

THE ASIAN SCHOOL, DEHRADUN
MULTIPLE CHOICE QUESTIONS 2019

SUBJECT- PHYSICS

CLASS – X

CHAPTER-1 LIGHT- REFLECTION AND REFRACTION

- Q1. The line perpendicular to the reflective surface is the _____.
- a. normal b. line of refraction c. line of incidence d. line of reflection
- Q2. Your image in a bathroom mirror results from _____.
- a. diffuse reflection b. specular refraction c. specular reflection d. diffuse refraction
- Q3. How does light normally travel?
- a. in concentric circles b. in a straight line
c. always toward a dark area d. in a curved line
- Q4. What is f if you have an object 2.0 m from the concave mirror, and the image is 4.0 m from the mirror?
- a. 2.0m b. 0,67 m c. 1.3 m d. 4.0 m
- Q5. In a concave mirror, an object placed _____ will result in a virtual image.
- a. twice the distance of the focal point
b. between the focal point and mirror
c. between the focal point and twice the distance of the focal point d. past the focal point
- Q6. Which type of mirror produces an image that is always erect, always the same height as the object, and always virtual?
- a. convex b. concave c. plane d. none of these
- Q7. _____ is located behind a convex mirror.
- a. The focal point b. A ray c. A real image d. The object
- Q8. The image from a convex mirror will _____.
- a. always be real b. always be projected c. always be virtual d. never be virtual
- Q9. Light travels fastest through which of the following materials?
- a. diamond b. water c. glass d. air
- Q10. Focal length of plane mirror is
- a. At infinity b. Zero c. Negative d. None of these
- Q11. Image formed by plane mirror is
- a. Real and erect b. Real and inverted c. Virtual and erect d. Virtual and inverted
- Q12. A concave mirror gives real, inverted and same size image if the object is placed
- a. At F b. At infinity c. At C d. Beyond C
- Q13. Power of the lens is -40 , its focal length is
- a. 4m b. -40 m c. -0.25 m d. -25 m
- Q14. A concave mirror gives virtual, erect and enlarged image of the object but image of smaller size than the size of the object is
- a. At infinity b. Between F and C c. Between P and F d. At E
- Q15. In optics an object which has higher refractive index is called
- a. Optically rarer b. Optically denser c. Optical density d. Refractive index
- Q16. The optical phenomena, twinkling of stars, is due to
- a. Atmospheric reflection b. Total reflection c. Atmospheric refraction d. Total refraction
- Q17. Convex lens focus a real, point sized image at focus, the object is placed
- a. At focus b. Between F and $2F$ c. At infinity d. At $2F$
- Q18. The unit of power of lens is
- a. Metre b. Centimeter c. Diopter d. M^{-1}
- Q19. The radius of curvature of a mirror is 20cm the focal length is
- a. 20cm b. 10cm c. 40cm d. 5cm
- Q20. Complete the sentence. Friction always _____
- Q21. An Object is placed at a distance of 0.25m in front of a plane mirror. The distance between the object and image will be :
- a) 0.25m b) 1.0m c) 0.5m d) 0.125m
- Q22. The angle of incidence for a ray of light having zero reflection angle is :
- a) 0° b) 30° c) 45° d) 90°
- Q23. For a real object, which of the following can produce a real image?
- a) Plane mirror b) Concave mirror c) Concave lens d) Convex mirror
- Q24. Which of the following mirror is used by a dentist to examine a small cavity?
- a) Convex mirror b) Plane mirror c) Concave mirror d) combination of convex and concave mirror
- Q25. An object at a distance of 30 cm from a concave mirror gets its image at the same point. The focal length of the mirror is :
- a) -30 cm b) 30cm c) -15 cm d) $+15$ cm
- Q26. An object at a distance of $+15$ cm is slowly moved towards the pole of a convex mirror. The image will get:
- a) shortened and real b) enlarged and real c) enlarge and virtual d) diminished and virtual
- Q27. The image formed by concave mirror is real, inverted and of the same size as that of the object. The position of object should be :

