PHY192

Question: The intercept of a graph represented by is the reciprocal of ____.
Answer: Focal length

Answer: f

Question: <p style="text-align:justify">In an experiment to determine focal length of a converging lens using the displacement method, a clear image of an object was obtained when the lens was placed at 20cm from a source that is placed at 80cm from a screen. Calculate the focal length of the lens, in cm.
Answer: 15.0cm

Question: <p style="text-align:justify">In a metre bridge, the balance is obtained at a point 25cm from one end of a wire 100cm long. The resistance to be tested is connected to that end and a standard resistance of 3.6â„¦ is connected to the other end of the wire. What is the value of the unknown resistance, in â„¦?
Answer: 1.2â„¦

Answer: 1.2

Question: When seeking the â€œnullâ€□ point, the key K should be closed before contact is made at the point of balance. This is done to avoid deflections due to ____.
Answer: induction effects

Question: Convex mirrors are mostly used as _____.
Answer: driving mirrors

Question: diopter is the unit of _____
Answer: power of lens

Question: In an experiment, derived values such as those obtained from four figure tables should be recorded to at least ____ decimal places
Answer: 3

Answer: Three

Question: Which of the following remains unchanged when refraction occurs?
Answer: Frequency

Question: The slide wire of the figure shown is balanced when the uniform slide wire AB is divided as shown. The value of the resistance X is _____ .
Answer: 2

Answer: Two

Question: For a metallic conductor, Ohm's law holds provided _____ remains constant
Answer: temperature

Question: The lens of the human eye is ___.
Answer: Converging

Question: The advantage of potentiometer over voltmeter in measurements of e.m.f is that it does not draw _____from the circuit under test.
Answer: Current

Question: A glass prism of refracting angle 60 degrees gives a minimum deviation of 47degrees. What is the refractive index of the glass?
Answer: 1.61

Question: The null condition in potentiometer experiment shows that _____are balanced
Answer: potential difference

Question: The _____ of the eye plays an equivalent role of the screen in optical experiments
Answer: Retina

Question: ____ cell is preferred in Wheatstone bridge experiment, as its e.m.f. is high enough to give the required sensitivity and its internal resistance is high enough to limit the current to safe maximum.
Answer: Leclanche

Question: <p style="text-align:justify">A wire that has a resistance of 5.0 â„¦ is stretched out so that its length triples. Its new resistance is_____.
Answer: 15.0â„¦

Answer: 15.0ohms

Answer: 15.0

Question: If an object is placed at the principal focus of a concave mirror, its image will be formed at:
Answer: Infinity

Question: An image that can be formed on a screen is said to be _____.
Answer: Real

Question: For a concave mirror to form a real diminished image, the object must be placed at a distance greater than the_____.

Answer: radius of curvature

Question: A virtual image is always :
Answer: upright

Answer: Erect

Question: No parallax tells us that the two objects are_____.
Answer: Coincident

Question: _____is the apparent motion between an object and its image, situated along the line of sight, relative to each other in an experiment.
Answer: Parallax

Question: A 10 ohm and a 20 ohm resistor are connected in parallel to a current source. What fraction of the current flows through the 20 ohm resistor?
Answer: 1/3

Question: An object is placed 15 cm in front of a convex mirror of focal length 7.5 cm. The image position behind the mirror is ____.
Answer: minus5 cm

Answer: -5cm

Answer: -5 cm

Question: <p style="text-align:justify">A glass prism is made from transparent refracting medium with two refracting faces and a refracting edge of the prism. The two refracting faces give _____.
Answer: angle of prism

Question: <p style="text-align:justify">A ray of light experiences a minimum deviation when passing symmetrically through an equilateral triangle. The angle of incidence of the ray for a glass of 1.5 refractive index is____
Answer: 490

Answer: 49degree

Answer: 49 degree

Question: A resistor of value R/2 is connected in parallel with a resistor of value R/3. The voltage drop across the parallel combination is V. The total current supplied by the voltage source is____.
Answer: 5 V/R

Answer: 5V/R

Question: Resistivity of iron is 10- 7 Î©-m. The resistance of an iron wire is 1 Î©. If its diameter is halved and length doubled, the resistivity in Î©-m will be equal to ____.
Answer: 10- 7

Answer: 10^-7

Question: To get three images of a single object, one should have two plane mirrors at an angle of ___.
Answer: 90Â°

Answer: 90degree

Answer: 90 degree

Question: How many images will be formed when two plane mirrors are placed parallel to each other?
Answer: One

Answer: 1

Question: A person having the nearest distance of distinct vision of 32 cm uses a reading lens of 8 cm focal length. The magnification of his reading lens is ___.
Answer: 5

Answer: Five

Question: The size of the image of an object, which is at infinity, as formed by a convex lens of focal length 30 cm is 2 cm. If a concave length of focal length 20 cm is placed between the convex lens and the image at a distance of 26 cm from the convex lens, the size of the new image will be ____.
Answer: 2.5cm

Answer: 2.5 cm

Question: If the length and diameter of a wire of circular cross section are both doubled, the resistance is ____.
Answer: Halved

Question: A mirror has only one focus, how many focus has a lens?

