PHYSICS

AAKASH INSTITUTE ENGLISH

Mock Test 36

Example

1. Two thin lenses of focal lengths 20 cm and 25 cm are placed in a contact. The effective power of the combination is

A. 10 D

B. 9 D

C. 8 D

D. 5 D

Answer: B

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2. In case of myopia

A. The image of far objects is formed behind the retina

B. The image of far objects is formed in front of retina

C. A concave lens should be used for correction

D. Both (2) & (3)

Answer: D

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3. A convex lens causes a ray of light to converge, for this reason it may be used to correct

A. Near sightedness

B. Far sightedness

C. Astigmatism

D. Both (2) & (3)

Answer: B

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4. A person cannot see objects clearly beyond 125 cm. The power of the lens to correct the vision is

A. $-2D$

B. $+2D$

C. $-0.8D$

D. $+0.8D$

Answer: C

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5. In a compound microscope, the intermediate image is

A. Virtual, inverted and diminished

B. Real, inverted and magnified

C. Virtual, erect and magnified

D. Real, inverted and diminished

Answer: B

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6. If f_o and f_e are the focal lengths of the objective lens and eye-piece lens respectively for a telescope, the length of telescope in normal adjustment is

A. $|f_o| - |f_e|$

B. $2|f_e| - |f_o|$

C. $|f_o| + |f_e|$

D. $2\sqrt{|f_o||f_e|}$

Answer: C

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7. In a laboratory five convex tenses L_1, L_2, L_3, L_4 and L_5 of focal lengths, 3 cm, 6 cm, 9 cm, 12 cm and 18 cm respectively are available. If two of these lenses form a telescope of length 12 cm and magnifying power 3, then objective and eye piece lenses respectively are

A. L_5, L_2

B. L_3, L_1

C. L_4, L_2

D. L_2, L_1

Answer: B

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8. The minimum magnification produced by simple microscope of focal length 5 cm is

A. 6

B. 5

C. 4

D. 10

Answer: A

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9. The difference between maximum magnification and minimum magnification of a simple microscope is

A. 1

B. 2

C. 3

D. 4

Answer: A

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10. A person cannot see objects clearly that are closer that 1 m and farther than 5 m. To correct the eye vision, the person will use

A. Bifocal lenses of power -3 D and +0.2 D

B. Bifocal lenses of power -2.5 D and +3.5 D

C. Bifocal lenses of power -1.5 D and +5D

D. Bifocal lenses of power -0.2 D and +3D

Answer: D

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11. Magnifying power of an astronomical telescope is M.P. If the focal length of the eye-piece is doubled, then its magnifying power will become

A. 2 M

B. $\frac{M}{2}$

C. 4 M

D. M

Answer: B

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12. A far sighted person cannot see object clearly al a distance less than 75 cm from his

eyes. The power of the lens needed to read an object al 25 cm is

A. $+1.50D$

B. $+2.67D$

C. $-2.67d$

D. $-1.50d$

Answer: B

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13. Select the correct option

A. The aperture and focal length of the objective lens of microscope is smaller than eye-piece lens

B. The aperture and focal length of the objective lens of telescope is large than eye-piece lens

C. The magnifying powers of astronomical telescope and terrestrial telescope are

same

D. All of these

Answer: D

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14. In order to increase the magnifying power of a telescope

