

Class: 10
Subject: Science
Topic: ASK1510UT05
No. of Questions: 60

Physics

- Q1. The far point of a healthy person is
- (a) 0.15 m
 - (b) 100 m
 - (c) 15 cm
 - (d) Infinity

Sol. (d)

- Q2. The human eye forms the image of an object at its
- (a) Pupil
 - (b) Cornea
 - (c) Retina
 - (d) Iris

Sol. (c)

- Q3. Light waves are
- (a) Electrical waves
 - (b) Electromagnetic waves
 - (c) None of these
 - (d) Mechanical waves

Sol. (b)

- Q4. The muscles of the iris control the
- (a) Optic nerve
 - (b) Opening of the pupil
 - (c) Focal length of the eye – lens
 - (d) Shape of the crystalline lens

Sol. (b)

- Q5. The angle through which a ray of light turns on passing through a prism is called.
- (a) Angle of incidence
 - (b) Angle of deviation
 - (c) Angle of emergence
 - (d) Angle of reflection

Sol. (b)

- Q6. When do we say a person is colour blind?
- (a) When person cannot see in the light
 - (b) All of these
 - (c) When person cannot see in the dark
 - (d) When person cannot differentiate between colours

Sol. (d)

- Q7. The far point of a myopic person is 80 cm in front of the eye, which type of lens is required to correct the problem?
- (a) Bifocal
 - (b) Convex
 - (c) Plane lens
 - (d) Concave

Sol. (d)

- Q8. If an eye has near point at a distance of 0.5 m, what is the power of lens required to correct it?
- (a) 2 dioptre
 - (b) 2.5 dioptre
 - (c) 1 dioptre
 - (d) 3 dioptre

Sol. (a)

- Q9. The cause of Astigmatism is
- (a) Varying curvature in vertical lines
 - (b) Varying curvature in horizontal lines
 - (c) Both of these
 - (d) None of these

Sol. (c)

- Q10. The deviation in the path of ray of light can be produced.
- (a) By a glass prism as well as a rectangular glass slab
 - (b) Neither by a glass prism nor by rectangular glass slab.
 - (c) By a glass prism but not by rectangular
 - (d) By a rectangular glass slab but not by a glass prims

Sol. (c)

- Q11. The wavelength corresponding to violet, yellow & red light are λ_v , λ_y and λ_r respectively.
- (a) $\lambda_v > \lambda_y > \lambda_r$
 - (b) $\lambda_y < \lambda_v < \lambda_r$
 - (c) $\lambda_v < \lambda_y < \lambda_r$
 - (d) $\lambda_y < \lambda_r < \lambda_v$

Sol. (c)

- Q12. When a light passes through a prism, it splits into its component colours. This phenomenon is called.
- (a) Refraction
 - (b) Reflection
 - (c) Spectrum
 - (d) Dispersion

Sol. (d)

- Q13. What is spectrum –
- (a) The band of 5 colours
 - (b) The band of 6 colours
 - (c) The band of 7 colours
 - (d) None of these

Sol. (c)

- Q14. When a person is suffering from both myopia and hypermetropia. What type corrective lens are required.
- (a) Concave
 - (b) Bifocal
 - (c) Convex
 - (d) None of these

Sol. (b)

- Q15. Which is the correct condition for the total internal reflection to occur?
- (a) Critical angle should be greater than angle of incidence
 - (b) Light should pass from denser to rarer medium
 - (c) Light should pass from rarer to denser medium
 - (d) All of these

Sol. (b)

- Q16. If the angle of incidence is increased for a pair of air – glass interface, then the angle of refraction will
- (a) First increases and then decreases
 - (b) Remains the same
 - (c) Increase
 - (d) Decreases

Sol. (d)

- Q17. The lateral displacement of an incident ray passing out of a rectangular glass slab
- (a) Independent of the thickness of the glass slab
 - (b) Is directly proportional to the thickness of the glass slab
 - (c) None of these
 - (d) Inversely proportional to the thickness of the glass slab

Sol. (b)

- Q18. Find the incorrect statement
- (a) Sun is visible, 2 minutes after sunrise and 2 minutes before sunset
 - (b) Refractive index of glass for violet colour is more than that for red colour
 - (c) Large size particles scatter light of longer wavelength
 - (d) Presbyopia occurs due to weakening of ciliary muscles