Answer: Two

Answer: 2

Question: The thermistors are usually made of ____
Answer: semiconducting materials having low temperature coefficient of resistivity

Question: The resistance of a coil at 100 Â°C is 4.2 Î©. If temperature coefficient of resistance is 0.004 / Â°C, then its resistance at 0 Â°C is ____
Answer: 3 Î©

Question: The length of a wire of potentiometer is 100 cm and the e.m.f. of its standard cell is E volt. It is employed to measure the e.m.f. of a battery whose internal resistance is 0.5 Î©. If the balance point is obtained at l = 30 cm from the positive end, the e.m.f. of the battery is
Answer: 0.3E

Question: Which of these quantities remains unchanged when light passes from a vacuum into a block of glass____.
Answer: Frequency

Question: Assume that a ray of light passes from glass into air at an angle of incidence greater than zero degrees. The ray of light will be bent _____the normal as it passes into the air
Answer: Away from

Question: A beam of light is incident on a perfectly smooth body of water. The angle that the REFLECTED ray makes with the normal is _____.
Answer: The same as the angle the incident ray makes with the normal

Question: A five ohm and a ten ohm resistor are connected in parallel, the single resistance "equivalent" to this combination is ____
Answer: 3.33 Ohms

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Answer: 3.33 Ohms

Question: A current of 6 amperes flows through a 2 ohm resistor for 30 seconds. How many coulombs of charge have passed through the resistor?
Answer: 180C

Question: A 50 millimeter focal length camera lens photographs a 4 meter tall tree at a distance of 20 meters. How tall is the image of the tree?
Answer: 10mm

Question: An ammeter reads up to 1 ampere Its internal resistance 0.81 ohm. To increase the range to 10 ampere, the value of the required shunts is____.

Answer: 0.09 Î©

Question: An electric clothes dryer is connected to a 100-volt source. How much current does it use if it requires 2,000 watts of electric power?
Answer: 20A

Question: To create an enlarged real image using a concave mirror, the object must be placed_____.
Answer: Between the center and the focus.

Question: A resistor of value R/2 is connected in parallel with a resistor of value R/3. The voltage drop across the parallel combination is V. The total current supplied by the voltage source is:
Answer: 5V/R

Question: A 10 ohm and a 20 ohm resistor are connected in parallel to a current source. What fraction of the current flows through the 20 ohm resistor?
Answer: 1/3

Question: A steady current flows in a metallic conductor of non-uniform cross-section. Which of the following quantity is constant along the conductor?
Answer: Current

Question: A galvanometer of resistance 100 Î© is converted to an ammeter using resistance of 0.1Î©. It gives full scale deflection at 100 Î¼A. The minimum current in the circuit for maximum deflection is
Answer: 100.1 mA

Question: A rigid container with thermally insulated walls contains a coil f resistance 100 Î© carrying current 1 A. Change in internal energy after 5 minutes isÂ
Answer: 30 kJ

Question: Which is NOT a characteristic of a series circuit?
Answer: The total resistance is the sum of the reciprocals of the individual resistances.

Question: A charge of 3 C experiences a force of 3000 N when it is moved in a uniform electric field. What is the potential difference between two points separated by a distance cm?Â
Answer: 10 V

Question: A 20 ohm resistor and a 60 ohm resistor are connected in parallel to a voltage source. If the current in the 60 ohm resistor is one ampere, the current in the 20 ohm resistor will be:
Answer: 3A

Question: A virtual image always appears:
Answer: Erect

Question: You want to put up a mirror at a blind corner in a building. Which of the

following will give you the largest field of view?
Answer: Convex mirror

Question: A small hole in a sheet of aluminum foil is used to diffract yellow light both under water and in a vacuum. Which is true?
Answer: light diffracts less in the water because its wavelength is smaller.

Question: Which one of the following is the advantage of connecting two dry cells in parallel instead of in series? It is because the parallel arrangement:
Answer: Has half the internal resistance of a single cell

Question: By which one of the following can a real image be produced? Can it be produced by a:
Answer: Concave mirror

Question: When white light passes through a red plate of glass and then through a green plate of glass which one of the following things occur?
Answer: the light is totally absorbed

Question: The number of free electrons per unit volume in copper is n. The electrons each of charge q flowing with velocity v constitute current Î™. If A is the cross-sectional area of the wire, the current density in the wire is
Answer: n q v/A

Question: If the change in resistance of a copper wire on stretching is 0.4 %, then its length is stretched by
Answer: 0.2 %

Question: If an electron makes 25 Ã— 10¹⁵ rev / s around the nucleus of an atom in an orbit of radius 1 A , the equivalent current is nearly ____.
Answer: 4 Ã— 10- 3 A

Question: A light ray traveling from glass into air strikes the glass-air surface at an angle 50 degrees to the normal. If the critical angle for the glass-air combination is 42 degrees, the percentage of light reflected from the surface is
Answer: 100

Question: Electric current may be expressed in which one of the following units?
Answer: Coulomb/second

Question: A beam of light travels obliquely from one medium into another medium of higher index of refraction. All of the following are true statements about the beam of light EXCEPT:
Answer: Its wavelength decreases.

Question: Three resistors of 4 ohms each CANNOT be connected to give an equivalent resistance that is close to___.
Answer: 0.75 Ohms

Question: A mirror has only one focus but a lens has ____.
Answer: Two