A. The objective should have large focal length and the eye-piece should have

small

B. The objective should have small focal length and the eye-piece should have large

C. The focal lengths of both objective and eye- piece lens are small

D. The focal lengths of both objective and eye piece lens are large

Answer: A

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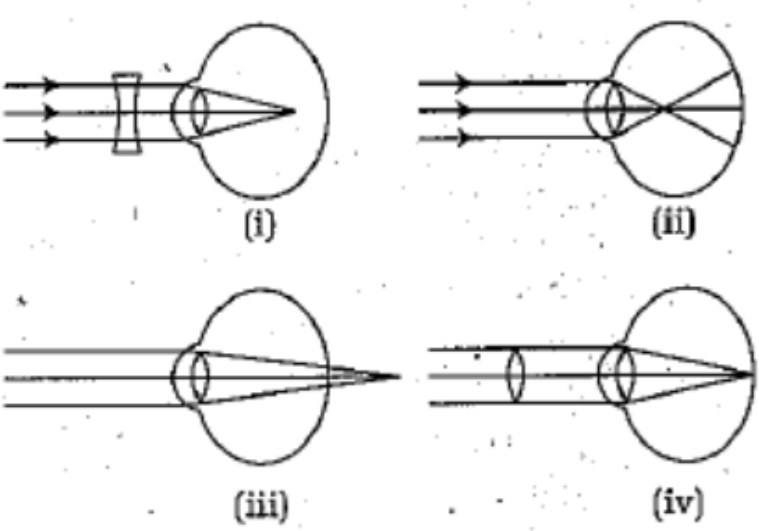
15. Identify the correct description of the below figure



A. A correction for shortsightedness

B. B represents farsightedness

C. C correction for farsightedness

D. All of these

Answer: D

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16. The shape of reflected wavefronts in case of reflection of plane wave front from concave mirror is

A. Spherical

B. Plane

C. Cylindrical

D. Both (2) & (3)

Answer: A

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17. For point source, the wavefront is

A. Cylindrical always

B. Spherical always

C. Plane always

D. May be spherical or plane, depending upon distance

Answer: D

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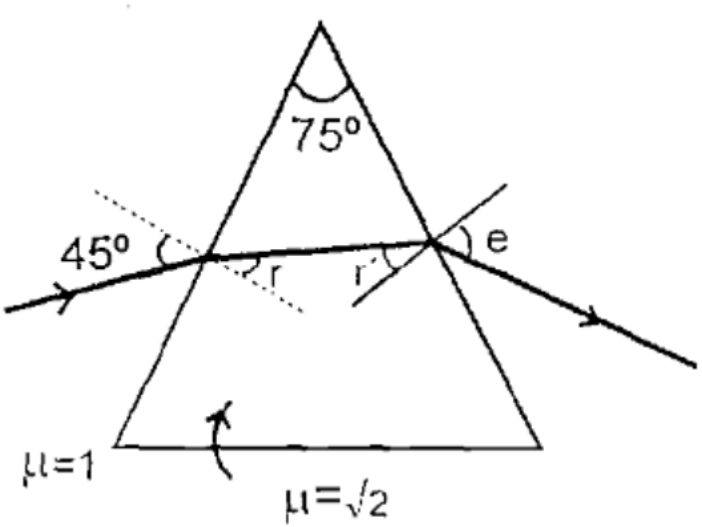
18. The value of angle r in figure below is



A. $r = \sin^{-1}\left(\frac{1}{2}\right)$

B. $r = \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$

C. $r = \sin^{-1}\left(\frac{8}{15}\right)$

D. $r = \sin^{-1}\left(\frac{4}{15}\right)$

Answer: A

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19. Huygen's wave theory explain the phenomena of

A. Reflection

B. Refraction

C. Particle nature of light

D. Both (1) & (2)

Answer: D

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20. Huygen's principle allows us to determine,

A. Shape of wavefront at any instant, if the shape of wavefront at earlier time is not known.

B. Shape of wavefront at any instant, if the shape of wavefront at earlier time is

known

C. Shape of wavefront at any time, if the shape of wavefront at next time interval is known

D. Both (1) & (3)

Answer: B

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21. According to Huygen's principle

A. Each point of a wavefront is a source of secondary disturbance

B. The wavelets emanating from points on wavefront spread out in all directions with the speed of wave

C. The direction of ray is always in the direction given by tangent to the wavefront

D. Both (1) & (2)

Answer: D

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22. How is a wavefront related to the direction of corresponding rays ?

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23. When source is linear, the wavefront is

A. Spherical

B. Cylindrical

C. Circular

D. All of these

Answer: B

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