Sol. (a)

- Q19. A person developing near sightedness due to
- (a) The size of eye ball has elongated
 - (b) Power of eye lens has increased
 - (c) The focal length of eye lens has decreased
 - (d) All of these

Sol. (d)

- Q20. What is the value of refractive index of the medium if the critical angle of incidence in a denser – rarer inter face is equal to 45° ?
- (a) 2.0.
 - (b) 3.25
 - (c) 1.414
 - (d) 2.141

Sol. (c)

Biology

- Q1. What percentage of sunlight is captured by plants to convert it into food energy –
- (a) 1%
 - (b) 10%
 - (c) 50%
 - (d) More than 50%

Sol. (a)

- Q2. Flow of energy in an ecosystem is always
- (a) Unidirectional
 - (b) Bidirectional
 - (c) Multidirectional
 - (d) None of these

Sol. (a)

- Q3. Which of the following is non – biodegradable?
- (a) Tea leaves
 - (b) Nylon
 - (c) Remains of animals
 - (d) Fleece of sheep

Sol. (b)

- Q4. State holders of our forest are
- (a) People who live in or around forests are dependent on forest produce
 - (b) Forest Department of the Government which owns the land

- (c) The industrialists – from those who use “tendu” leaves to make bidis to the ones with paper mills
- (d) All of the above

Sol. (d)

- Q5. Amrita Bishnoi lost her life while saving forest having ___ tress
- (a) Teak
 - (b) Kheejri
 - (c) Bamboo
 - (d) Segun

Sol. (b)

- Q6. First order consumers are:
- (a) Carnivores
 - (b) Herbivores
 - (c) Decomposers
 - (d) Omnivores

Sol. (b)

- Q7. A detritus food chain begins with
- (a) Carnivores
 - (b) Herbivores
 - (c) Omnivores
 - (d) Decomposers

Sol. (d)

- Q8. A local system of canal irrigation called kulhs is practiced in
- (a) Himachal Pradesh
 - (b) Arunachal Pradesh
 - (c) Andhra Pradesh
 - (d) Madhya Pradesh

Sol. (a)

- Q9. Indira Gandhi Canal has brought greenery to considerable areas of _____
- (a) Gujarat
 - (b) Rajasthan

- (c) Haryana
- (d) Utter Pradesh

Sol. (b)

Q10. Which of the following is an abiotic component?

- (a) Plants
- (b) Animal
- (c) Soil
- (d) Microorganisms

Sol. (c)

Q11. Conservation of Wildlife includes

- (a) Preventing poaching of animals
- (b) Construction of National parks, Sanctuaries
- (c) Ban on trading endangered species
- (d) All of the above

Sol. (d)

Q12. Edaphic factors are included in

- (a) Abiotic components
- (b) Biotic Component
- (c) Producers
- (d) Consumers

Sol. (a)

Q13. Wild life includes

- (a) Wild animals only
- (b) Wild plants only
- (c) Wild plants and animals
- (d) All plants and animals

Sol. (c)

Q14. The three Rs to save the environment are

- (a) Remember, Reduce, Recuse
- (b) Recall, Reduce, Refund
- (c) Reduce, Recycle, Recuse

(d) Reduce, Refund, Reuse

Sol. (c)

Q15. Chipko Andolan is associated with

- (a) Protesting against pasting of posters on walls
- (b) Saving money
- (c) Using more postal stamps
- (d) Saving forest

Sol. (d)

Q16. Human – caused changes to the nitrogen cycle are expected to result in

- (a) An increase in acid rain
- (b) An increase in the loss of species from ecosystem
- (c) Higher concentrations of a greenhouse gas.
- (d) All of the above

Sol. (d)

Q17. Why do scientists think that human – induced global warming will be more harmful to plants and animals than were past, natural climate fluctuations?

- (a) Because temperatures will change faster
- (b) Because the temperature changes will be larger
- (c) Because species now are less adaptable than species in the past
- (d) Because ecosystem are now more complicated than they used to be

Sol. (a)

Q18. If the Bengal tiger becomes extinct

- (a) Hyenas and voves will become scare
- (b) The wild area will be safe for man and domestic animals
- (c) Its gene pool will be lost for ever
- (d) The population of beautiful animals like deers will be stabilized

Sol. (b)

Q19. Domestic cooking gas cylinder is filled with

- (a) Alcohol
- (b) Diesel oil
- (c) Liquid petroleum gas

(d) Coal gas

Sol. (c)

Q20. Maximum air which we breathe is present at

- (a) Troposphere
- (b) Stratosphere
- (c) Ionosphere
- (d) Mesosphere

Sol. (a)

Chemistry

Q21. P, Q, R are elements of Dobereiner's triads. If the atomic mass of P is 7 and that of Q is 23. What will be the atomic mass of R?

