

DEVAMATHA CMI PUBLIC SCHOOL
PRE-MIDTERM EXAMINATION 2017 - 2018
SCIENCE

Std. X

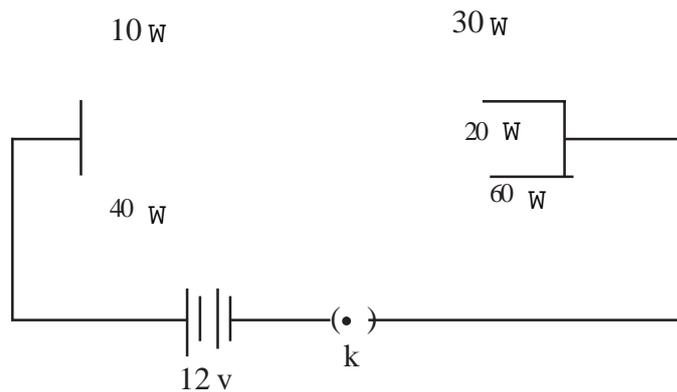
Time : 90 min.

Marks : 40

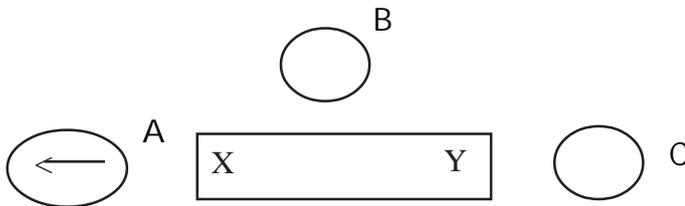
PART A - PHYSICS

I Answer the following questions :

1. A current of 4A flows around a circuit in 10s. How much charge flows through a point in the circuit in this time? (1)
2. Find the total resistance in the given circuit. (2)



3. The diagram shows a bar magnet surrounded by three plotting compasses. Copy the diagram and mark in it the direction of the compass needle for each of the cases B and C. Identify the poles X and Y. (2)



4. An electric bulb is rated as 200V and 100W. What is its resistance? Five such bulbs burn for 4 hours. What is the electrical energy consumed? Calculate the cost if the rate is 4 Rs per unit. (3)
5. a) State the rule for finding the direction of magnetic field produced by electric current through a straight conductor. Draw the pattern of magnetic field lines around the conductor.
 b) What are magnetic field lines? How is the direction of a magnetic field at a point determined.
 c) List any two properties of magnetic field lines. (5)

PART B - CHEMISTRY

I Answer the following questions :

1. Why are some salts called hydrated salts? Give two examples of white coloured hydrated salts. (1)
2. Name the product formed in each of the following cases by writing down the relevant chemical equations. (2)
 - a) Aluminium Oxide reacts with caustic soda.
 - b) Aluminium powder is heated with manganese dioxide.

3. While making pakoras Subha added a white powder in order to make it crispy. Write the name of the powder. Name its main ingredients? Explain the function of each ingredient. Write down the chemical reaction taking place when the powder is heated. (2)
4. Explain how the following metals are obtained from their compounds: (3)
- a) Metal X which is low in the reactivity series.
 - b) Metal Y which is in the middle of the reactivity series.
 - c) Metal Z which is high in the reactivity series.
5. i) Illustrate the formation of bond in the following compounds: (5)
- a) Sodium Oxide b) Magnesium chloride
- ii) Identify the ions present in these compounds.
- iii) Why do these compounds have high melting points?

PART C - BIOLOGY

I Answer the following questions in two or three sentences each :

1. What would happen if the trachea is devoid of cartilaginous rings? 1
2. How do capillaries help in the exchange of materials between blood and body cells? 1
3. 'X' is a wild animal which eats only the flesh of other animals whereas 'Y' is a domestic animal which mainly feeds on green grass. Which animal 'X' or 'Y' has a longer small intestine? Why? 2
4. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds? 2
5. Describe the mechanism of urine formation in human excretory system? How the amount of urine production is regulated? 3
6. a) Draw the human respiratory system and label the following (i) lung (ii) bronchi (iii) alveolar sac
- b) During breathing cycle, what is the advantage of residual volume of air in lungs? Explain. (4+1=5)

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