- a) at the focus b) at the centre of curvature c) between focus & centre of curvature d) beyond centre of curvature
- Q28. The nature of the image formed by concave mirror when the object is placed between the focus (F) and centre of curvature (C) of the mirror observed by us is :
- real, inverted and diminished
 - virtual, erect and smaller in size
 - real, inverted and enlarged
 - virtual, upright and enlarged
- Q29. If a man's face is 25 cm in front of concave shaving mirror producing erect image 1.5 times the size of face, focal length of the mirror would be :
- 75cm
 - 25cm
 - 15cm
 - 60cm
- Q30. As light travels from a rarer to a denser medium it will have :
- increased velocity
 - decreased velocity
 - decreased wavelength
 - both a and c
- Q31. The angle of incidence i and refraction r are equal in a transparent slab when the value of i is :
- 0°
 - 45°
 - 90°
 - depend on the material of the slab
- Q32. The refractive index of transparent medium is greater than one because :
- Speed of light in vacuum < speed of light in transparent medium
 - Speed of light in vacuum = speed of light in transparent medium
 - Speed of light in vacuum = speed of light in transparent medium
 - Frequency of light wave changes when it moves from rarer to denser medium
- Q33. You are given three media A, B and C of refractive index 1.33, 1.65 and 1.46. The medium in which the light will travel fastest is :
- A
 - B
 - C
 - equal in all three media
- Q34. Light from the Sun falling on a convex lens will converge at a point called :
- centre of curvature
 - focus
 - radius of curvature
 - optical centre
- Q35. Large number of thin strips of black paint are made on the surface of a convex lens of a focal length 20 cm to catch the image of a white horse. The image will be :
- a zebra of black strips
 - a horse of black strips
 - a horse of less brightness
 - a zebra of less brightness
- Q36. A divergent lens will produce :
- always real image
 - always virtual image
 - both real & virtual image
 - none of these
- Q37. When object moves closer to convex lens, the image formed by it shifts :
- away from the lens
 - towards the lens
 - first towards and then away from the lens
 - first away and then towards the lens
- Q38. When object moves closer to a concave lens the image by it shifts :
- away from the lens on the same side of object
 - towards the lens
 - away from the lens on the other side of lens
 - first towards and then away from the lens

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SUBJECT- PHYSICS

CLASS – X

Chapter-2 THE HUMAN EYE AND THE COLOURFUL WORLD

- Q1. The muscular diaphragm that controls the size of the pupil is :
a) cornea b) ciliary muscles c) iris d) retina
- Q2. The black opening between the aqueous humour and the lens is called :
a) retina b) iris c) cornea d) pupil
- Q3. Near and far points of a young person normal eye respectively are :
a) 0 and infinity b) 0 and 25 cm c) 25 cm and infinity d) 25 cm and 150 cm
- Q4. The defect of vision in which the person is able to see distant object distinctly but cannot see nearby objects clearly is called :
a) Long sightedness b) Far- sightedness c) Hypermetrпия d) all above
- Q5. The ability of eye lens to adjust its focal length to form a sharp image of the object at varying distance on the retina is called :
a) power of observation of the eye
b) power of adjustment of the eye
c) power of accommodation of the eye
d) power of enabling of the eye
- Q6. Myopia and hypermatropia can be corrected by :
a) concave and plano- convex lens
b) concave and convex lens
c) convex and concave lens
d) plano- concave lens for both defects
- Q7. Bi-focal lens are required to correct:
a) astigmatism b) coma c) myopia d) presbyopia
- Q8. When white light enters a prism, it gets split into its constituent colours. This is due to :
a) different refractive index for different wavelength of each colour
b) each colour has same velocity in the prism
c) prism material have high density
d) scattering of light
- Q9. The air layer of atmosphere whose temperature is less than the hot layer behave as optically :
a) denser medium b) rarer medium c) inactive medium d) either denser or rarer medium
- Q10. Refraction of light by the earth's atmosphere due to variation in air density is called:
a) atmospheric reflection b) atmospheric dispersion c) atmospheric scattering d) atmospheric refraction
- Q11. The deflection of light by minute particles and molecules of the atmosphere in all direction is called.....of light:
a) dispersion b) scattering c) interference d) tyndell effect
- Q12. One cannot see through the fog. because :
a) refractive index of the fog is very high
b) light suffers total reflection at droplets
c) fog absorbs light
d) light is scattered by the droplets
- Q13. A person cannot see distinctly object kept beyond 2 m. This defect can be corrected by using a lens of power :
a) +0.5D b) -0.5D c) +0.2D d) -0.2D
- Q14. The clear sky appears blue because :
a) blue light gets absorbed in the atmosphere
b) ultraviolet radiations are absorbed in the atmosphere
c) violet and blue lights get scattered more than lights of all other colours by the atmosphere
d) light of all other colors is scattered more than the violet and blue colour lights by the atmosphere.
- Q15. The danger signals installed at the top of tall buildings are red in colour. These can be easily seen from a distance because among all other colours, the red light :
a) is scattered the most by smoke or fog
b) is scattered the least by smoke or fog
c) is absorbed the most by smoke or fog
d) moves fastest in air
- Q16. The bluish colours of water in deep sea is due to :
a) the presence of algae and other plants found in water
b) reflection of sky in water
c) scattering of light d) absorption of light by the sea

