

General Science Mega Quiz for SSC Tier-1 (Solutions)

S1. Ans.(d)

Sol. Laser (Light Amplification by Stimulated Emission of Radiation) is a device for producing stimulated radiation. In stimulated radiation, an incoming photon of a specific frequency can interact with an excited atomic electron causing creation of a new photon identical in all respect to the incident photon.

As a result, two similar waves (original incident wave and the newly formed one) constructively interfere, leading to a more intense wave.

S2. Ans.(a)

Sol. Infrared is used in the remote control of a television. It has wavelength greater than visible light (>800nm) which is invisible to human eye but can be felt as heat.

S3. Ans.(b)

Sol. Diffraction occurs when a wave encounters an obstacle or a slit. Diffraction is the bending of light as it passes around the edge of an object. The amount of bending depends on the relative size of the wavelength of light to the size of the opening/slit.

S4. Ans.(d)

Sol. Tube light is filled with mercuric oxide and argon gas where mercuric oxide is used to emit UV light while argon gas is used to provide an inert atmosphere within the tube.

S5. Ans.(b)

Sol. The colour of the star is an indication of its temperature according to Wein's displacement law $\lambda \times T = B$

Where λ = Wavelength
T = Temperature and
B = Constant whose value is

S6. Ans.(b)

Sol. Sound travels in the form of longitudinal waves. These waves travel in the form of compressions and rarefactions.

S7. Ans.(a)

Sol. The mirror by a dentist to examine the teeth of patients is concave as concave mirror given upright and magnified image of the object. While, image formed by a convex mirror is upright but diminished. On the other hand, image formed by plane mirror is of the same size as the object.

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S8. Ans.(d)

Sol. A sound's loudness is measured in decibels (dB). Normal conversation is 60dB, a lawn mower is about 90dB are harmful, depending on how long and how often one is exposed to them.

S9. Ans.(a)

Sol. The light wave with shortest wavelength i.e. violet refracts the most.

S10. Ans.(a)

Sol. In a three pin plug longest pin should be connected to ground terminal. Ground pin is the largest to supply the additional voltage that can give electric shock. And being the longest it can touch before live and neutral terminal.

S11. Ans.(b)

Sol. Fluorine, though higher than chlorine in the periodic table, has a very small atomic size. This makes the fluoride anion so formed unstable (highly reactive) due to a very high charge/mass ratio. As a result, fluorine has an electron affinity less than that of chlorine.

S12. Ans.(a)

Sol. Noble Gases have complete valence electron shells. Most elements 'want' to have a complete electron shell with 8 electrons. Since the Noble Gases already have that 'perfect status' then they have an affinity of 0. Affinity is the change in energy of the atom when an electron is added.

S13. Ans.(d)

Sol. The densest chemical element is osmium (which is a metal). Osmium has a density of around 22 grams per cubic centimeter, about twice the density of lead.

S14. Ans.(b)

Sol. The most commonly used method of calculation is that originally proposed by Linus Pauling.

S15. Ans.(a)

Sol. Argon is the highest ionization potential energy .

S16. Ans.(b)

Sol. The chemical element with the lowest melting point is Helium.

S17. Ans.(b)

Sol. An English scientist by the name of John Newlands tried to classify the elements in a unique manner. He first started by arranging all the elements in an ascending order according to their atomic weights.

S18. Ans.(a)

Sol. The elements with atomic numbers 2, 10, 18, 36, 54 and 86 are all Inert gas.

S19. Ans.(d)

Sol. Cesium and francium are the most reactive elements in this group. Alkali metals can explode if they are exposed to water.

S20. Ans.(c)

Sol. The lanthanide series consists of the 14 elements, with atomic numbers 58 through 71,

S21. Ans.(c)

Sol. Carolus Linnaeus, is often called the Father of Taxonomy. His system for naming, ranking, and classifying organisms.

S22. Ans.(a)

Sol. The adoption by biologists of a system of strictly binomial nomenclature is due to Swedish botanist and physician name Carl Linnaeus.

S23. Ans.(c)

Sol. The 10th edition of Systema Naturae is a book written by Swedish naturalist Carolus Linnaeus and published in two volumes in 1758 and 1759, which marks the starting point of zoological nomenclature.

S24. Ans.(c)

Sol. The term "New Systematics" was given by Julian Huxley (1940). This classification takes into account the cytological, morphological, genetical, anatomical, palynological and physiological characters.

S25. Ans.(c)

Sol. Species is the basic unit of classification

S26. Ans.(a)

Sol. Hydrophytes are Aquatic plants require special adaptations for living submerged in water, or at the water's surface.

S27. Ans.(c)

Sol. Chlorophyll containing autotrophic thallophytes is called Algae.

S28. Ans.(b)

Sol. Taxonomy is the practice of identifying different organisms, classifying them into categories and naming them. So, the first step in taxonomy would be identification.

S29. Ans.(c)

Sol. Homo sapiens (Latin: "wise man") is the scientific name for the human species.

S30. Ans.(d)

Sol. The five kingdom classification was proposed by R.H. Whittaker in 1969. The five kingdoms were formed on the basis of characteristics such as cell structure, mode of nutrition, source of nutrition and body organisation.



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