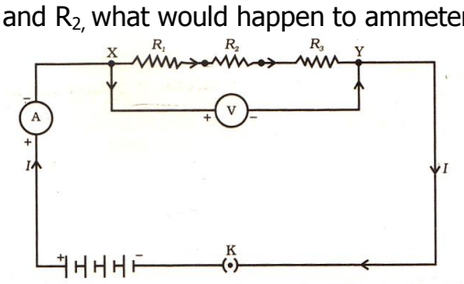
ST. XAVIER'S SENIOR SECONDARY SCHOOL, DELHI – 110054

Class 10 | Time : 1 hr.

21-7-2014 | Formative Assessment I in SCIENCE | M. Marks : 20

PHYSICS (M. Marks : 07; Time : 20 mts.)

1. What is the function of a rheostat? (½)
2. On what factors does the resistivity of a material depend? (½)
3. What is the function of a voltmeter in the circuit? What should be the resistance of an ideal voltmeter? (1)
4. What is an electric circuit? When is the circuit said to be an open circuit? (1)
5. Define 1 Ampere of current. Is current a scalar quantity or a vector quantity? Calculate the charge carried by an electric filament carrying current of 0.2A, passed through the filament for 2 hours? (2)
6. a) State Ohms' law. How can you calculate the resistance of material using V-I graph?
   b) In the circuit given below $R_1 = 1\Omega$, $R_2=2\ \Omega$, $R_3=3\ \Omega$ and a battery of 6V. Find the ammeter reading? If the position of ammeter is changed and placed between R_1 and R_2, what would happen to ammeter reading? (2)



CHEMISTRY (M. Marks : 07; Time : 20 mts.)

1. Define the following terms :-
   a) Corrosion b) Displacement reaction. (1)
2. Differentiate between exothermic and endothermic reaction. (1)
3. In the following reaction :-
   $H_2S + Br_2 \rightarrow 2HBr + S$
   a) Name the substance oxidised. b) Name the oxidising agent. (1)
4. Translate the following statement into chemical reaction and make it informative :- Magnesium sulphate solution reacts with a solution of barium chloride solution to produce a precipitate of Barium sulphate and Magnesium chloride solution. (1)
5. Balance the following chemical reactions and identify the type of reaction :-
   a) $H_2 + N_2 \rightarrow NH_3$
   b) $ZnCl_2 + AgNO_3 \rightarrow Zn(NO_3)_2 + AgCl$
   c) $FeSO_4 \rightarrow Fe_2O_3 + SO_2 + SO_3$ (3)

BIOLOGY (M. Marks : 06; Time : 20 mts.)

1. Fill in the blank spaces with suitable words :- (½ x2=1)
   a) The opening and closing of stomatal pore is a function of _____ cells.
   b) _____ is a site of complete digestion of fats , carbohydrates and proteins.
2. Leaves of a healthy potted plant were coated with petroleum jelly. How will it affect the plant ? State two reasons. (1)
3. Give reasons :-
   a) Food tastes sweet after mixing it with saliva.
   b) Bile is essential for digestion though it does not have any digestive enzymes. (1)
4. a) Name the sphincter which regulates the exit of food from the stomach.
   b) Name two protein digesting enzymes. (1)
5. Enlist the main events of photosynthesis. (2)

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