- Q17. When light rays enter the eye, most of the refraction occurs at the :
 a) crystalline lens b) outer surface of the cornea c) iris d) pupil
- Q18. The focal length of the eye lens increases when eye muscles :
 a) are relaxed and lens becomes thinner b) contract and lens becomes thicker
 c) are relaxed and lens becomes thicker d) contract and lens becomes thinner
- Q19. Assertion : Myopia is the defect of vision in which a person cannot see the distant objects clearly.
 Reason : This is due to eye-ball being too short
- Q20. The image formed by retina of human eye is
 a. Virtual and erect b. Real and inverted c. Virtual and inverted d. Real and erect
- Q21. The change in the focal length of human eye is caused due to
 a. Ciliary muscles b. Pupil c. Cornea d. Iris
- Q22. The least distance of distinct vision for a young adult with normal vision is
 a. 25 m b. 20 m c. 25 cm d. 20 cm
- Q23. The persistence of vision for human eye is
 a. 1/10th of a second b. 1/16th of a second c. 1/6th of the second d. 1/18th of a second
- Q24. The light sensitive cell present on retina and is sensitive to the intensity of light is:
 a. Cones b. Rods c. Both rods and cones d. None of these
- Q25. The phenomena of light responsible for the working of the human eye is
 a. Reflection b. Refraction c. Power of accommodation d. Persistence of vision
- Q26. Which of the following colors is least scattered by fog, dust or smoke?
 a. Violet b. Blue c. Red d. Yellow
- Q27. The colored light that refracts most while passing through a prism is
 a. Yellow b. Violet c. Blue d. Red
- Q28. The amount of light entering the human eye is controlled by
 a. Ciliary muscles b. Pupil c. Cornea d. Iris
- Q29. The part of the eyes refracts light entering the eye from external objects?
 a. Lens b. Cornea c. Iris d. Pupil
- Q30. The least distance of distinct vision for a normal eye is
 (a) infinity (b) 25 cm (c) 2.5 cm (d) 25 m
- Q31. A person cannot see distinctly objects kept beyond 2 m. This defect can be corrected by using a lens of power (a) +0.5 D (b) -0.5 D (c) +0.2 D (d) -0.2 D
- Q32. The defect of vision in which a person cannot see the distant objects clearly but can see nearby objects clearly is called
 (a) myopia (b) hypermetropia (c) presbyopia (d) bifocal eye
- Q33. The splitting of white light into different colours on passing through a prism is called
 (a) reflection (b) refraction (c) dispersion (d) deviation
- Q34. At noon, the Sun appears white as
 (a) blue colour is scattered the most (b) red colour is scattered the most
 (c) light is least scattered (d) all the colours of the white light are scattered away
- Q35. Twinkling of stars is due to
 (a) reflection of light by clouds (b) scattering of light by dust particles
 (c) dispersion of light by water drops (d) atmospheric refraction of starlight
- Q36. When white light enters a glass prism from air, the angle of deviation is least for
 (a) blue light (b) yellow light (c) violet light (d) red light
- Q37. When white light enters a glass prism from air, the angle of deviation is maximum for
 (a) blue light (b) yellow light (c) red light (d) violet light
- Q38. The amount of light entering the eye can be controlled by the
(a) iris (b) pupil (c) cornea (d) ciliary muscles
- Q39. What type of image is formed by the eye lens on the retina?
(a) Real and erect (b) Virtual and inverted (c) Real and inverted (d) Virtual and erect

