1. Who is a Myope?

   1). Blind person 2). Partially Blind person

   3). Short-sighted person 4) Normal eyesight person

   Ans:

2. Which symbol is used universally to indicate facilities for the physically challenged?

   1)Walking stick 2). Wheelchair 3). Crutch 4). Ambulance

   Ans:

https://en.wikipedia.org/wiki/International_Symbol_of_Access

3. The system of dual Government during later half of 18th century, was prevalent during the time of –

   1) Robert Clive 2). Cornwallis 3). Warren Hastings 4). William Bentinck

   Ans:1

Dual government was introduced by Robert Clive in Bengal in 1765 and it was continued till 1772.

The Dual system of Government was abolished by Warren Hastings in 1772 and Bengal was brought under direct control of the British.

4. Zero was invented by –

   1). Romans 2). Indians 3). Greeks 4). Arabs

   Ans:2

   The first modern equivalent of numeral zero comes from a Hindu astronomer and mathematician Brahmagupta in 628. His symbol to depict the numeral was a dot underneath a number.

5. World Forest Day is observed on

1). March 23 2). March 21 3). March 12 4). March 25

Ans:2

The United Nations General Assembly proclaimed 21 March the International Day of Forests in 2012 to celebrate and raise awareness of the importance of all types of forests. Countries are encouraged to undertake local, national and international efforts to organize activities involving forests and trees, such as tree planting campaigns.

6. What was a group of villages called during the Vedic age?

1). Grama 2). Jana 3). Vish 4). Sabha

Ans:6

During Rig-Vedic era, the basic unit of power lied within a patriarchal family (***Kula)***. The head of the family was a ***Kulapa***. A group of such families called ***grama***, which was controlled by a village headman ***Gramini.*** The groups of the villages belonged to a clan (***Vis***) and many clans made a community called ***Jana***.

https://www.gktoday.in/topic/rig-vedic-polity/

7. The Beaver is the national animal of

1). Mexico 2). Canada 3). U.S.A 4). Russia

Ans:

8. Which planet is known as the 'Red Planet'?

1). Mars 2). Venus 3). Jupiter 4). Saturn

Ans:1

Mars is a planet. It is the fourth planet from the Sun. It is the next planet beyond Earth. Mars is more than 142 million miles from the Sun. The planet is about half the size of Earth. A day on Mars is 24.6 hours. A year on Mars is 687 Earth days. Mars is known as the Red Planet. It is red because the soil looks like rusty iron. Mars has two small moons. Their names are Phobos (FOE-bohs) and Deimos (DEE-mohs).

https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-mars-k4.html

9. "Little Slam" title is associated wit

1). Golf 2). Tennis 3). Billiards 4). Squash

Ans:2

The word Grand Slam is associated with which sports

The Grand Slam in tennis is the achievement of winning all four major championships in one discipline in the same calendar year, also referred to as the "Calendar-year Grand Slam" or "Calendar Grand Slam".

10. Value of sin 45° cos 45° + sin 60° cos 30° + sin 30° cos 60° is –

1) 2 2) 1 3) 0 4) 3/2

Ans:4. $(\frac{1}{\sqrt{2}})$ x $(\frac{1}{\sqrt{2}})$ +$(\frac{\sqrt{3}}{2})$ $(\frac{\sqrt{3}}{2})$ +$(\frac{1}{2})$ $(\frac{1}{2})$ = ½ + ¾ +1/4 = 3/2

11. In circuits choke is preferred to resistors, because

1). Chock coil is cheap 2). Voltage increases

3). Energy is not wasted 4). Current increases

Ans:3

A choke coil is preferred over resistances in a.c. circuit because **a choke coil has large value of self inductance** and hence, the power dissipation is 0 for choke coil.

12. Where was the first world Sikh university set up?

1). London 2). Paris 3). New York 4). Chicago

Ans:1

The World Sikh University, London was set up in 1997. The first Faculty of the University is named as School of Religious Studies, and the second Faculty, which was opened in October 2000, is named as Faculty of Languages. The Academic courses have been accredited by the FVG Antwerp Belgium.

