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Science 3rd prep

Science Revision for 3rd prep

Question(1) Complete the following :

- The measuring unit of the current intensity iswhile the measuring unit of resistance is
- The substance which gives oxygen or takes hydrogen during a chemical reaction is called
- The chromosome is chemically consisted of a nucleic acid calledbind with the protein
- Deficiency of growth hormone at the childhood causes.....
- Thehormone is responsible for appearance of male secondary sex characters
- By heating calcium carbonates,.....and carbon dioxide are produced
- Calcitonin hormone is secreted from thegland
- Nuclear energy is used in medicine to treat diseases like.....
- $\text{NaCl} + \text{AgNO}_3 \rightarrow \dots + \dots$
- In the electric generatorenergy is converted into.....energy
- $2\text{N}_2\text{O}_5 \rightarrow \dots + \text{O}_2$
- Theis used to measure the electric resistance.
- The.....individual is the one who carries a pair of similar dominant or recessive genes
- The ability to roll the tongue is one of the.....traits in the human being
- In the electric cell ,energy is converted into electric energy
- The reaction of ionic compounds arethan that of the covalent compounds
- $\text{Na}_2\text{CO}_3 + 2 \text{HCl} \rightarrow 2\text{NaCl} + \dots + \dots$
- Dry cells producecurrent , while electric generators producecurrent.
- In the beginning of the reaction, the rate of concentration of the products is% increase of
- Sweat potato producesenzyme which increases the rate of decomposition ofcompound
- Hormones are secreted in the body by some organs calledglands
- Sodium chloride powder reactsthan a cube of sodium chloride which is equal in mass.
- Oxidation and reduction are two.....processes
- Theis used to measure the current intensity
- Red mercuric oxide decomposes by heat intoand.....
-is used to measure the potential difference.
- The speed of chemical reactionsdue to the increase of temperature
-gland secretes hormone which controls the general growth of the body

- Theis used to change the resistance in the electric circuit
- The glucagon is secreted from

- Answer**
- Ampere / ohm
 - Oxidizing agent
 - DNA
 - Dwarfism
 - Testosterone
 - Calcium oxide
 - Thyroid
 - Cancer
 - $\text{NaNO}_3 + \text{AgCl}$
 - Kinetic / electric
 - 4NO_2
 - Rheostat
 - Pure
 - Dominant
 - Chemical
 - Faster
 - $\text{H}_2\text{O} + \text{CO}_2$
 - Direct / alternating
 - Zero
 - Oxidase / hydrogen peroxide
 - Endocrine
 - Faster
 - Concurrent
 - Ammeter
 - Mercury / oxygen
 - Voltmeter
 - Increasing
 - Pituitary
 - Sliding Rheostat
 - Pancreas

Question(2) Choose the correct answer

- Generating an alternating electric current is by using (Rheostat – dynamo – dry cell – voltmeter)
- All the following metals replace hydrogen of acid except (potassium – magnesium – silver – zinc)
- From compounds which are decomposed by heat into metal and oxygen is ($\text{Cu}(\text{OH})_2$ – CaSO_4 – CuCO_3 – HgO)
- The hormone which stimulates the storage of glucose sugar in liver is (insulin – adrenalin – calcitonin – thyroxin)
- The scientist who discovered radioactivity phenomena was (Ampere – Ohm – Becquerel – Farady)
- In the dry cell, theenergy is converted into electric energy (kinetic – chemical – thermal – light)
- The ohmmeter is used to measure the (electric potential – current intensity – quantity of electricity – electric resistance)
- On heating copper sulphate , it decomposes into copper oxide and (sulphur dioxide – carbon dioxide – sulphur trioxide – hydrogen)
- If pollination occurs between two hybrid individuals giving 300 individuals , the number of the hybrid individuals produced will probably be..... (50 – 100 – 150 – 200)
- Simple goiter occurs when the thyroxin hormone decreases due to the lack ofin food (iodine – calcium – potassium – sodium)
- Iron fillings react with dilute hydrochloric acid faster than a piece of