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Chapter-3 ELECTRICITY

- Q1. A wire of length l , made of material resistivity p is cut into two equal parts. the resistivity of the two parts are equal to :
- a) p b) $p/2$ c) $2p$ d) $4p$
- Q2. A battery of 10 volt carries 20,000 C of charge through a resistance of 20Ω . The work done in 10 seconds is :
- a) 2×10^3 joule b) 2×10^5 joule c) 2×10^4 joule d) 2×10^2 joule
- Q3. A body records that 4000 joule of work is required to transfer 10 coulomb of charge between two points of a resistor of 50Ω . The current passing through it is :
- a) 2A b) 4A c) 8A d) 16A
- Q4. To get 2Ω resistance using only 6Ω resistors, the number of them required is :
- a) 2 b) 3 c) 4 d) 6
- Q5. Two wires of same length and area made of two materials of resistivity p_1 and p_2 are connected in series to a source of potential V . The equivalent resistivity for the same area is :
- a) $p_1 + p_2$ b) $p_1 p_2 / p_1 + p_2$ c) $(p_1 + p_2) / p_1 p_2$
- Q6. The least resistance obtained by using 2Ω , 4Ω , 1Ω and 100Ω is :
- a) $< 100\Omega$ b) $< 4\Omega$ c) $< 1\Omega$ d) $> 2\Omega$
- Q7. Two resistors are connected in series gives an equivalent resistance of 10Ω . when connected in parallel, gives 2.4Ω . Then the individual resistance are :
- a) each of 5Ω b) 6Ω and 4Ω c) 7Ω and 4Ω d) 8Ω and 2Ω
- Q8. The resistance of hot filament of the bulb is about 10 times the cold resistance. What will be the resistance of 100W-220V lamp, when not in use?
- a) 48Ω b) 400Ω c) 484Ω d) 48.4Ω
- Q9. A coil in the heater consume power p on passing current. If it is cut into halves and joined in parallel, it will consume power :
- a) P b) $P/2$ c) $2P$ d) $4P$
- Q10. A fuse wire repeatedly gets burnt when used with a good heater. It is advised to use a fuse wire of :
- a) more length b) less radius c) less length d) more radius
- Q11. A cooler of 1500 W, 200 volt and a fan of 500 W 200 volt are to be used from a household supply. The rating of fuse to be used is :
- a) 2.5A b) 5.0A c) 7.5A d) 10A
- Q12. A current of 1A is drawn by a filament of an electric bulb. Number of electrons passing through a cross-section of the filament in 16 seconds would be roughly :
- a) 10^{20} b) 10^{16} c) 10^{18} d) 10^{23}
- Q13. What is the maximum resistance which can be made using five resistors each of $1/5W$?
- a) $1/5\Omega$ b) 10Ω c) 5Ω d) 1Ω
- Q14. A cylindrical conductor of length l and uniform area of cross section A has resistance R . Another conductor of length $2l$ and resistance R of the same material has area of cross-section.
- a) $A/2$ b) $2A/2$ c) $2A$ d) $2A$
- Q15. If the current I through a resistor is increased by 100% (assume that temperature remains unchanged), the increase in power dissipated will be :
- a) 100% b) 200% c) 300% d) 400%
- Q16. What is the rate of flow of electric charges called?
- (a) Electric potential (b) electric conductance
(c) Electric current (d) none of these
- Q17. Which of the following is the SI Unit of Electric Current?
- (a) ohm (b) ampere (c) volt (d) faraday
- Q18. Which instrument is used for measuring electric potential?
- (a) Ammeter (b) galvanometer (c) voltmeter (d) potentiometer
- Q19. When one unit electric charge moves from one point to another point in an electric circuit, then the amount of work done in joules is known as?

