) the resolving power of the microscope is reciprocal to the maximum separation of two points seen as distinct
(D) polarisation phenomenon is observed only for transverse waves

Answer: (C) the resolving power of the microscope is reciprocal to the maximum separation of two points seen as distinct · Official TGCHE final key

Q102 TS EAMCET 2019 · 6 May · Shift 1 MCQ

Light consisting of plane waves of wavelength $\lambda_1 = 8 \times 10^{-5}$ cm and $\lambda_2 = 6 \times 10^{-5}$ cm generates an interference pattern in Young's double slit experiment. If n_1 denotes the n_1^{th} dark fringe due to light of wavelength λ_1 which coincides with n_2^{th} bright fringe due to light of wavelength λ_2 then

(A) $n_1 = 3,\ n_2 = 1$
(B) $n_1 = 4,\ n_2 = 5$
(C) $n_1 = 1,\ n_2 = 2$
(D) $n_1 = 3,\ n_2 = 2$

Answer: (C) $n_1 = 1,\ n_2 = 2$ · Official TGCHE final key

Q103 TS EAMCET 2019 · 4 May · Shift 2 MCQ

The pass axes of two polarizers were kept such that the incident unpolarized beam of intensity I_0, gets completely blocked. Another polarizer was introduced in between these two polarizers with its pass axis 60° with respect to the pass axis of the first one. The output intensity would then become

(A) 0
(B) $\frac{3}{32}I_0$
(C) $\frac{3}{16}I_0$
(D) $\frac{3}{8}I_0$

Answer: (B) $\frac{3}{32}I_0$ · Official TGCHE final key

Q104 TS EAMCET 2019 · 3 May · Shift 1 MCQ

In a Young's double slit experiment, m^{th} order and n^{th} order of bright fringes are formed at point P on a distant screen, if monochromatic source of wavelength 400 nm and 600 nm are used respectively. The minimum value of m and n are, respectively

(A) 4, 6
(B) 3, 2
(C) 2, 3
(D) 4, 2

Answer: (B) 3, 2 · Checked by our team

Q105 TS EAMCET 2019 · 3 May · Shift 1 MCQ

When light of an unknown polarization is examined with a polaroid, it is found to exhibit maximum intensity I_0 along y-axis and minimum intensity $\frac{2I_0}{3}$ along x-axis. The intensity transmitted through a polaroid with pass axis at 45° to y-axis (in xy plane) is

(A) $\frac{5}{8}I_0$
(B) $\frac{I_0}{2}$
(C) $\frac{5}{6}I_0$
(D) $\frac{I_0}{4}$

Answer: (C) $\frac{5}{6}I_0$ · Checked by our team

Q106 TS EAMCET 2019 · 3 May · Shift 2 MCQ

In a Young's double slit experiment, a thin sheet of refractive index 1.6 is used to cover one slit while a thin sheet of refractive index 1.3 is used to cover the second slit. The thickness of both sheets are same and the wavelength of light used is 600 nm. If the central point on the screen is now occupied by what had been the 10^{th} bright fringe (m =10), then the thickness of covering sheets is

(A) $50\ \mu\text{m}$
(B) $8\ \mu\text{m}$
(C) $20\ \mu\text{m}$
(D) $40\ \mu\text{m}$

Answer: (C) $20\ \mu\text{m}$ · Official TGCHE final key

Q107 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

In Young's double slit experiment, light of wavelength $5900\ \text{Å}$ is used. When the slits are $2\ \text{mm}$ apart, the fringe width is $1.2\ \text{mm}$. If the slit separation is increased to one and half times the previous value, then the fringe width will be

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(A) $0.9\ \text{mm}$
(B) $0.8\ \text{mm}$
(C) $1.8\ \text{mm}$
(D) $1.6\ \text{mm}$

Answer: (B) $0.8\ \text{mm}$ · Official APSCHE final key

Q108 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

A ray of light is incident on the surface of a glass plate of refractive index $\sqrt{3}$ at the polarising angle. The angle of refraction of the ray is

(A) 30°
(B) 45°
(C) 60°
(D) 37°

Answer: (A) 30° · Official APSCHE final key

Q109 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

In Young's double slit experiment, the two slits are separated by $0.5\ \text{cm}$ and the screen is at $0.5\ \text{m}$ from the slits. If 20000 bright fringes are counted per meter on the screen, then the wavelength of light used is

(A) $5000\ \text{Å}$
(B) $5890\ \text{Å}$
(C) $6000\ \text{Å}$
(D) $5460\ \text{Å}$

Answer: (A) $5000\ \text{Å}$ · Official APSCHE final key

Q110 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Unpolarised light from air incidents on the surface of a transparent medium of refractive index 1.414 such that the reflected light is completely polarised. Match the angles given in List - I with the corresponding values given in List - II.