13. What is the male of a hen called?

1). Bull 2). Cock 3). Ewe 4). Chick

Ans:2

14. Name the currency of Brazil.

1). Paseta 2). Pula 3). Kwaza 4). **the Brazilian real** (BRL)

Ans:4

15. Conversion of digital to analog signal in a monitor is done by

1). CRT controller 2). Microprocessor 8088

3). Shift regular 4). DAC

Ans:4

In electronics, a **digital-to-analog converter** (**DAC**, **D/A**, **D2A**, or **D-to-A**) is a system that converts a digital signal into an analog signal. An analog-to-digital

converter (ADC) performs the reverse function.

A digital to **analogue converter (DAC)** converts a digital signal from the computer into an electrical voltage which can be used to drive electrical equipment, for example, a stirrer motor.

16. _____ occurs when the eyeballs are too short.

1). Hypermetropia 2). Myopia 3). Astigmatism 4). Cataract

Ans:2

Short-sightedness, or **myopia**, is a very common eye condition that causes distant objects to appear blurred, while close objects can be seen clearly.

17. In summer, man with excess perspiration feels weak, because of -

1). Loss of water through evaporation

2).Loss of salts through evaporation

3). Loss of carbohydrates through evaporation

4). All factors mentioned

Ans:1

18. A choke is used as a resistance in _____

1). A.C circuits 2). D.C circuits

3). Half-wave rectifier circuits 4). Both A.C and D.C circuits

Ans:1.

Choke is used only in AC circuits. Since its inductive reactance is zero for DC current, it cannot be used in DC circuits. It absorbs very less power compared to resistance. The only loss of energy is due to hysteresis in the iron core, which is very less compared to resistance.

19. The unit for equivalent weight is –

1). gram 2). Kg 3). g/litre 4). No unit

Ans:4

The unit of equivalent weight is the atomic mass unit; the amount of a substance in grams numerically equal to the equivalent weight is called a gram equivalent.

Equivalent weight, in chemistry, the quantity of a substance that exactly reacts with, or is equal to the combining value of, an arbitrarily fixed quantity of another

substance in a particular reaction. Substances react with each other in stoichiometric, or chemically equivalent, proportions, and a common standard has been adopted. The concept of equivalent weight has been displaced by that of molar mass, which is the mass of one mole of a substance.

The equivalent weight of an element is its gram atomic weight divided by its valence (combining power). Some equivalent weights are: silver (Ag), 107.868 grams (g); magnesium (Mg), 24.312/2 g; aluminum (Al), 26.9815/3 g; and sulfur (S, in forming a sulfide), 32.064/2 g. For an element, the equivalent weight is the quantity that combines with or replaces 1.008 g of hydrogen or 7.9997 g of oxygen; or, the weight of an element that is liberated in an electrolysis (chemical reaction caused by an electric current) by the passage of 1 faraday (96,485.3321233 coulomb) of electricity.

Britannica, The Editors of Encyclopaedia. "Equivalent weight". ***Encyclopedia Britannica***, 26 Mar. 2021, https://www.britannica.com/science/equivalent-weight. Accessed 10 September 2021.

20. $\left(\frac{256}{6561}\right)^{-1/8} = ?$

1) $\left(\frac{3}{2}\right)^{-1/8}$ 2) $\left(\frac{2}{3}\right)^{-1/8}$ 3) $\frac{3}{2}$ 4) $\frac{9}{4}$

Ans:3.

$\left(\frac{256}{6561}\right)^{-1/8} = \left(\frac{\sqrt[8]{2}}{\sqrt[8]{3}}\right)^{-1/8} = \left(\frac{2}{3}\right)^{-1} = 3/2$

21. Where was the first Commonwealth Games held?

1) England 2) New York 3) Berlin 4) Hamilton

Ans:4. (In Canada).