- (a) Electric current (b) electric resistance
(c) electric conductance (d) potential difference

Q20. The hindrance presented by material of conductor to the smooth passing of electric current is known as:

- (a) Resistance (b) Conductance (c) Inductance (d) None of these

Q21. The resistance of a conductor is directly proportional to:

- (a) Its area of cross-section (b) density (c) melting point (d) length

Q22. The purpose of a rheostat is:

- (a) Increase the magnitude of current only (b) Decrease the magnitude of current only
(c) Increase or decrease the magnitude of current (d) None of these

Q23. Point to be kept in mind for verification of Ohm's Law is:

- (a) Ammeter and voltmeter should be connected in series
(b) Ammeter should be connected in series and voltmeter in parallel
(c) Ammeter should be connected in parallel and voltmeter in series
(d) Ammeter and voltmeter should be connected in parallel

Q24. When a 40V battery is connected across an unknown resistor there is a current of 100 mA in the circuit.

Find the value of the resistance of the resistor:

- (a) 5000 Ω (b) 800 Ω (c) 0.8 Ω (d) none of these

Q25. A battery of 6V is connected in series with resistors of 0.1 ohm, 0.15 ohm, 0.2 ohm, 0.25 ohm and 6 ohm.

How much current would flow through the 0.3 ohm resistor?

- (a) 0.895A (b) 2.22A (c) 1A (d) none of these

Q26. A fuse wire is inserted in a?

- (a) . Live wire (b) . In the neutral wire (c) . In the earth wire (d) . May be connected in any line.

Q27. Electric potential is a:

- (a) scalar quantity (b) vector quantity
(c) neither scalar nor vector (d) sometimes scalar and sometimes vector

Q28. 1 mV is equal to:

- (a) 10 volt (b) 1000 volt (c) 10⁻³ volt (d) 10⁻⁶ volt

Q29. Coulomb is the SI unit of:

- (a) charge (b) current (c) potential difference (d) resistance

Q30. When electric current is passed, electrons move from:

- (a) high potential to low potential.
(b) low potential to high potential.
(c) in the direction of the current.
(d) against the direction of the current

Q31. The heating element of an electric iron is made up of:

- (a) copper (b) nichrome (c) aluminium (d) iron




Q32. The electrical resistance of insulators is

- (a) high (b) low (c) zero (d) infinitely high

Q33. Electrical resistivity of any given metallic wire depends upon

- (a) its thickness (b) its shape (c) nature of the material (d) its length

Q34. Which of the following is not correctly matched?

- (a)  : An electric cell
(b)  : A resistor
(c)  : Open plug key

Q35. Three resistors of 1 Ω , 2 Ω and 3 Ω are connected in parallel. The combined resistance of the three resistors should be

- (a) greater than 3 Ω
(b) less than 1 Ω
(c) equal to 2 Ω
(d) between 1 Ω and 3 Ω

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Chapter-4 MAGNETIC EFFECTS OF ELECTRIC CURRENT