List - I

A) Angle of reflection

B) Angle of refraction

C) Angle between incident and completely polarised rays

D) Angle of deviation of the incident ray

List - II

I) $2\sin^{-1}\left(\sqrt{\frac{2}{3}}\right)$

II) $\sin^{-1}\left(\sqrt{\frac{2}{3}}\right) - \sin^{-1}\left(\frac{1}{\sqrt{3}}\right)$

III) $\sin^{-1}\left(\frac{1}{\sqrt{3}}\right)$
IV) $\cos^{-1}\left(\frac{1}{\sqrt{3}}\right)$
The correct answer is

(A) A-II, B-III, C-I, D-IV
(B) A-II, B-III, C-IV, D-I
(C) A-IV, B-I, C-III, D-II
(D) A-IV, B-III, C-I, D-II

Answer: (D) A-IV, B-III, C-I, D-II · Official APSCHE final key

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Q111 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

A Young double slit experimental setup is immersed in water of refractive index 1.33. It has slit separation 1 mm and the distance between slits and screen is 1.33 m. If the wavelength of incident light on slits is 6300 Å then the fringe width on screen is

(A) 6.3 mm
(B) 0.63 mm
(C) 0.63 m
(D) 6.3 m

Answer: (B) 0.63 mm · Official APSCHE final key

Q112 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

In Young's double slit experiment, if the slit separation is twice the wavelength of light used, then the maximum number of interference maxima is

(A) 0
(B) 3
(C) 5
(D) 7

Answer: (C) 5 · Official APSCHE final key

Q113 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

The angular deviation of 5^{th} order dark fringe is 12° in a single slit experiment. If the width of the slit is $9\ \mu\text{m}$ then the wavelength of the incident light is

(A) $4862\ \text{Å}$
(B) $5892\ \text{Å}$
(C) $6022\ \text{Å}$
(D) $3768\ \text{Å}$

Answer: (D) $3768\ \text{Å}$ · Official APSCHE final key

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Q114 TS EAMCET 2018 · 7 May · Shift 1 MCQ

A light beam of wavelength 800nm passes through a single slit and projected on a screen kept at 5m away from the slit. What should be the slit-width for the ray-optics approximation to be valid.

(A) 0.5 mm
(B) 2 mm
(C) 1.5 mm
(D) 0.25 mm

Answer: (B) 2 mm · The council's preliminary key

Q115 TS EAMCET 2018 · 5 May · Shift 1 MCQ

In an experiment, light passing through two slits separated by a distance of 0.3 mm is projected onto a screen placed at 1 m from the plane of slits. It is observed that the distance between the central fringe and the adjacent bright fringe is 1.9 mm. The wavelength of light in nm is

(A) 450
(B) 495
(C) 530
(D) 570

Answer: (D) 570 · The council's preliminary key

Q116 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Calculate the minimum thickness of a soap film ($n = 1.33$) that results in constructive interference in reflected light, if the film is illuminated with light whose wavelength in free space is $532\ \text{nm}$.

(A) $113\ \text{nm}$
(B) $100\ \text{nm}$
(C) $200\ \text{nm}$
(D) $226\ \text{nm}$

Answer: (B) $100\ \text{nm}$ · The council's preliminary key

Q117 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Interference fringes are obtained in a Young double slit experiment using beam of light consisting two wavelengths 500 nm and 600 nm. Bright fringes due to both wavelengths coincide at 2.5 mm from the central maximum. If the separation between the slits is 3 mm then the distance between the screen and plane of the slits is