22. When the light travels from a glass slab to air, which of the following statement is true?

1). Velocity remains the same 2). Wavelength unchanged

3). Amplitude remains the same 4). Frequency remains the same

Ans:4

Refraction is an effect that occurs when a light wave, incident at an angle away from the **normal**, passes a boundary from one medium into another in which there is a change in velocity of the light. Light is refracted when it crosses the interface from air into glass in which it moves more slowly. Since the light speed changes at the interface, the **wavelength** of the light must change, too. The wavelength **decreases** as

the light enters the medium and the light wave changes direction.

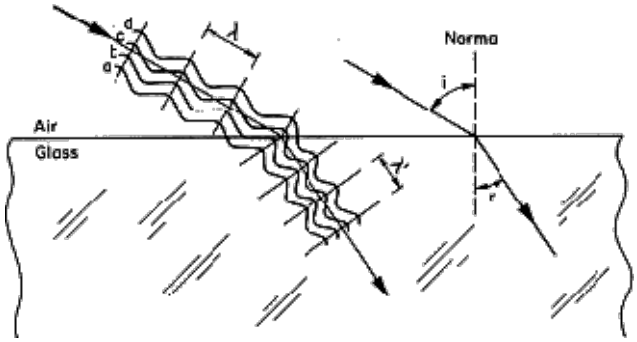


Figure. Light waves of wavelength λ incident on glass change direction and wavelength when transmitted into the glass.

https://www.asu.edu/courses/phs208/patternsbb/PiN/rdg/refraction/refraction.shtml

23. Temporary hardness of water is due to the presence of –

1). Nitrates of calcium and magnesium

2). Chlorides of calcium and magnesium

3). Bicarbonates of calcium and magnesium

4). Sulphates of

Ans:3

24. Hydrogen peroxide is stored in brown bottles because –

1). It is cheaper

2). It is a bleaching agent

3). It is an antiseptic

4). Self-oxidation and reduction is prevented

Ans: Hydrogen peroxide is a highly reactive chemical. **It is highly unstable and slowly decomposes when kept in presence of light**. Due to this reason, hydrogen peroxide should be kept in amber coloured bottles or in opaque bottles so that little or no light passes through it.

25. A hole in a p-type semiconductor is...

1). An excess electron

2). A missing electron

3). A missing atom

4). Donor level

Ans:2

26. Which of the following substances is used for time keeping in an atomic clock?

1). Cesium 2). Helium 3). Plutonium 4). Nitrogen

Ans:1

Atomic clock, type of clock that uses certain resonance frequencies of atoms (usually cesium or rubidium) to keep time with extreme accuracy. The electronic components of atomic clocks are regulated by the frequency of the microwave electromagnetic radiation.

Betts, Jonathan D.. "Atomic clock". ***Encyclopedia Britannica***, 14 Nov. 2017, https://www.britannica.com/technology/atomic-clock. Accessed 17 September 2021.

27. The most stable allotrope of phosphorous is

1). Red phosphorus 2). Yellow phosphorus

3). Scarlet phosphorus 4). Violetphosphorus

Ans:1 (**Red phosphorus** may be formed by heating white phosphorus to 300 °C (572 °F) in the absence of air or by exposing white phosphorus to sunlight.)

28. Tulsidas composed his 'Ram Charita Manas' during the reign of -

1). Babar 2). Akbar 3). Aurangzeb 4). Bahadur Shah Zafar

Ans:2

29. Which is the capital of Assam?

1). Guwahati 2). Dispur 3). Shillong 4). Tezpur

Ans:2

30. Across which river is the Radhanagari Dam built?

1). Badua River 2). Cauvery River

3). Bhogawati River 4). Chambal River

Ans:3 .(Bhogawati river is a large tributary of the Sina River which originates near Osmanabad city of Maharashtra, India. Bhogavati meets Sina near Mohol in Solapur district of Maharashtra. Sina River is tributary of Bhima River)

