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GENERAL SCIENCE QUESTIONS

Q1. When a body falls freely under gravity, then the work done by the gravity is

जब कोई वस्तु गुरुत्वाकर्षण के तहत स्वतंत्र रूप से गिरती है, तो गुरुत्वाकर्षण द्वारा किया गया कार्य _____ होता है

- (a) Positive/ सकारात्मक
- (b) Negative/ नकारात्मक
- (c) Zero/शून्य
- (d) Infinity/ अनंत

S1.Ans.(a)

Sol. If a force acting on a body has a component in the direction of displacement, then the work done by the force is positive. Hence when a body falls freely under the influence of gravity the work done by the gravity is positive.

Q2.The Doppler's effect is applicable for
डॉपलर का प्रभाव किस पर लागू होता है?

- (a) light wave/ प्रकाश तरंग
- (b) sound wave/ ध्वनि तरंग
- (c) space wave/ अंतरिक्ष तरंग
- (d) both (a) and (b)/(a) और (b) दोनों

S2.Ans(d)

Sol. The Doppler effect can be observed to occur with all types of waves – most notably water waves, sound waves, and light waves. That was the Doppler effect – a shift in the apparent frequency for a sound wave produced by a moving source.

Q3. The special technique used in ships to calculate the depth of ocean beds is

महासागरों की गहराई की गणना के लिए जहाजों में प्रयुक्त विशेष तकनीक है

- (a) LASER
- (b) SONAR
- (c) sonic boom / ध्वनि बूम
- (d) reverberation/ प्रतिध्वनि

S3.Ans.(b)

Sol. SONAR or sound Navigation and Ranging is helpful for exploring and mapping the ocean because sound waves travel farther in the water than do radar and light waves. These also determine the time between the emission of sound pulse and its reception, the transducer can determine the range and orientation of the object. While, LASER is a device that emits light through a process of optical amplification based on the stimulated emission of electromagnetic radiation. Whereas, sonic boom is the sound associated with the shock waves created by an object travelling through the air faster than the speed of sound. On the other hand, reverberation is the prolongation of a sound.

**Q4. The electron affinity of chlorine is highest than that of fluorine due to—
क्लोरीन की इलेक्ट्रान बन्धुता फ्लोरीन से अधिक होती है, _____ के कारण**

- (a) Its highest reactivity / इसकी उच्चतम प्रतिक्रिया है
- (b) Bigger size / बड़ा आकार
- (c) Difference in their electronic configuration / उनके इलेक्ट्रॉनिक कॉन्फिगरेशन में अंतर
- (d) Smaller nuclear charge / छोटा परमाणु प्रभार

S4.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.

**Q5. The pH scale had been given by
pH स्केल किसके द्वारा दिया गया है?**

- (a) Arrhenius/ अर्हेनीस
- (b) Bronsted/ ब्रॉस्टेड
- (c) Sornsen/सोरनसेन
- (d) Lewis/लेविस

S5.Ans(c)

Sol. The concept of pH was first introduced by the Danish chemist Sørensen Peder Lauritz.

Q6. Heating of a ore below its melting point in the absence of air is known as

एक अयस्क को हवा की अनुपस्थिति में इसके गलनांक बिंदु से कम पर गर्म करने को किस रूप में जाना जाता है

- (a) Roasting/रोस्टिंग
- (b) Smelting/ प्रगलन
- (c) Refining / विनय
- (d) Calcination/ निश्चूर्णन

S6.Ans(d)

Sol. Heating of ore in the absence of air below its melting point is called Calcination.

Q7. Blue litmus paper is converted into red in solution of _____ के विलयन में नीला लिटमस पेपर लाल रंग में बदल जाता है।

- (a) Acid / अम्ल
- (b) Base / क्षार
- (c) Alkali / एल्कली
- (d) Salt / लवण

S7.Ans(a)

Sol. Blue litmus paper turns red under acidic conditions.

Q8. MRI is a diagnostic tool, which means-

MRI का पूर्ण क्या है –

- (a) Magnetic Resonance Index
- (b) Magnetic Resolution Information
- (c) Magnetic Resonance Imaging
- (d) All the above(उपरोक्त सभी)

S8. Ans.(c)

Sol. Magnetic resonance imaging (MRI) is a test that uses magnetic field and pulses of radio wave energy to make pictures of organs and structures inside the body.