- Q1. Magnetic effect of current was discovered by :
a) Oersted b) Faraday c) Bohr d) Ampere
- Q2. Inside the magnet, the field lines moves :
a) From north to south b) from south the north c) away from south pole d) away from north pole
- Q3. Relative strength of magnetic field at a point in the space surrounding the magnet is show by the :
a) length of magnet b) thickness of magnet c) degree of closeness of the field d) resistance offered by the surroundings
- Q4. Which of the following statement is not correct about the magnetic field?
a) Magnetic field lines form a continuous closed curve
b) Direction of tangent at any point on the magnetic field line curve gives the direction of magnetic field at that point
c) Magnetic field line do not intersect each other
d) Outside the magnet, magnetic field lines go from South to North pole of the magnet
- Q5. By which instrument, the presence of magnetic field be determined?
a) Magnetic needle b) Ammeter c) Galvanometer d) Voltmeter
- Q6. The pattern of the magnetic field produced by the straight current carrying conducting wire is :
a) in the direction opposite to the current
b) in the direction parallel to the wire
c) circular around the wire
d) in the same direction of current
- Q7. The strength of magnetic field around a current carrying conductor is :
a) inversely proportional to the current but directly proportional to the square of the distance from wire.
b) directly proportional to the current and inversely proportional to the distance from wire
c) directly proportional to the distance and inversely proportional to the current
d) directly proportional to the current but inversely proportional the square of the distance from wire
- Q8. A current through a horizontal power line flows from south to north direction. The direction of magnetic field line 0.5m above it is :
a) North b) South c) West d) East
- Q9. The factors on which one magnetic field strength produced by current carrying solenoids depends are :
a) Magnitude of current b) number c) Nature of core material d) All of the above
- Q10. When current is parallel to magnetic field, then force experience by the current carrying conductor placed in uniform magnetic field is :
a) Twice to that when angle is 60° b) Thrice to the when angle is 60°
c) Zero d) infinite
- Q11. In electric motor, to make the coil rotating continuously in the same direction, current is reversed in the coil after every half rotation by a device called:
a) carbon brush b) commutator c) slip ring d) armature
- Q12. The instrument that use to detect electric current in the circuit is known as :
a) electric motor b) A.C. Generator c) Galvanometer d) none of the above
- Q13. A magnet is moved towards a coil (i) quickly (ii) slowly. The induced potential difference
a) more in (i) than in (ii) case
b) more in (ii) than in (i) case
c) same in both
d) can't say
- Q14. A.C generator works on the principle of :
a) force experience by a conductor in magnetic field.
b) electromagnetic induction
c) electrostatic
d) force experience by a charge particle in electric field
- Q15. Fleming's left hand and right hand rules are used in :
a) Generator and electric motor
b) Electric motor and generator
c) any rule can be used for any device
d) both are not applied for generator and motor.
- Q16. A.C generator works on the principle of :
a) ohm's law b) Joule's law of heating c) Faraday's law of electromagnetic induction d) none of the above

Q17. If the current values periodically from zero to a maximum value, back to zero and then reverses its direction, the current is :

- a) direct b) alternative c) pulsating d) none of the above

Q18. What should be the core of an electromagnet?

- a. soft iron b. hard iron c. rusted iron d. none of above

Q19. Who has stated the Right hand Thumb Rule?

- a. Orsted b. Fleming c. Einstein d. Maxwell

Q20. In all the electrical appliances, the switches are put in the

- a. live wire b. earth wire c. neutral wire d. all of above

Q21. What is the condition of an electromagnetic induction?

- a. there must be a relative motion between the coil of wire and galvanometer
b. there must be a relative motion between the galvanometer and a magnet
c. there must be a relative motion between galvanometer and generator
d. there must be a relative motion between the coil of wire and a magnet

Q22. No force acts on a current carrying conductor when it is placed-

- a. perpendicular to the magnetic field b. parallel to the magnetic field
c. far away from the magnetic field d. inside a magnetic field

Q23. What is that instrument which can detect the presence of electric current in a circuit?

- a. galvanometer b. motor c. generator d. none of above

Q24. Which device produces the electric current?

- a. generator b. galvanometer c. ammeter d. motor

Q25. What is electromagnetic induction?

- a. the process of charging a body b. The process of rotating a coil of an electric motor.
c. producing induced current in a coil due to relative motion between a magnet and the coil
d. The process of generating magnetic field due to a current passing through a coil.

Q26. What happens to the current in short circuit?

- a. reduces substantially b. does not change
c. increases heavily d. vary continuously

Q27. An alpha particle is diverted towards west is deflected towards north by a field. The field is magnetic. What will be the direction of field?

