SPRING DALES.

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Summative Assessment-I, 2016

SCIENCE

Class : X

Time : 3 hrs. **MM. 90**

General Instructions:

1. *All questions are Compulsory.*
2. *Physics, Chemistry, Biology sections to be answered on separate sheets.*

PHYSICS (36 Marks)

Q 1. Give the unit of Specific Resistance (1)

Q 2. Write one difference between a Bar Magnet and an electromagnet (1)

Q 3. State ohm's law and plot a graph between V and I (1)

Q 4. The filament of an electric lamp draws a current of 0.4 ampere which lights for 3 hours. Calculate the amount of charge. 4320C (2)

Q 5 What are the Qualities of ideal source of energy? (2)

Q 6. An electric Iron Cousumes energy at a rate of 840 watt when heating is Maximum. It cousumes 360 watt when heating is minimum. The voltage is 220 volts. What is the current drawn by the electric Iron in each case 3.81 amp. 1.63 amp (2)

Q 7. What are "Magnetic field lines"? List any two properties of Magnetic field lines. (3)

1.63 3.81 3080 136

8. Draw the Magnetic field lines around solenoid what are the factors on which magnetic field of solenoid depends upon? (3)

9.(a) Define the term 'volt' (1)

(b) State the relation between work, charge & potential difference. (1)

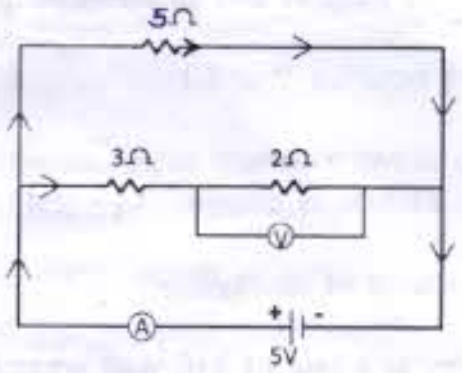
(c) Calculate the potential difference between two terminals of a battery if 100 Joules of work is required to transfer 20 coloumbs of charge from one terminal of the battery to another 5V (1)

10. For the circuit given below, ealculate:-

(a) Total Resistance 2.5Ω (1)

(b) Current shown by ammeter 2 amp (1)

(c) Potential difference shown by voltmeter 2V (1)



11.(a) Explain Faraday's Experiments on electro magnetic Induction. (4)

(b) Explain fleming's Right hand rule to find the direction of induced curent. (1)

Q 13. What do you understand by Renewable Energy resources? Name two energy sources that you consider to be renewable. Compare and contrast Bio-Mass and hydro electricity as a source of energy. Give two limitations of wind Energy. (1+1+2+1)

MCQ

Q 1. The component of solar radiation responsible for heating is:- (1)

(a) ultraviolet rays (b) X-rays

(c) Infra-red rays (d) gamma rays

Q 2. The most Imortant safety method used for protecting home appliances from short Circuiting on overloading is :- (1)

(a) Earthing (b) use of Fuse

(c) use of stablizers (d) use of electric motor

Q 3. An electric Iron which cousumer1Kw electric power when operated at 220 volts in this the fuse must be of rating: (2)

(a) 1A (b) 10A

(c) 5A (d) 20A

Q 4. 1 kwh is equal to (1)

(a) 1000 watt sec (b) 3.6×10^5 Joules

(c) 3.6×10^4 Joules (d) 3.6×10^6 Joules

CHEMISTRY-X (33 Marks)

Q 1. Balance the chemical equation- (1)

$3Fe\ (s) + 4H_2O\ (g) \longrightarrow Fe_3O_4\ (s) + 4H_2\ (g)$

Q 2. Write the name and formula of the hydrated salt containing ten molecules of water of crystallization. (1)

Q 3. Identify the type of reaction in the equation given below- (1)

$Na_2So_4\ (aq.) + Bacl_2\ (aq.) \longrightarrow Baso_4\ (s) + 2Nacl\ (aq.)$

Q 4. A student detected the PH of four solutions A, B, C, D as 11, 5, 7, 2 respectively. Predict the nature of these solutions. (2)

Q 5. A gas 'X' reacts with limewater and forms a compound 'y' which is used as bleaching agent in the chemical industry. Identify x and y. Give the chemical equation involved (2)

Q 6. Give reason

(a) Tarnished copper vessel shines again when rubbed with lemon juice (1)

(b) Stainless steel does not rust (1)

Q 7. (a) Give an example of a Combustion reaction which is also an exothermic reaction (1)

(b) Complete the following chemical equation and balance it (1)