Q9 Blood grouping was discovered by-
रक्त ग्रुपिंग की खोज किसके द्वारा की गई थी-

- (a) Louis Pasteur (लुई पास्चर)
- (b) William Harvey (विलियम हार्वे)
- (c) Robert Koch (रॉबर्ट कोच)
- (d) Landsteiner (लैंडस्टीनर)

S9. Ans.(d)

Q10. Which compound present in D.N.A. does not form amino acid?
D.N.A. में उपस्थित कौन सा यौगिक एमिनो एसिड का निर्माण नहीं करता है?

- (a) Adenine (एडीनाइन)
- (b) Tyrosine (टायरोसिन)
- (c) Guanine (गुआनिन)
- (d) Cytosine (साइटोसिन)

S10. Ans.(b)

Sol. Tyrosine or 4-hydroxyphenylalanine is one of the 22 amino acids that are used by cells to synthesize proteins. Its codons are UAC and UAU. It is a non-essential amino acid with a polar side group. It was first discovered in 1846 by German chemist Justus von Liebig in the protein casein from cheese. It is called tyrosyl when referred to as a functional group or side chain.

Q1. Tissue in which cells have lost the capacity of cell division
ऊतक जिसमें कोशिकाओं ने कोशिका विभाजन की क्षमता खो दी है?

- (a) Mesenchymal tissue / मेसेन्स्टेमेटिक ऊतक

- (b) Permanent tissue/ स्थायी ऊतक
- (c) Both a and b/दोनों a और b
- (d) None of these/इनमें से कोई नहीं

Ans(b)

Sol. The tissues that have lost the capacity of growth and division temporarily or permanently are known as permanent tissue.

Q2. Companion cells are usually seen associated with _____
साथी कोशिकाओं का आमतौर पर _____ से संबद्ध देखा जाता है

- (a) Fibers/ रेशे
- (b) Tracheids / ट्रेकीड
- (c) Vessels/ वेसल्स
- (d) Sieve tube/चालनी नलिका

Show Answer

Ans(d)

Sol. Companion cell is a type of cell found within the phloem of flowering plants. Each companion cell is usually closely associated with a sieve element.

Q3. The scientist who studied about wheat rust problem
जिस वैज्ञानिक ने गेहूं की रस्ट समस्या के बारे में अध्ययन किया?

- (a) H.C. Bose/एच. सी. बोस
- (b) K.C. Mehta/के. सी. मेहता
- (c) Birbal Shani/बीरबल शनि
- (d) D.D. Pant/ डी.डी. पंत

Show Answer

Ans(b)

Sol. In India serious studies in fungi (mycology) .K.C. Mehta had made name for his studies on the wheat rust problem.

Q4. Red rust disease of tea is caused by
चाय का लाल रतुआ रोग किसके कारण होता है?

- (a) bacteria/ जीवाणु
- (b) Lichen/ लाइकेन

- (c) Fungi/ कवक
- (d) Green algae/ हरी शैवाल

Show Answer

Ans(d)

Sol. Red rust an important disease of the tea plant (*Camellia sinensis*). Orange-brown, velvety areas appear on the leaves of infected plants. The disease is caused by algae of the genus *Cephaleuros*.

Q5. Tikka disease is related with the crop

टिक्का रोग किस फसल से सम्बंधित है?

- (a) Musturd/ सरसों
- (b) Paddy/ धान
- (c) Ground nut/ मूंगफली
- (d) All of these/ ये सभी

Show Answer

Ans(c)

Sol. The tikka disease is a serious disease occurring in areas where the groundnut crop is grown in India.

Q6. pH value of alkaline solution is

क्षारीय घोल का pH मान क्या है?

- (a) < 7
- (b) 7
- (c) > 7
- (d) None

Show Answer

Ans(c)

Sol. Pure water has a neutral pH of 7. pH values lower than 7 are acidic, and pH values higher than 7 are alkaline (basic).

Q7. In pure water hydrogen ion concentration is

शुद्ध पानी में हाइड्रोजन आयन सांद्रता कितनी होती है?

