

Periodic Test (21 July 2017)

Class-X

Sub: G.Science (Set - A)

Time:

Marks: 50

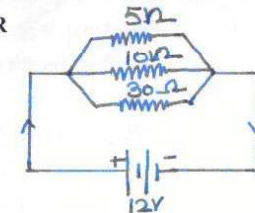
Physics (17)

- Q1. Calculate the number of electrons constituting IC of charge? (1)
- Q2. Calculate power consumed by 100W; 220V electric bulb when operated on 110V? (1)
- Q3. Establish a relation between net resistance and individual resistances for five resistors in parallel? (2)
- Q4. Write any two advantages of connecting electrical devices in parallel with the battery instead of connecting them in series? (2)
- Q5. With the help of well labelled circuit diagram state and write Ohm's law? (3)
- Q6a) A piece of wire of resistance R is cut into five equal parts. These parts are then connected in parallel. If equivalent resistance of this combination is R'. then calculate R/R' ?
- b) Which quantity has unit J/C ? How it is measured in an electric circuit?

OR

In the given circuit calculate

- a) Current through each resistor
- b) Total current
- c) Total circuit resistance

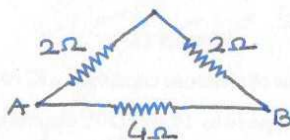


- Q7a) Show how would you connect 3 resistors, each of resistance 6Ω , so that the combination has a resistance of (i) 9Ω (ii) 4Ω (3)
- b) Will current flow more easily through a thick wire or a thin wire of same material when connected to same source? Why? (2)

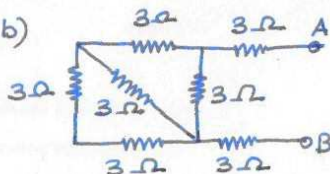
OR

Calculate total resistance between A and B

a)



b)



Chemistry (16)

- Q1. Define corrosion. (1)
- Q2. Name the substance oxidised, reduced, oxidising agent, reducing agent in following reaction:
$$3Fe + 4H_2O \rightarrow Fe_3O_4 + 4H_2$$
 (2)
- Q3. Balance the following equations:
i) Barium Chloride + Aluminium Sulphate \rightarrow
Barium Sulphate + Aluminium Chloride
ii) Potassium + Water \rightarrow Potassium hydroxide + Hydrogen (2)
- Q4. Write one equation each for decomposition reaction where energy is supplied in the form of heat, light, electricity. (3)
- Q5. a) Why does the colour of copper sulphate change when an iron nail is dipped in it. Write reaction.
b) Define precipitation reaction. (3)

OR

A shiny brown coloured element 'X' on heating in air becomes black in colour. Name the element 'X' and the black coloured compound formed and write the equation also.

- Q6. a) Give reason for the following:
i) What is observed when a solution of potassium iodide and lead nitrate is mixed in a test tube.

- ii) What type of reaction is it?
iii) Write balanced equation for above reaction? (3)
b) What happens when zinc granules are treated with sulphuric acid. Name the gas evolved. How can you check that gas. (2)

Biology (17)

- Q1. Why do the walls of trachea not collapse when there is less air in it?
Q2. What are peristaltic movements? (1×2=2)
Q3. Why is diffusion insufficient to meet the oxygen requirements of multicellular organisms like humans?
Q4. How is the amount of urine produced regulated? (2×2=4)
Q5. Which mode of nutrition is in amoeba? Explain with the help of diagrams.
Q6. What are the different ways in which glucose is oxidised to provide energy in various organisms? (Draw flow chart) (3×2=6)

OR

- a) Name the glands present in the wall of the stomach and the juice secreted by it.
b) Give the component of this juice.
c) Mention the function of the enzyme present in it.
Q7(i) Draw a sectional view of the human heart & label and name the following:
a) Chamber which receives oxygenated blood.
b) Arteries which carry deoxygenated blood from the heart to the lungs.
(ii) Which elements of xylem from a continuous system of water-conducting channels in plants? (2+1+1+1)