(A) 1.2 m
(B) 2.8 m
(C) 2.5 m
(D) 3.2 m

Answer: (C) 2.5 m · The council's preliminary key

Q118 TS EAMCET 2018 · 4 May · Shift 2 MCQ

In a Young's double slit experiment, a monochromatic light of wavelength 600 nm is used. If the two slits are covered by transparent sheets of thickness 0.132 mm and 0.1 mm of refractive index 1.5, the number of fringes that will shift due to introduction of the sheets are

(A) 20
(B) 40
(C) 60
(D) 80

Answer: (D) 80 · The council's preliminary key

Q119 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

In Young's double slit experiment, the two slits are illuminated by a light beam consisting of wavelengths 4200 Å and 5040 Å. If the distance between the slits is 2.4 mm and the distance between the slits and the screen is 200 cm, the minimum distance from the central bright fringe to the point where the bright fringes due to both the wavelengths coincide is _____

(A) 0.7 mm
(B) 1.4 mm
(C) 2.1 mm
(D) 2.8 mm

Answer: (C) 2.1 mm · The council's preliminary key

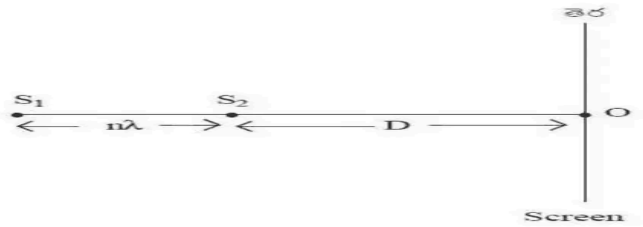
Q120 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

Two coherent sources S_1, S_2 and a screen are arranged as shown in the figure. If the distance between the two coherent sources is $n\lambda$ and the distance of the screen from the nearer coherent source is D, then the distance of the first bright fringe on the screen from the point 'O' is
(λ is the wavelength of the light emitted by the coherent sources)
(see the figure above)

Question Number : 103 Question Id : 4557344583 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Two coherent sources S_1, S_2 and a screen are arranged as shown in the figure. If the distance between the two coherent sources is $n\lambda$ and the distance of the screen from the nearer coherent source is D, then the distance of the first bright fringe on the screen from the point 'O' is
(λ is the wavelength of the light emitted by the coherent sources)

రెండు సంబద్ధ జనకాలు S_1, S_2 మరియు ఒక తెర పటంలో చూపిన విధంగా అమర్చబడినవి. రెండు సంబద్ధ జనకాల మధ్య దూరం $n\lambda$ మరియు దగ్గరి సంబద్ధ జనకం నుండి తెర యొక్క దూరం D అయితే, బిందువు 'O' నుండి తెరపై ఏర్పడే మొదటి దృశ్యమయ పట్టీ దూరం
(సంబద్ధ జనకాల నుండి వచ్చే కాంతి తరంగదైర్ఘ్యం λ)



Options :

1. $\sqrt{\frac{D(D+n\lambda)}{n}}$
2. $\sqrt{\frac{2D(D+n\lambda)}{n}}$
3. $\sqrt{\frac{3D(D+n\lambda)}{n}}$
4. $\sqrt{\frac{D(D+n\lambda)}{2n}}$

(A) $\sqrt{\frac{D(D+n\lambda)}{n}}$

(B) $\sqrt{\frac{2D(D+n\lambda)}{n}}$

(C) $\sqrt{\frac{3D(D+n\lambda)}{n}}$

(D) $\sqrt{\frac{D(D+n\lambda)}{2n}}$

Answer: (B) $\sqrt{\frac{2D(D+n\lambda)}{n}}$ · The council's preliminary key

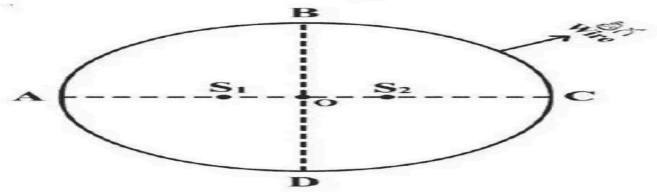
Q121 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

Two point sources S_1 and S_2 separated by a distance 10 μm emit light waves of wavelength 4 μm in phase. A circular wire of radius 40 μm is placed around the sources as shown in figure, then
(O is the centre of the circle and $OS_1 = OS_2$)
(see the figure above)