- (a) 10^{-7}

- (b) 10^{-10}
- (c) 10^{-2}
- (d) 10^{-1}

Show Answer

Ans(a)

Sol. Pure water is considered to neutral and the hydronium ion concentration is which is equal to the hydroxide ion concentration.

**Q8. The pH scale had been given by
pH स्केल किस के द्वारा दिया गया है?**

- (a) Arrhenius/ अर्हेनीस
- (b) Bronsted/ ब्रॉस्टेड
- (c) Sornsen/ सोरेनसेन
- (d) Lewis/ लेविस

Show Answer

Ans(c)

Sol. The concept of pH was first introduced by the Danish chemist Sornsen Peder Lauritz.

**Q9. Sulphuric acid is
सल्फ्यूरिक एसिड _____ होता है**

- (a) Monobasic/ एकक्षारकी
- (b) Dibasic/ द्विक्षारकीय
- (c) Tribasic/ त्रिक्षारकी
- (d) Tetrabasic/ चतुःक्षारकी

Show Answer

Ans(b)

Sol. Sulphuric acid is dibasic acid, because it contains two hydrogen atoms which ionise in aqueous solution to become

**Q10. The pH value of milk is
दूध का pH मान क्या है?**

- (a) 2.4
- (b) 3.8

- (c) 6.6
- (d) 8.0

Show Answer

Ans(c)

Sol. Fresh cows milk has a pH of between 6.7 and 6.5. Values higher than 6.7 denote mastitic milk and values below pH 6.5 denote the presence of colostrum or bacterial deterioration. Because milk is a buffer solution, considerable acid development may occur before the pH changes. That would make it very slightly acidic.

Q11. Acids react with bases to give–

एसिड के क्षार के साथ प्रतिक्रिया करने पर _____ प्राप्त होता है।

- (a) Ester/एस्टर
- (b) Alcohol/अल्कोहल
- (c) Salt/नमक
- (d) None/कोई नहीं

Show Answer

Ans(c)

Sol. The reaction of an acid with a base is called a neutralization reaction. The products of this reaction are a salt and water.

Q12. The charge on positron is equal to the charge on–

पॉज़िट्रॉन पर चार्ज, _____ पर चार्ज के बराबर है

- (a) proton/ प्रोटॉन
- (b) electron/ इलेक्ट्रॉन
- (c) α –particle/ α – कण
- (d) neutron/ न्यूट्रॉन

Show Answer

Ans (a)

Sol. The charge on positron is equal to the charge on proton.

Q13. The pH of water at 25°C is 7. When it is heated to 100°C, the pH of water–

25 ° C पर पानी का pH 7 होता है। जब इसे 100 ° C तक गर्म किया जाता है, तो पानी के पीएच में _____

- (a) Increases/वृद्धि होती है
- (b) Decreases/कमी होती है
- (c) Remains same/समान रहता है
- (d) Decreases up to 50°C and then increases./ 50 ° C तक घट जाता है और फिर बढ़ जाता है।

Show Answer

Ans(b)

Sol. pH decreases with increase in temperature. But this does not mean that water becomes more acidic at higher temperatures.

Q14. Hydrochloric acid is also known as

हाइड्रोक्लोरिक एसिड को _____ के रूप में भी जाना जाता है।

- (a) Galic acid/गैलिक एसिड
- (b) Picric acid/पिरिक एसिड
- (c) Muriatic acid/मुरिएटिक एसिड
- (d) Chloric acid/क्लोरिक एसिड

Show Answer

Ans(c)

Sol. Muriatic acid is one of the names for hydrochloric acid, a corrosive strong acid. It is also known as spirits of salt or acidum salis. “Muriatic” means “pertaining to brine or salt”. The chemical formula for muriatic acid is HCl.

Q15. The purest form of water in nature is

प्रकृति में जल का शुद्धतम रूप है-

- (a) Rain water /वर्षा-जल
- (b) Lake water/झील का जल
- (c) River water/नदी का जल
- (d) Sea water/समुद्रजल

Show Answer

Ans(a)

Sol. Rain water is considered the purest form of water. Impurities and salts present in water on earth are left behind during vaporisation by the sun.

However, the rain water we receive on earth is not necessarily pure, as it brings down impurities and particles present in the atmosphere along with it.

.....