Periodic Test (21 July 2017)

Class-X

Sub: G.Science (Set - B)

Time:

Marks: 50

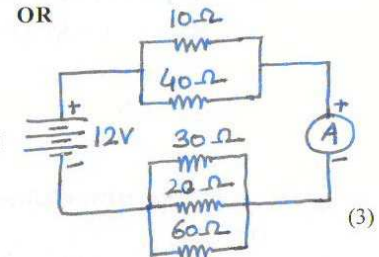
Physics (17)

- Q1. How much energy is given to each coulomb of charge through a 10V battery? (1)
- Q2. An electric iron of resistance 20Ω takes a current of 5A. Calculate heat developed in 30S. (1)
- Q3. Establish a relation between net resistance and individual resistance for five resistances in series? (2)
- Q4. Write any two disadvantages of using series combination of resistors instead of using parallel combination? (2)
- Q5a) On what factors (any 4) does the resistance of a conductor depend?
b) Write down unit of resistivity?
- Q6a) n-identical resistors each having resistance R are first connected in series and then in parallel across same supply voltage. Calculate ratio of net resistances in series to net resistance in parallel? (3)
- b) Name the quantity having unit Cs^{-1} ? How it is measured in an electric circuit? (2)

OR

In the given circuit, calculate

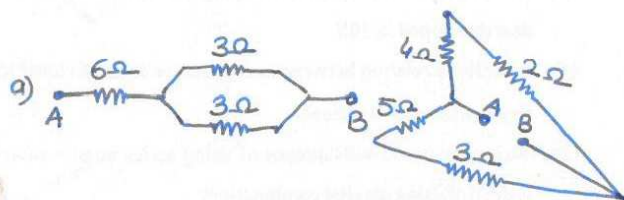
- a) Total resistance in the circuit
b) Total current flowing
c) Current through 10Ω only.



- Q7a) Explain which uses more energy, a 250W TV set in 1hr, or a 1200W toaster in 10 minutes.
- b) Why does the cord of an electric heater not glow while the heating element does?
- c) How voltmeter is connected in an electric circuit?

OR

Calculate resistance between A and B



Chemistry (16)

- Q1. Define rancidity. (1)
- Q2. Name the substance oxidised, reduced, oxidising agent, reducing agent in following reaction:

$$\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$$
 (2)
- Q3. Balance the following equations:
- Aluminium + Copper Chloride* → *Aluminium Chloride + Copper*
 - Magnesium + Hydrochloric acid* → *Magnesium Chloride + Hydrogen* (2)
- Q4. Distinguish between displacement & double displacement reactions. Give equations. (3)
- Q5. What happens when silver chloride is exposed to sunlight. Write a chemical reaction. Give one use of such a reaction. (3)

OR

Why does zinc plate develop holes when placed in copper sulphate solution for a few hours. Write equation for this process.

- Q6. i) What is the colour of Ferrous sulphate crystals. How does the colour change after heating?
- ii) Name the product formed on heating ferrous sulphate crystals.
- iii) What is the type of chemical reaction that occurs in the change?
- iv) Write a balanced equation for the above reaction. (5)

Biology (17)

- Q1. What is an artificial kidney?
- Q2. What protects the inner lining of the stomach from hydrochloric acid? (1×2=2)
- Q3. Write any four methods used by plants to get rid of excretory products.
- Q4. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds? (2×2=4)
- Q5. Explain the opening and closing of stomata with the help of diagrams.
- Q6(i) What is transpiration? Write its importance.
- (ii) Why is root pressure in the transport of water more important at night? (3×2=6)

OR

- Name the glands present in the wall of the stomach and the juice secreted by them.
 - Give the component of this juice.
 - Mention the function of the enzyme present in it.
- Q7(i) Draw a well-labelled diagram of the human respiratory system. Label and name the following parts:
- balloon-like structure which provides surface area for exchange of gases.
 - part (tube) which is made up of rings of cartilage.
 - name the respiratory pigment present in human beings. Where is it present? (2+1+1+1)