- a. Towards south b. towards east c. downward d. upward

Q28. The best material to make permanent magnets is

- (a) aluminium (b) soft iron (c) copper (d) alnico

Q29. The magnetic field lines always begin from

- (a) N-pole and end on S-pole. (b) S-pole and end on N-pole.
(c) start from the middle and end at N-pole. (d) start from the middle and end at S-pole.

Q30. The magnetic field is the strongest at

- (a) middle of the magnet. (b) north pole (c) south pole. (d) both poles.

Q31. Material of the core of a strong magnet is

- (a) aluminium (b) soft iron (c) copper (d) steel

Q32. Magnetic lines of force inside current carrying solenoid are

- (a) perpendicular to axis. (b) along the axis and are parallel to each other.
(c) parallel inside the solenoid and circular at the ends. (d) circular.

Q33. A soft iron bar is introduced inside a current carrying solenoid. The magnetic field inside the solenoid

- (a) will become zero. (b) will increase. (c) will decrease. (d) will remain unaffected.

Q34. An electric generator actually acts as

- (a) a source of electric charge. (b) a source of neat energy.
(c) an electromagnet. (d) a converter of energy.

Q35. A magnetic field directed in north direction acts on an electron moving in east direction. The magnetic force on the electron will act

- (a) vertically upwards. (b) towards east. (c) vertically downwards. (d) towards north.

Q36. Switches are connected to

- (a) live wire. (b) neutral wire. (c) earth wire. (d) any one.

Q37. The most important safety method used for protecting home appliances from short-circuiting or Overloading is

- (a) earthing (b) use of stabilizers (c) use of fuse (d) use of electric meter

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CLASS – X

Chapter-5 SOURCE OF ENERGY

- Q1. An ideal source of energy should have :
- higher calorific value
 - easy transportability
 - easy accessibility
 - all of these
- Q2. Fossil fuels are :
- non-renewable source of energy
 - renewable source of energy
 - both a and b
 - Neither a nor b
- Q3. Dead organisms are transformed into petroleum and natural gas in :
- presence of air
 - absence of air
 - presence of sunlight
 - none of the above
- Q4. Which of the following problem is associated with a burning of coal?
- carbon-dioxide emission
 - acid rain
 - ash with toxic metal impurity
 - all of these
- Q5. Hydropower plants are located in the :
- desert area
 - plateau area
 - hilly terrains
 - none of above
- Q6. Biogas is a better fuel than animal dung cake because :
- biogas has lower calorific value
 - animal dung cake has high calorific value
 - biogas burns smokeless and leaves no residue
 - biogas is used as a fuel for cooking only whereas animal dung cake can be used for cooking, illuminating the lanterns.
- Q7. Which of the following organisms produce biogas from cow dung slurry in the biogas plant?
- aerobic bacteria
 - anaerobic bacteria
 - protozoa
 - fungi
- Q8. What are the disadvantages of solar energy :
- a large surface area is required to collect the solar energy
 - daily average of solar energy varies from 4 to 7 kWh/m²
 - highly hazardous toxic material is used in the manufacturing of solar devices
 - all of the manufacturing of solar devices
- Q9. The temperature inside the solar cooker ranges from :
- 500-1000°C
 - 100-400°C
 - 150-200°C
 - 70-80°C
- Q10. The use of reflector in the solar cooker is to :
- Decrease efficiency
 - create greenhouse effect
 - increase efficiency
 - none of these
- Q11. Solar cells are made of
- germanium
 - silicon
 - silver
 - aluminium
- Q12. The material used for interconnection of the solar cells in the solar panel is :
- silicon
 - silver
 - aluminium
 - copper
- Q13. A solar panel is made by combining in an arrangement :
- solar concentrator
 - solar cooker
 - solar cells
 - solar chimney
- Q14. Tidal energy is a form of energy obtained from the :
- motion of surface water in ponds
 - ocean in the form of tidal waves
 - tides occur in the river water
 - motion of the wave in sea
- Q15. Wave energy is caused due to :
- strong winds blowing across the sea
 - kinetic energy possessed by huge waves near the sea shore
 - potential energy possessed by the stored water
 - both a and b
- Q16. The working fluid in ocean thermal power plant is :
- volatile liquid like ammonia
 - petrol
 - charcoal
 - liquefied petroleum gas
- Q17. Geothermal energy is :
- Heat energy in the interior of earth
 - energy of molten magma exists in the form of magma inside the earth
 - molten lava on the surface of earth
 - energy obtained from solar thermal electric plants
- Q18. U-235 will undergo fission by :
- low energy neutrons only
 - high energy neutrons only
 - medium energy neutrons
 - low energy protons only
- Q19. In a hydro power plant:
- Potential energy possessed by stored water is converted into electricity
 - kinetic energy possessed by stored water is converted into potential energy
 - Electricity is extracted from water
 - water is converted into steam to produce electricity