Question Number : 103 Question Id : 4557344103 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Two point sources S_1 and S_2 separated by a distance 10 μm emit light waves of wavelength 4 μm in phase. A circular wire of radius 40 μm is placed around the sources as shown in figure. then
(O is the centre of the circle and $OS_1 = OS_2$)

10 μm దూరంలో వేరు చేయబడిన రెండు బిందు జనకాలు S_1 మరియు S_2 , 4 μm తరంగదైర్ఘ్యం కలిగి ఒకే దశలో ఉన్న కాంతి తరంగాలను ఉద్గారిస్తున్నాయి. ఈ జనకాల చుట్టూ 40 μm వ్యాసార్ధం గల ఒక వృత్తాకార తీగను పటంలో చూపినట్లుగా ఉంచారు. అయితే
(O వృత్త కేంద్రం మరియు $OS_1 = OS_2$)



Options :

1. Points A and B are dark and points C and D are bright
   A మరియు B లు చీకటి బిందువులు మరియు C మరియు D లు వెలుగు బిందువులు
2. Points A and B are bright and point C and D are dark
   A మరియు B లు వెలుగు బిందువులు మరియు C మరియు D లు చీకటి బిందువులు
3. Points A and C are dark and points B and D are bright
   A మరియు C లు చీకటి బిందువులు మరియు B మరియు D లు వెలుగు బిందువులు
4. Points A and C are bright and points B and D are dark
   A మరియు C లు వెలుగు బిందువులు మరియు B మరియు D లు చీకటి బిందువులు

(A) Points A and B are dark and points C and D are bright
(B) Points A and B are bright and point C and D are dark
(C) Points A and C are dark and points B and D are bright
(D) Points A and C are bright and points B and D are dark

Answer: (C) Points A and C are dark and points B and D are bright · The council's preliminary key

Q122 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

In Young's double slit experiment, the intensity of central fringe is I_0 and fringe width is β. If a point is at a distance x from the central fringe, the intensity at that point is

(A) $I_0 \cos^2\left(\frac{\pi x}{\beta}\right)$
(B) $I_0 \cos^2\left(\frac{x}{\beta}\right)$
(C) $\frac{I_0}{4} \cos^2\left(\frac{\pi x}{\beta}\right)$
(D) $I_0 \cos^2\left(\frac{\pi \beta}{x}\right)$

Answer: (A) $I_0 \cos^2\left(\frac{\pi x}{\beta}\right)$ · The council's preliminary key

Q123 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Two polaroids are placed in the path of unpolarised light beam of intensity I_0 such that no light is emitted from the second polaroid. If a third polaroid whose polarization axis makes an angle θ with that of the first polaroid is placed between the polaroids, then intensity of light emerging from the last polaroid is

(A) $\left(\frac{I_0}{8}\right)\sin^2 2\theta$

(B) $\left(\frac{I_0}{4}\right)\sin^2 2\theta$

(C) $\left(\frac{I_0}{2}\right)\cos^2\theta$

(D) $I_0\cos^2\theta$

Answer: (A) $\left(\frac{I_0}{8}\right)\sin^2 2\theta$ · The council's preliminary key

Q124 TS EAMCET 2017 · 12 May · Offline MCQ

A parallel beam of light of intensity I_0 is incident on a coated glass plate. If 25% of the incident light is reflected from the upper surface and 50% of light is reflected from the lower surface of the glass plate, the ratio of maximum to minimum intensity in the interference region of the reflected light is

(A) $\left(\frac{\frac{1}{2}+\sqrt{\frac{3}{8}}}{\frac{1}{2}-\sqrt{\frac{3}{8}}}\right)^2$

(B) $\left(\frac{\frac{1}{4}+\sqrt{\frac{3}{8}}}{\frac{1}{2}-\sqrt{\frac{3}{8}}}\right)^2$

(C) $\frac{5}{8}$

(D) $\frac{8}{5}$

Answer: (A) $\left(\frac{\frac{1}{2}+\sqrt{\frac{3}{8}}}{\frac{1}{2}-\sqrt{\frac{3}{8}}}\right)^2$ · The council's preliminary key

Q125 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

Two slits separated by 0.5 mm are illuminated by light of wavelength 500 nm. The screen is at a distance of 120 cm from the slits. The phase difference between the interfering waves at a point 3 mm on the screen from the central bright fringe is _____