- (a) 15.0
- (b) 39.0
- (c) 40.0
- (d) 30.0

Sol. (a)

Q22. Which element was discovered after Mendeleev gave the periodic table?

- (a) Aluminum
- (b) Tantalum
- (c) Manganese
- (d) Gallium

Sol. (d)

Q23. An element with atomic no 3 combines with another elements with atomic number 17, what would be the formulae of the compound?

- (a) LiCl
- (b) Lif
- (c) NaCl
- (d) BECl₂

Sol. (a)

Q24. Name the scientist who gave the Law of octaves?

- (a) Mendeleev

- (b) Newlands
- (c) Dalton
- (d) Dobereiner

Sol. (b)

Q25. Mendeleev's periodic table is based on the

- (a) Atomic weight
- (b) Atomic number
- (c) Atomic radius
- (d) Atomic volume

Sol. (a)

Q26. Which of the following is not an inert gas?

- (a) Helium (He)
- (b) Argon (Ar)
- (c) Bromine (Br)
- (d) Radon (Rn)

Sol. (c)

Q27. Which element has two shells both of which are completely filled with electrons?

- (a) Ne
- (b) He
- (c) H
- (d) Na

Sol. (a)

Q28. Which element still has dicey position in modern periodic table?

- (a) Carbon
- (b) Nitrogen
- (c) Oxygen
- (d) Hydrogen

Sol. (d)

Q29. Modern periodic table is based on ____.

- (a) Atomic mass
- (b) Mass number

- (c) Atomic number
- (d) Atomic volume

Sol. (c)

Q30. The law of triads is not applicable on

- (a) Cl, Br, I
- (b) S, Se, Te
- (c) Na, K, Rb
- (d) Ca, Sr, Ba

Sol. (c)

Q31. Answer the questions on the basis of the following table, which element is the most metallic?

1	2	13	14	15	16	17	18
H							He
A						B	
C						D	

- (a) B
- (b) C
- (c) D
- (d) H

Sol. (c)

Q32. As we move from left to right in a period in modern periodic table, Atomic sizes of the elements generally

- (a) Increases
- (b) Decrease
- (c) Remains same
- (d) Approach zero

Sol. (b)

Q33. As we move from top to bottom in a group in modern periodic table, generally atomic size of elements

- (a) Increases
- (b) Decreases
- (c) Remains same
- (d) Approaches zero

Sol. (a)

Q34. Which group of elements in modern periodic table is referred 'alkali metals?'

- (a) Group 1
- (b) Group 2
- (c) Group 17
- (d) Group 18

Sol. (a)

Q35. Group 17 elements are also called as

- (a) Alkali Metals
- (b) Alkaline Earth Metals
- (c) Halogens
- (d) Noble Gases

Sol. (c)

Q36. Which element has the highest electronegativity?

- (a) C
- (b) Mg
- (c) O
- (d) S

Sol. (a)

Q37. In the following the element with the highest electro positivity is –

- (a) Copper
- (b) Cesium
- (c) Barium
- (d) Chromium

Sol. (b)

Q38. Which of the following elements are analogous to the lanthanides -

- (a) Actinides
- (b) Borides
- (c) Carbides
- (d) Hydrides

Sol. (a)

Q39. Which has the maximum atomic radius –?

- (a) Al
- (b) Si
- (c) P
- (d) Mg

Sol.

(d)
Mg, as we move across the period atomic radius decrease

Q40. Which one of the following ions has the highest value of ionic radius –

- (a) O^{2-}
- (b) B^{3+}
- (c) Li^{+}
- (d) F^{-}

Sol.

(a)
 O^{2-} has the highest value of radii as this can be explained on the bases of $Z/e \left\{ \frac{\text{Nucleus charge}}{\text{No. of electron}} \right\}$
When Z/e ratio increases, the size decreases and when Z/e ratio decrease the size increases.