31. A square number followed by even number of zeroes is also a

1). Perfect square 2). Not a perfect square

3). Cannot predict 4). Irrational

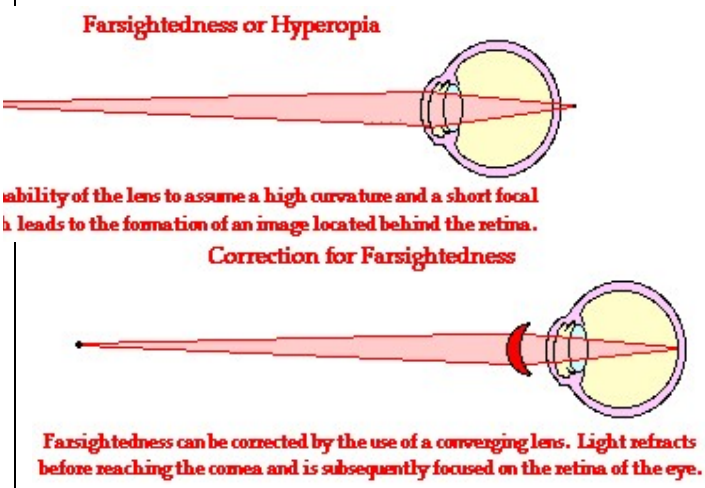
Ans:1

32. In hypermetropia, focal length is

1). Small 2). Long 3). Normal 4). None of these

Ans:2

Farsightedness or **hyperopia** is the inability of the eye to focus on nearby objects. The farsighted eye has no difficulty viewing distant objects. The hypermetropia defect of the eye is corrected by using a convex lens.



https://www.physicsclassroom.com/class/refrn/Lesson-6/Farsightedness-and-its-Correction

Presbyopia

Presbyopia is vision defect when the ability of accommodation of the eye usually decreases with ageing. They find it difficult to see nearby objects clearly and distinctly. Sometimes a person may suffer from both myopia and hypermetropia with ageing . To correct this type of defect of vision we need bi-focal lenses which are formed using both concave and convex lenses. Its upper portion consists of the concave lens and lower portion consists of the convex lens.

33. 20 buckets each of 18 litres are required to fill a tank. If a 15 litre-bucket will be required?

1). 20 2). 24 3). 22 4). 26

Ans:

34. When a ray of light enters a glass slab from air...

1). its wavelength decreases

2). its wavelength increases

3). its frequency increases

4). neither wavelength nor frequency changes

Ans:1

35. The unit of electric field intensity is...

1). Volt x metre 2). Volt /joule 3). Volt x joule 4). Volt / metre

Ans:4

36. Who invented the cellphone?

1). Charles Wastson 2). J.Brandenberger

3). Thomas Mann 4). George Eastman

Ans:2

Jacques Edwin Brandenberger (19 October 1872 – 13 July 1954) was a Swiss chemist and textile engineer who in 1908 invented cellophane. He was awarded the Franklin Institute's Elliott Cresson Medal in 1937.
Martin Cooper, byname **Marty Cooper**, (born December 26, 1928, Chicago, Illinois, U.S.), American engineer who led the team that in 1972–73 built the first mobile cell phone and made the first cell phone call. He is widely regarded as the father of the cellular phone.
Gregersen, Erik. "Martin Cooper". ***Encyclopedia Britannica***, 22 Dec. 2020, https://www.britannica.com/biography/Martin-Cooper

37. The best material for sleeper is :

1). Teak. 2). Seal. 3). Pine. 4). Seesum.

Ans:1

38. Gold is 19 times as heavy as water and copper is 9 times as heavy as water. In what ratio should these be mixed to get an alloy 15 times as heavy as water?

1).1:1 2). 2:3 3). 1:2 4). 3:2

Ans:4

39. Which one of the following is known as Banker's cheque?

1). Demand Draft 2). Debit card 3). Pay order 4). Fixed deposit

Ans:1

ıker's cheque is also known as DD (Demand Draft). A Demand Draft is a non-negotiable instrument issued by the bank on the behalf of its customer. The branch that issues the cheque is different from the one that pays it.

40. What does the white colour signify in our National Flag?

1). Truth 2). Unity 3). Peace 4). Non-violence

Ans:3

41. Rabi crops pertain to -

1). Winter season 2). Summer season.

3). Monsoon season 4). None of these.