(A) π

(B) 3π

(C) 5π

(D) 7π

Answer: (C) 5π · The council's preliminary key

Q126 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

In Young's double slit experiment, the slits separated by 0.6 mm are illuminated with light of 6600 Å. Interference pattern is obtained on a screen placed at 4 m from slits. The minimum distance from the central maximum at which the average intensity is 50% of the maximum value is _____

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(A) $0.21\ \text{mm}$

(B) $2.1\ \text{mm}$

(C) $0.11\ \text{mm}$

(D) $1.1\ \text{mm}$

Answer: (D) $1.1\ \text{mm}$ · The council's preliminary key

Q127 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

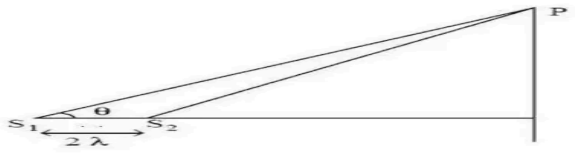
In Young's double slit experiment the slits are horizontal. The intensity at a point 'P' on the screen shown in the figure is $\frac{I_0}{4}$ where I_0 is maximum intensity. If the distance between the two slits S_1 and S_2 is 2λ, then the value of 'θ' is

(see the figure above)

Question Number : 103 Question Id : 1017174263 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In Young's double slit experiment the slits are horizontal. The intensity at a point 'P' on t screen shown in the figure is $\frac{I_0}{4}$ where I_0 is maximum intensity. If the distance between t two slits S_1 and S_2 is 2λ, then the value of 'θ' is

యంగ్ జంట చీలిక ప్రయోగంలో జంట చీలికలు క్షితిజ సమాంతరముగా వున్నాయి. తెరపై పటం చూపిన 'P' బిందువు వద్ద తీవ్రత $\frac{I_0}{4}$. ఇచ్చట I_0 గరిష్ట తీవ్రత S_1 మరియు S_2 చీలికల మధ్య దూరం 2λ అయితే 'θ' విలువ



Options :

1. $\cos^{-1}\left(\frac{1}{6}\right)$
2. $\sin^{-1}\left(\frac{1}{12}\right)$
3. $\tan^{-1}\left(\frac{1}{6}\right)$
4. $\sin^{-1}\left(\frac{3}{4}\right)$

(A) $\cos^{-1}\left(\frac{1}{6}\right)$

(B) $\sin^{-1}\left(\frac{1}{12}\right)$

(C) $\tan^{-1}\left(\frac{1}{6}\right)$

(D) $\sin^{-1}\left(\frac{3}{4}\right)$

Answer: (A) $\cos^{-1}\left(\frac{1}{6}\right)$ · The council's preliminary key

Q128 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Three polaroid sheets are kept parallel to each other such that first and last are crossed. Unpolarised light of intensity $32\ \text{Wm}^{-2}$ falls normally on the first sheet and passes through all the polaroid sheets.

If the intensity of the emerging light from the third sheet is $3\ \mathrm{Wm}^{-2}$, then the angle between the axes of the first two polaroid sheets is

(A) 60°
(B) 45°
(C) 30°
(D) 90°

Options (1) or (3) were accepted. More than one answer was accepted. · The council's preliminary key

Q129 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

In a diffraction pattern due to a single slit, the angular width of central maxima becomes double when the wavelength of the light used is changed from λ to $7000\ \text{Å}$. Then the value of λ is

(A) $3500\ \text{Å}$
(B) $4200\ \text{Å}$
(C) $5000\ \text{Å}$
(D) $5890\ \text{Å}$

Answer: (A) $3500\ \text{Å}$ · The council's preliminary key

Q130 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

A screen is placed 0.5 m away from a single slit which is illuminated by a monochromatic light of wave length 6000 Å. If the distance between the first and third minima in the diffraction pattern on the screen is 3 mm then the slit width is

(A) 0.1 mm
(B) 0.4 mm
(C) 0.3 mm
(D) 0.2 mm

Answer: (D) 0.2 mm · The council's preliminary key

Q131 AP EAMCET 2016 · 29 Apr · Offline MCQ

In Young's double slit experiment, red light of wavelength 6000 Å is used and the n^{th} bright fringe is obtained at a point 'P' on the screen. Keeping the same setting, the source of light is replaced by green light of wavelength 5000 Å and now $(n+1)^{th}$ bright fringe is obtained at the point P on the screen. The value of 'n' is

