

NEW STANDARD ACADEMY

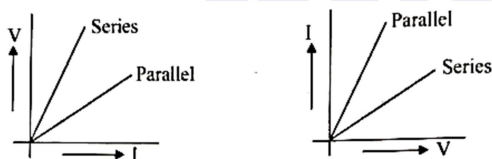
Date : 08-07-24

CLASS : 10TH

Marks: 80
Time: 3 HRS

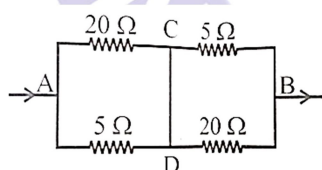
PHYSICS

1. Two students perform the experiments on series and parallel combinations of two given resistors R_1 and R_2 and plot the following V-I graphs.



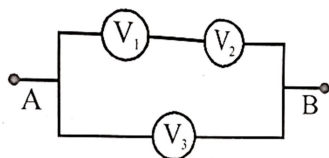
Which of the graphs is (are) correctly labelled in terms of the words 'series' and 'parallel'. Justify your answer.

2. Define '1 volt'. State the relation between work, charge and potential difference for an electric circuit. Calculate the potential difference between two terminals of the battery if 100 J of work is required to transfer 20 C of charge from one terminal of the battery to the other.
3. When some potential difference is maintained between A and B, current I



enters the network at A and leaves at B.

4. Three voltmeters, all having different resistances, are joined as shown in the figure. When some potential difference is applied across A and B, their readings are V_1 , V_2 , V_3 :



5. An electric iron of resistance 20Ω takes a current of 5 A. Calculate the heat developed in 30 seconds,
6. What are the advantage of connecting electrical devices in parallel with a battery instead of connecting them in series
7. An electric motor takes 5 A from a 220 V line. Determine the power of the motor and energy consumed in 2 h.
8. A particle with a charge of 1.5 coulombs is taken from a point A at a potential of 50 V to another point B at a potential of 120 V. Calculate the work done.
9. List in a tabular form two differences in between a voltmeter and an ammeter.
10. Explain the term resistance. Give its SI unit of measurement.

CHEMISTRY

1. How does the acidic rain endanger the aquatic life?
2. Explain with examples what is meant by (a) salt (b) family of salts.
3. During the electrolysis of brine at which electrode H_2 , Cl_2 and NaOH are formed?
4. What products are produced when (i) H_2 and Cl_2 combine (ii) Cl_2 reacts with caustic soda solution?
5. What is the colour of (a) blue litmus in soda water (b) phenolphthalein in soap solution (c) methyl orange in the solution of baking soda (d) phenolphthalein in washing soda solution?
6. How is chloride of lime chemically different from calcium chloride? Why does chloride of lime gradually lose its chlorine when kept exposed to air?
7. How is bleaching powder prepared? Why does bleaching powder (i) smell strongly of chlorine and (ii) not dissolve completely in water? For what purpose it is used in paper factories?

8. What is the action of the following substances on litmus paper ?
(a) Dry HCl gas (b) Moistened NH₃ (c) Lemon juice (d) Carbonated drink (e) Curd?
9. What happens when nitric acid is added to egg shell?
10. Why does CO₂ turn lime water milky
What happens when excess of CO₂ is passed

BIOLOGY

1. Define the Neuron
2. Describe the olfactory receptor?
3. What is synapse? Name the types of synapse
4. Describe relay neuron.
5. Name the largest part of brain.
6. Mention the part of brain which controls the involuntary action like blood pressure, salivation etc.
7. Define types of Neuron on the basis of Number of Processes. .
8. Name the part of brain which controls equilibrium and posture of body.
9. Name the part of Hind brain which takes part in regulation of respiration.
10. Draw the neat & clean diagram of Neuron and labelled it

MATH'S

1. Given that HCF (135,225) = 45, find the LCM (135,225).
2. Using prime factorization, Find HCF and LCM of 96 and 120
3. Find the least number which when divided by 12, 16 and 24 leaves remainder 7 in each case.
4. Prove that $\sqrt{2}$ is an irrational number.
5. Find a rational number between $\sqrt{2}$ and $\sqrt{3}$.
6. Explain why the number $7 \times 11 \times 13 + 13$ is composite.
7. Prove that 4^n can never end with the digit 0, where n is a natural number.
8. The salary of Reena in 1st year, 2nd year, 3rd year, 4th year with a starting salary of 18000 with an annual increment of ₹ 500.
9. Find the sum of first 8 multiples of 3.
10. The 30th term of the AP: 10,7,4,... is