Q1. A compass needle cannot be used to detect

एक कम्पास की सुई को किसका पता लगाने के लिए इस्तेमाल नहीं किया जा सकता है?

- (a) Magnetic North-South direction/ चुंबकीय उत्तर-दक्षिण दिशा
- (b) Polarity of a magnet/ एक चुंबक की ध्रुवीयता
- (c) Strength of a magnet/ एक चुंबक की शक्ति
- (d) Direction of magnetic field/ चुंबकीय क्षेत्र की दिशा

Ans.(c)

Sol. A compass needle cannot be used to detect Strength of a magnet.

Q2. Indicate the false statement about the resistance of a wire

एक तार के प्रतिरोध के बारे में गलत कथन को इंगित करें

- (a) It depend on material of wire/ यह तार के पदार्थ पर निर्भर करता है
- (b) It is unrectly proportional to the length of wire/ यह तार की लंबाई के लिए आनुपातिक है
- (c) It is directly proportional to the area of cross-section of wire/यह तार के अनुप्रस्थ काट क्षेत्रफल के लिए समानुपातिक है
- (d) Resistance of metallic wire increases with increase in temperature/ तापमान में वृद्धि के साथ धातु के तार का प्रतिरोध बढ़ता है

Show Answer

Ans.(c)

Sol. The resistance of a current carrying conductor is inversely proportional to the area of cross section of the conductor. The reason is because the resistance

occurs due to the collision of electrons/charged particles. So resistance is inversely proportional to area of cross section of the conductor.

Q3. For which of the following substances, the resistance decreases with increase in temperature?

निम्नलिखित पदार्थों में से किसके तापमान में वृद्धि के साथ प्रतिरोध कम हो जाता है?

- (a) Pure silicon/ शुद्ध सिलिकॉन
- (b) Copper/ तांबा
- (c) Nichrome/ निक्रोम
- (d) Platinum/ प्लैटिनम

Show Answer

Ans.(a)

Sol. Pure Silicon at room temperature has perhaps one conduction electron for every 10^{13} (that's ten trillion) atoms. Increasing the temperature of intrinsic semiconductors provides more thermal energy for electrons to absorb, and thus will increase the number of conduction electrons. Voila – decreased resistance.

Q4. The ratio of intensity of magnetisation to the magnetisation force is known as

चुंबकत्व की तीव्रता का चुंबकत्व बल से अनुपात को किस रूप में जाना जाता है?

- (a) flux density / फ्लक्स घनत्व
- (b) susceptibility / संवेदनशीलता
- (c) relative permeability / तुलनात्मक भेद्यता
- (d) none of the above/इनमें से कोई नहीं

Show Answer

Ans.(b)

Sol. In electromagnetism, the magnetic susceptibility is one measure of the magnetic properties of a material. The susceptibility indicates whether a material is attracted into or repelled out of a magnetic field.

Q5. When a bar magnet is cut into two equal halves, the pole strength of each piece

जब एक बार चुंबक दो बराबर हिस्सों में काटा जाता है, तो प्रत्येक टुकड़े की ध्रुव शक्ति

- (a) Becomes double/दुगनी हो जाती है
- (b) Becomes half/आधी हो जाती है

- (c) Becomes zero/शून्य हो जाती है
(d) Remains the same/समान रहती है

Show Answer

Ans.(d)

Sol. When a bar magnet is cut into two equal halves, the pole strength of each piece Remains the same.

Q6. A closed surface has 'n' electric dipole located inside it. The net electric flux emerging out of the surface-

एक बंद सतह में 'n' विद्युत द्विध्रुव है। सतह से बाहर निकलने वाला शुद्ध विद्युत प्रवाह कितना होगा?

Show Answer

Ans.(d)

Sol. The net flux will be zero as the electric field lines entering the negative end of the dipole will be exactly cancelled by the electric field lines leaving the positive end of the dipole.