- iron has the same mass due to the
- (increase in surface area – presence of a catalyst – increasing in concentration – no correct answer)
- The reaction between silver nitrate with sodium chloride isreaction (fast – slow – very slow – average)
- The parts of DNA in the cell nucleus are known as (genes – gametes – cytoplasm – all of them)
- According to Mendel's second law , the recessive trait appears in the second generation by ration of% (25 – 50 – 75 – 100)
- it is necessary not to be exposed to a radiation more than Sievert per year for the public human body (1 – 20 – 10 – 40)
-is used to control the value of electric resistance in the circuit. (ammeter – voltmeter – Rheostat – Ohmmeter)
- Enzymes act as in most of the biological processes. (oxidizing agent - detergent agent - reducing agent - catalysts)
- In the reaction of hydrogen with black copper oxide ,process takes place to copper oxide (oxidation – reduction – oxidation and reduction – no correct answer)
- Some reactions need several months to occur such as (fireworks – rusting of iron – formation of soap – formation of petroleum)
- The electromotive force is measured inunit (ohm – ampere – volt – joule)
-is non-radioactive element (Radium – Uranium – Zirconium – Iron)
- Cosmic radiation is from ...sources of radiation pollution (natural – artificial – industrial – no correct answer)
- On connecting 5 electric cells have the same e.m.f. on parallel, the e.m.f. of each cell is 2.5 volts, so the total e.m.f. equals volts. (2.5 - 5 - 7.5 - 12.5)
- Which one of these traits is recessive in humans?.. (curly hair – wide eyes – free ear lobe – smooth hair)

- Answers**
- Dynamo
 - Silver
 - HgO
 - insulin
 - Becquerel
 - Chemical
 - electric resistance
 - sulphur trioxide
 - 150
 - Iodine
 - increase in surface area
 - fast
 - genes
 - 25
 - 1
 - Rheostat
 - Catalysts
 - Reduction
 - rusting of iron
 - volt
 - Iron
 - Natural
 - 2.5
 - smooth hair

Question(3): correct the underlined words:

- The two scientists Badel and Tatum made a model for DNA molecule
- Iron element shares in the composition of thyroxin hormone
- Most of metal carbonates are decomposed by heating into metal and carbon dioxide.
- The speed of chemical reaction increases by the decrease of temperature
- In dry cell, the magnetic energy changes to electric energy
- The acquired traits are transmitted from one generation to another
- The attached ear lobe is from dominant traits

- Adrenalin hormone promotes the growth of endometrium
- In positive catalysts reactions , catalyst is used to slow down the chemical reaction
- At the beginning of the chemical reaction, the concentration of reactants is zero %

Answer

- Watson and Creek
- Iodine
- Metal oxide
- Increases
- Chemical
- Hereditary
- Free
- Progesterone
- Negative
- 100

Question(4): Give reason for:

- Mendel selected the pea plant to conduct his experiments.
- Pituitary gland is called the master gland.
- Oxidation and reduction are concurrent processes.
- The areas chosen for storing radioactive wastes should be stable.
- Skin color is one of hereditary traits.
- Alternating current is often preferred than the direct current.
- Reactions between ionic compounds are fast than covalent compound.
- The rate of the chemical reaction increases by increasing temperature.
- Nuclear radiation has genetic effects.
- Uranium is one of the radioactive elements.

Answer

- Bec. It is easy to planted – its life cycle is short – it produces large numbers of plants.
- Bec. It secretes hormones that regulate the activities of most of other endocrine glands.
- Bec. Number of lost electrons in oxidation = number of gained electrons in reduction
- To prevent the spread of radiation to other areas.
- Bec. It can be transmitted from one generation to another.
- Bec. It can be transmitted for long distances and can be changed into a direct current.
- Bec. Reaction of ionic compounds occurs between ions while covalent between molecules.
- Due to increase number of collision between reactants molecules.
- Bec. It changes in sex chromosomes composition cause abnormal birth.
- Because its nucleus contain a number of neutrons more than the number required for its stability .

Question(5)Problems

- Calculate the potential difference between two terminals of a conductor . its resistance 300 ohms and the quantity of electricity passing through it 3600 coulombs in 3 minutes.

Answer

- $I = \frac{Q}{T} = \frac{3600}{180} = 20 \text{ amper}$
 $V = R \times I = 300 \times 20 = 6000 \text{ volt}$
- If an electric current of 20 amperes passes through an electric heater and the potential difference between its two ends is 220 volts, calculate the heater's resistance.
 Answer
 $R = \frac{V}{I} = \frac{220}{20} = 11 \text{ ohm}$
 - Calculate the quantity of electricity that passes through a conductor of resistance 1000 ohms for 30 minutes , given that the potential difference between its two terminals is 220 volts.
 Answer
 $I = \frac{V}{R} = \frac{220}{1000} = 0.22 \text{ ampere}$
 $Q = I \times t = 0.22 \times 1800 = 396 \text{ coulombs}$
 - A battery consists of three electric cells , the e.m.f of each of them is 3 volts , calculate the e.m.f of the battery when the electric cells are connected :
 1. In series
 2. In parallel
 Answer
 1. e.m.f = $n \times E = 3 \times 3 = 9 \text{ volt}$
 2. e.m.f = $E = 3 \text{ volt}$

Question 6 : Use the following symbols to express the results of mating between a short stemmed pea plant (tt) and a pure long stemmed pea plant (TT)

- P: TT X tt
 G: T t
 F: Tt