



VIVEK TUTORIALS

X (English)

(Special test)

Science And Technology - I-(1 to 10 All)

DATE: 25-02-19

TIME: 1 Hr

MARKS: 100

SEAT NO:

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Q.1 Fill in the blank and rewrite the completed statements

12

- 1 In anodizing technique, is used as anode.
a. Sulphuric acid b. Carbon c. Aluminium d. Aluminium oxide
- 2 When a chemical change takes place some are taking place in the concerned matter.
- 3 A macromolecule formed by regular repetition of a small unit is called
- 4 Aluminium is extracted from its common ore called
- 5 To an astronaut in space, the sky appears
- 6 are the allotropic forms of carbon.
a. Diamond and Gold
b. Gold and Silver
c. Diamond and Graphite
d. Lead and Diamond
- 7 Fuse wire is made of an alloy of
- 8 was the first satellite made by India.
- 9 Redox Reaction = Reduction +
- 10 A point inside or outside any object where all its total mass is assumed to be concentrated is called of an object.
- 11 Metal oxides are in nature.
- 12 If the objects of equal masses are given equal heat, their final temperature will be different. This is due to difference in their

Q.2 Find the odd one out

12

- 1 Planets, Stars, Satellite, Rainbow
- 2 Fuse, bad conductor, rubber shoes, generator
- 3 Gold, Silver, Copper, Magnesium.
- 4 Phase wire, Fuse wire, Neutral wire, Earth wire
- 5 Grams, Newton, centimeters, dyne.
- 6 Methane, Ethane, Butane, Propane
- 7 Bromine, Chlorine, Oxygen, Fluorine
- 8 Reflection, Dispersion, Refraction, Refractive index.

- 9 Chlorine, Carbon, Bromine, Iodine
- 10 Speed, velocity, displacement, acceleration.
- 11 Twinkling of stars, Advanced sun rise, delayed sun set, Blue sky.
- 12 Dispersion , mirage, Refraction, refractive index

Q.3 Find co-related terms

12

- 1 : Froth floatation:: Cassiterite ore: Magnetic separation.
- 2 Chandrayaan : moon : : Mars
- 3 $\frac{1}{f(m)}$: Power of lens :: $\frac{\text{Images distance (V)}}{\text{Object distance(u)}}$:
- 4 Concave lens : Nearsightedness :: Convex lens :
- 5 A chemical reaction is represented by writing a
- 6 Chloro : Cl :: Bromo :
- 7 Nearsightedness : elongated eye ball :: Far sightedness :
- 8 Melting point of ice : 0°C:: Boiling point of water:
- 9 Dobereiner's : Law of triad : : John Newland :
- 10 Ethane : Alkane :: Propyne :
- 11 One product : combination : : one reactant :
- 12 Alkene : C_nH_{2n} :: Alkyne :

Q.4 Find out the difference between the following

6

- 1 Absolute humidity and relative humidity.
- 2 Melting point and Boiling point.
- 3 AC generator and DC generator
- 4 Metals and Non-metals
- 5 Photochemical and Electrochemical Reaction.
- 6 Bar magnet and Solenoid

Q.5 State True or False

12

- 1 When left over edible oil is heated its small terms foul and develops rancidity
- 2 Catalyst only increases the rate of chemical reaction.
- 3 The C^{4+} cation that would ultimately form by donating electrons is unstable in spite of its noble gas configuration
- 4 Non-metals have a tendency to form positive ions.
- 5 Velocity of light is same in all media.
- 6 PET is poly ethylene terephthalate.
- 7 Potassium metal is stored under kerosene.

- 8 No medium can have refractive index less than 1.
- 9 All the non metals lie on the right side of zig zag line drawn in p block.
- 10 Gallium exists in liquid state.
- 11 Specific heat is denoted by the letter 'c'
- 12 Specific heat capacity is different for different substances.

Q.6 Name the following

12

- 1 Two non-metals which are lustrous.
- 2 An alloy of copper and zinc.
- 3 Name a gas which is poisonous.
- 4 The gas liberated when copper carbonate is heated
- 5 The rule that gives the direction of induced current in the circuit.
- 6 The device used for grinding an ore.
- 7 Which Phenomenon enable the focusing of light by lens and mirrors ?
- 8 Name the two isomeric forms of C_4H_{10} .
- 9 The commercial unit of electric power.
- 10 Alloy of sodium and mercury.
- 11 Name the two types of hydrocarbons.
- 12 A metal which does not react with water but reacts with steam.

Q.7 Solve Numerical problems/ Write Equation

24

- 1 Who will spend more electrical energy? 500 W TV set in 30mins or 600 W heater in 20 mins?
- 2 Chlorine dissolves in water.
OR
Reaction of non-metal with water
- 3 Chlorination of methane.
- 4 Ignition of methane in presence of oxygen.
- 5 An electric tungsten bulb is connected into a home circuit. The home electric supply runs at 220V potential difference. When switched on, a current of 0.45A flows through the bulb. What must be power of the bulb? If it is kept on for 10hours, how many units of electricity will be consumed?
- 6 A cell is connected to a 9 ohm resistance, because of which heat of 400 J is produced per second due to current flowing through it. Obtain the potential difference applied across the resistance.
- 7 An electrical iron of 1100 W is operated for 2 hrs daily. What will be the electrical consumption expenses for that in the month of April? (The electric company charges Rs.5 per unit of energy)
- 8 Calculate focal length of lens having power + 2.5 D
- 9 Dry aluminium hydroxide is ignited at 1000°C

- 10 How much energy needs to be supplied to 150g of water at 100°C to convert it to steam at 100°C? (Latent heat of vaporization = 540 cal/g?)
- 11 Iron reacts with dilute hydrochloric acid.
- 12 A ball falls off a table and reaches ground in is assuming $g = 10\text{m/s}^2$, calculate its speed on reaching the ground and the height of the table

Q.8 Write equation

10

- 1 Reaction of Sodium with water.
- 2 Give equation for reaction of copper with concentrated Nitric acid.
- 3 Give equation for the slow decomposition of hydrogen peroxide.
- 4 Aluminium is exposed to air.
- 5 Give an equation where MnO_2 (manganese dioxide) is used as catalysts.