$C_6H_{12}O_6 + O_2 \longrightarrow$

(c) Differentiate between a mineral and an ore. (1)

Q 8.(a) Choose amphoteric oxide from the following (1)

Na_2o, Zno, Al_2O_3, So_2

(b) "Hydrogen gas is not evolved when non metals react with dilute Acids". justify the statement. (2)

Q 9(a) Write the name given to bases which are highly soluble in water. Give an example (1)

(b) How in tooth decay related to PH? How can it be prevented? (1)

(c) Why does bee sting cause pain and Irritation? Rubbing of baking soda on the sting area gives relief. How? (1)

Q 10(a) Write the electron dot Structure for calcium and oxygen. The atomic number of calcium and oxygen are 20 and 8 respectively (2)

(b) Show the formation of Calcium Oxide by the electron dot diagram.(1)

(c) Give reason for the following-

(i) Ionic Compounds are hard solids (1)

(ii) Ionic Compounds Conduct electricity in molten state but not in solid state. (1)

Q 11 (a) How will you prove that a given salt is a Carbonate of a metal? Explain with an example (2)

(b) Name the gas that liberates when an acid reacts with a metal. Illustrate your answer with an example giving the balance equation of the reaction involved. How would you test the gas evolved (3)

MCQ

1. A students tested the PH of a Colourless solution taken in a beaker and found that the colour of the PH paper changed to green. He Checked the PH again after adding 5 ml of dil. Hcl to it. The colour of the PH paper now would be- (1)

(a) Violet (b) blue (c) red (d) yellow

2. 10 ml of freshly prepared Iron Sulphate was taken in four test tubes. Strips of copper, Iron, Zinc and Aluminium were introduced in these four test tubes. A black residue was obtaiued in two of them. The right pair of metals forming the precipitate is- (1)

(a) Copper & Zinc (b) Iron & Aluminium

(c) Aluminium & Copper (d) Zinc & Aluminium

3. Bottle A Contaim CH_3COOH and bottle B Contaim NaoH solution. When PH paper is dipped in each of the solution the colour seen in A and B respectively would be- (1)

(a) Orange, blue (b) blue, orange

(c) green, blue (d) Orange, green

4. When Crystals of $Feso_4$ are strongly heated, the residue obtained is- (2)

(a) reddish brown in Colour (b) blue in colour

(c) Green in colour (d) Colourless

The gases evolved in the above Process are

(a) So_2 and So_3 (b) So_2 and O_2

(c) So_3 and O_2 (d) So_2 and S

BIOLOGY (21 Marks)

Q 1. A potted plant is made to lie horizontally on the ground. which part of the plant will show:- (1)

(i) Positive geotropism? roots

(ii) negative geotropism? stems

Q 2. Draw the diagram of structure of a nephron. (2)

Q 3. Give reasons for the following:-

(a) We get cramps during rigorous muscular activity.

(b) The niner wall of the stomach is not digested by Protein digesting enzyme in gastric juice.

(c) A plant dies if its xylem is removed. (3)

Q 4. (a) Draw a neat labelled diagram of transport and Exchange of o_2 and Co_2 during transportation of blood in human beings.

(b) What is the advantage of separate channels in animals and birds for oxygenated and deoxygenated blood? (3+2=5)

Q 5. (a) You were standing on the roadside, when you saw a family travelling in a car An ambulance carrying a patient for dialysis was travelling behind the car. The driver of the car brought his car to one side of the road and allowed the ambulance to overtake.

(i) What values were shown by the driver?

(ii) What is dialysis? Explain.

(b) Draw a neat labelled diagram of the human brain.

(c) Write the origin and functions of any two of the following hormones.

(i) Auxins (ii) Insulin

(iii) Thyroxine (1+1+2+1=5)

MCQ

Q 6. The teacher told a student to place a potted plant in dark for 24 hours prior to an experiment on photosynthesis. The purpose of placing it in a dark room is to :- (1)

(a) Increase intake of O_2 (b) activate chloroplast in leaves

(c) destarch leaves (d) activate the enzymes in leaves

Q 7 Seeds tahen in the conical flask during respiration experiment must be:-

(a) dry gram seeds (b) boiled gram seeds

(c) wet gram seeds (d) germinating gram seeds (1)

Q 8. Th leaf is boiled in alcohol for a few minutes using a water bath. It is essential because:- (1)

(a) alcohol is highly volatile

(b) alcohol dissoves the chlorophyll and decolourises the leaf.

(c) alcohol cleans the leaf

(c) alcohol gives nutrients to the leaf.

Q 9. Draw a neat labelled diagram of the lily leaf epidermal peel, when focussed under a microscope (2)