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(A) 4
(B) 5
(C) 6
(D) 3

Answer: (B) 5 · The council's preliminary key

Q132 AP EAMCET 2014 · 22 May · Offline MCQ

In a double slit interference experiment, the fringe width obtained with a light of wavelength 5900 Å was 1.2 mm for parallel narrow slits placed 2 mm apart. In this arrangement, if the slit separation is increased by one-and-half times the previous value, then the fringe width is

(A) 0.9 mm
(B) 0.8 mm
(C) 1.8 mm
(D) 1.6 mm

Answer: (B) 0.8 mm · The council's preliminary key

Q133 AP EAMCET 2013 · 10 May · Offline MCQ

Fresnel diffraction is produced due to light rays falling on a small obstacle. The intensity of light at a point on a screen beyond an obstacle depends on

(A) the focal length of lens used for observation
(B) the number of half-period zones that superpose at the point
(C) the square of the sum of the number of half period zones
(D) the thickness of the obstacle

Answer: (B) the number of half-period zones that superpose at the point · The council's preliminary key

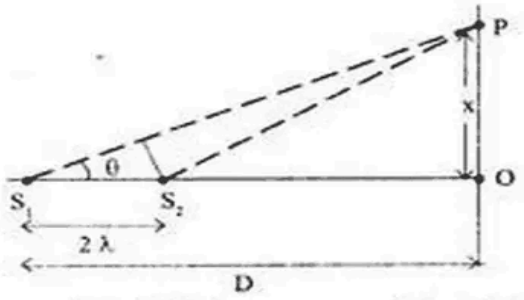
Q134 AP EAMCET 2012 · 12 May · Offline MCQ

Two coherent point sources S_1 and S_2 vibrating in phase emit light of wavelength λ. The separation between them is 2λ as shown in figure. The first bright fringe is formed at 'P' due to interference on a screen placed at a distance 'D' from S_1 (D >> λ), then OP is

(see the figure above)

105. Two coherent point sources S_1 and S_2 vibrating in phase emit light of wavelength λ. The separation between them is 2λ as shown in figure. The first bright fringe is formed at 'P' due to interference on a screen placed at a distance 'D' from S_1 ($D >> \lambda$), then OP is

రెండు సంబద్ధ బిందు జనకాలు S_1, S_2 ఏక దశలో 'λ' తరంగ దైర్ఘ్యం గల కాంతి పుంజాలు వెదజల్లుతున్నాయి. S_1 మరియు S_2ల మధ్య దూరం 2λ (పటం చూడుము). వ్యతికరణం మూలంగా S_1కు 'D' దూరం ($D >> \lambda$)లో ఉన్న తెర మీద 'P' దగ్గర మొదటి ద్యుతిమయ పట్టీ ఏర్పడినప్పుడు. OP యొక్క విలువ



(1) $\sqrt{2}$ D (2) 1.5 D (3) $\sqrt{3}$ D (4) 2 D

(A) $\sqrt{2}$ D
(B) 1.5 D
(C) $\sqrt{3}$ D
(D) 2 D

Answer: (C) $\sqrt{3}$ D · Official APSCHE final key

Q135 AP EAMCET 2011 · 8 May · Offline MCQ

In the Young's double slit experiment, the resultant intensity at a point on the screen is 75% of the maximum intensity of the bright fringe. Then the phase difference between the two interfering rays at that point is :

(A) $\frac{\pi}{6}$
(B) $\frac{\pi}{4}$
(C) $\frac{\pi}{3}$
(D) $\frac{\pi}{2}$

Answer: (C) $\frac{\pi}{3}$ · The council's preliminary key

Q136 AP EAMCET 2010 · 30 May · Offline MCQ

Two coherent sources whose intensity ratio is 64 : 1 produce interference fringes. The ratio of intensities of maxima and minima is :

(A) 9 : 7
(B) 8 : 1
(C) 81 : 49
(D) 81 : 7

Answer: (C) 81 : 49 · Official APSCHE final key

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