**Q7. In electromagnetic induction, the induced charge does not depend on –
विद्युत चुम्बकीय प्रेरण में, प्रेरित चार्ज किस पर निर्भर नहीं करता है –**

- (a) Change in flux / प्रवाह में बदलाव
(b) Time of change of magnetic flux / चुंबकीय प्रवाह के परिवर्तन का समय
(c) Resistance of Coil / वक्र का विरोध
(d) None of the above /इनमें से कोई नहीं

Show Answer

Ans.(b)

**Q8. Lenz's law is a consequence of the law of conservation of-
लेनज़ का नियम _____ के संरक्षण के कानून का एक परिणाम है**

- (a) Charge /चार्ज

- (b) Momentum / गति
- (c) Energy / ऊर्जा
- (d) Mass/द्रव्यमान

Show Answer

Ans.(c)

Sol. According to Lenz law, the polarity of the induced emf is such that it opposes the change in magnetic flux responsible for its production.

Q9. A magnetic field can be produced by-

एक चुंबकीय क्षेत्र किस के द्वारा उत्पादित किया जा सकता है

- (a) A moving charge only /गतिशील चार्ज
- (b) A changing electric field only / केवल परिवर्तिनीय विद्युत क्षेत्र
- (c) Both (A) and (B)/दोनों (A) और (B)
- (d) None of the above /इनमें से कोई नहीं

Show Answer

Ans.(c)

Sol. Magnetic field is produced both by a moving charge and change in electric field

Q10. The unit of electrical resistance of a conductor is-

एक चालक के विद्युत प्रतिरोध की इकाई है-

- (a) fared /फरेड
- (b) volt /वोल्ट
- (c) ampere / एम्पेयर
- (d) Ohm /ओहम

Show Answer

Ans.(d)

Sol. Ohm is the SI unit of electrical resistance. 1 ohm is define as the resistance of a conductor when a potential difference of 1 volt is applied to its ends when a current of 1 ampere flows through it

Q11.The cell wall of xylem cells is rich in____

जाइलम कोशिकाओं की कोशिका भित्ति किस में समृद्ध होती है ?

- (a) Lipid/ लिपिड
- (b) Protein/ प्रोटीन
- (c) Lignin/ लिग्निन
- (d) Starch/ स्टार्च

Show Answer

Ans(c)

Sol. The cell walls of all vascular plants also contain a polymer called lignin. Lignin is water-resistant. This is particularly important in the xylem, because the column of water in the hollow xylem cells is under tension (negative pressure) and without the lignin reinforcement the cells would collapse.

Q12. Green ear disease is related with the crop

ग्रीन इअर रोग किस फसल से संबंधित है?

- (a) Mustard/ सरसों
- (b) Paddy/ धान
- (c) Bajara/बाजरा
- (d) Ground nut/मूंगफली

Show Answer

Ans(c)

Sol. The green ear disease of Bajra is a common disease and has been reported from several countries including India, Iran, Israel, China, Fiji, Japan and the countries wherever Bajra crop is grown.

Q13. The main function of palisade parenchyma leaf is ____

पैलिसेड पैरेन्काइमा पत्ती का मुख्य कार्य क्या है?

- (a) Transpiration/ स्वेद
- (b) Conduction/ प्रवाहकत्व
- (c) Respiration/ श्वसन
- (d) Photosynthesis/ प्रकाश संश्लेषण

Show Answer

Ans(d)

Sol. Their main function is to absorb light so that photosynthesis can take place. Palisade cells are plant cells located in leaves, right below the epidermis and

cuticle. They are vertically elongated, a different shape from the spongy mesophyll cells beneath them in the leaf.

Q14. The disease fire blight is related with

रोग फायर ब्लाइट किससे संबंधित है?

- (a) Apple/सेब
- (b) Grape/अंगूर
- (c) Orange/संतरा
- (d) Coconut/नारियल

Show Answer

Ans(a)

Sol. The disease fire blight is related with Apple.

Q15. Meristem is a group of cell that _____

मेरिस्टेम कोशिका का एक समूह है जो _____

- (a) Elongate and add to the group of permanent cell/ स्थायी कोशिकाओं के समूह को बढ़ाता है और लम्बा करता है
- (b) Add to the bulk of plant/ पौधे के आकार को बढ़ाता है
- (c) Store food/ भोजन भंडारित करता है
- (d) Divide continually to form new cells/ लगातार विभाजित होता है और नई कोशिकाओं को जन्म देता है

Show Answer

Ans(d)

Sol. Meristematic tissues are cells or group of cells that have the ability to divide. These tissues in a plant consist of small, densely packed cells that can keep dividing to form new cells.