Ans:1. Rabi crops are sown around mid-November – preferably after the monsoon rains .The major rabi crop in India is wheat; others include barley, mustard, sesame and peas.

42. Kharif crops pertain to -

1). Winter season 2). Summer season.

3). Monsoon season 4). None of these.

Ans:3.

Kharif crops are sown early-May – usually at the beginning of the first monsoon rains**. Examples of Kharif Crops -** Rice., Maize., Sorghum., Bajra., Soybean., Cotton., etc.

43. Which of the following waves cannot be polarised?

1). Radio waves 2). X-rays

3). Transverse waves in a string 4). Sound waves

Ans:4

Unlike transverse waves such as electromagnetic waves, **longitudinal waves such as sound waves** cannot be polarized. ... A polarized wave vibrates in a single plane in space. Since sound waves vibrate along their direction of propagation, they cannot be polarized.

44. The colour of water is measured

1). In terms of pH value 2). In terms of degree of hardness

3). platinum cobalt scale 4). ppm of dissolved solids

Ans:3

Platinum cobalt scale

The **Platinum-Cobalt Scale** (**Pt/Co scale** or **Apha-Hazen Scale**) is a color scale that was introduced in 1892 by chemist Allen Hazen (1869–1930). The index was developed as a way to evaluate pollution levels in waste water. It has since expanded to a common method of comparison of the intensity of yellow-tinted samples. It is specific to the color yellow and is based on dilutions of a 500 ppm platinum cobalt solution. The colour produced by one milligram of platinum cobalt dissolved in one

liter of water is fixed as one unit of colour in platinum-cobalt scale. The ASTM has detailed description and procedures in ASTM Designation D1209, "Standard Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)"

https://en.wikipedia.org/wiki/Pt/Co_scale

Color in water may result from the presence of natural metallic ions (iron and manganese), humus and peat materials, plankton, weeds, and industrial wastes. Color is removed to make a water suitable for general and industrial applications. Colored industrial wastewaters may require color removal before discharge into watercourses.

45. Hydrogen is liberated from nitric acid by the action of -

1). Nickel 2). Mercury 3). Magnesium 4). Copper

Ans:3

When metals react with nitric acid hydrogen gas is liberated. Nitric acid is a very strong oxidizing agent. Magnesium and manganese react with very dilute nitric acid to liberate hydrogen gas.

46. Thermos Flask was invented by –

1) M. Dewar 2). Daimler 3). Urey 4). None of these

Ans:1

47. A pointer is -

1). the address of the variable

2). an indication of the variable to be accessed next

3). a variable for storing addresses

4). the data type of an

Ans:3

A pointer is **a variable that stores a memory address**. Pointers are used to store the addresses of other variables or memory items. Pointers are very useful for another type of parameter passing, usually referred to as Pass By Address. Pointers are essential for dynamic memory allocation.

https://www.cs.fsu.edu/~myers/c++/notes/pointers1.html

48. Unix, DOS, Windows are examples of

1) Operating systems 2). Application programs

3). Word processor 4). Commercial computer brands

Ans:1

49. What is the Sun made up of?

1). Of rock and materials 2). Hot lava

3). A mass of hot gases of H_2 and He 4). Silica

Ans:3

50. Lorentz force on a charge q moving with a velocity v in a magnetic field B is

1). Bq/v 2). qE+qv× B 3). v× B/q 4). qv / B

Ans:2

In physics (specifically in electromagnetism)

Lorentz force (or **electromagnetic force**) is the combination of electric and magnetic force on a point charge due to electromagnetic fields. The force exerted on a charged particle ***q*** moving with velocity ***v*** through an electric field ***E*** and magnetic field ***B***. The entire electromagnetic force ***F*** on the charged particle is called the Lorentz force (after the Dutch physicist Hendrik A. Lorentz) and is given by

$\boldsymbol{F} = \boldsymbol{qE} + \boldsymbol{qv} \times \boldsymbol{B}$.

The first term is due to the electric field. The second term is the magnetic force and has a direction perpendicular to both the velocity and the magnetic field