- Q20. A body of mass 1kg is attracted by the earth with a force which is equal to
 a. 9.8N b. 6.67×10^{11} c. 1 N d. 9.8m/s
- Q21. Which is the most popular kitchen fuel in India?
 a. LPG b. Kerosene c. Coal d. Firewood
- Q22. Which method is used to produce electricity in hydroelectric power plant.
 a. By boiling the water to produce steam b. By ionizing water
 c. By running dynamo by kinetic energy d. Any of the above
- Q23. Which of the following is the odd one out?
 a. Petroleum b. Hydro electricity c. Coal d. CNG
- Q24. Which method is used to produce electricity in thermal power plant?
 a. By heating chargeable cells b. By boiling water
 c. By pushing pistons by heat energy d. Any of above
- Q25. Which of the following is a component of bio-gas?
 a. Methane b. LPG c. CNG d. Hydrogen sulphide
- Q26. Which of the following produces energy because of temperature difference at various levels in ocean.
 a. Tidal energy b. Wave energy c. Solar energy d. Ocean thermal energy
- Q27. Which energy source is the largest source used in India?
 a. CNG b. LPG c. Coal d. Bio Gas
- Q28. Which of the following is normally used in solar cookers for trapping solar energy?
 a. Solar panels b. Silicon cells c. Mirrors d. Any of above
- Q29. In which of the following kinetic energy is converted into electrical energy?
 a. Tidal energy b. Hydro energy c. Wind energy d. All of these
- Q30. Which of the following is the ultimate source of energy for us?
 a. LPG b. Nuclear c. Solar d. CNG
- Q31. A good fuel should possess
 (a) high ignition temperature (b) moderate ignition temperature
 (c) high calorific value (d) both high calorific value and moderate ignition temperature
- Q32. The variety of coal which has the highest carbon content
 (a) Anthracite (b) Peat (c) Bituminous (d) Lignite
- Q33. Unit of calorific value of a substance is
 (a) Kcal (b) Joules (c) J kg (d) J/kg
- Q34. Biogas is formed in the
 (a) presence of air only (b) presence of water only
 (c) absence of air only (d) presence of water and absence of air
- Q35. Solar energy can be directly converted to electrical energy by which of the following devices?
 (a) solar cooker (b) solar heater (c) solar cell (d) solar geyser
- Q36. Which of the following is the ultimate source of energy?
 (a) Water (b) Sun (c) Fossil fuels (d) Uranium
- Q37. Which of the following gases is the main constituent of natural gas?
 (a) Methane (b) Ethane (c) Propane (d) Butane
- Q38. Which element is used in solar cells?
 (a) Carbon (b) Silicon (c) Phosphorous (d) Sulphur
- Q39. One major problem in harnessing nuclear energy is
 (a) converting nuclear energy into electrical energy. (b) sustaining the reaction.
 (c) splitting the nuclei. (d) disposing off spent fuel easily.
- Q40. Spent slurry (Bio-waste after obtaining biogas) is used as
 (a) fuel (b) manure (c) food for livestock (d) used again for generating biogas