

# NEW STANDARD ACADEMY

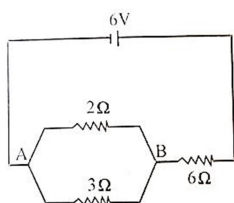
Date : 01-07-24

CLASS : 10<sup>TH</sup>

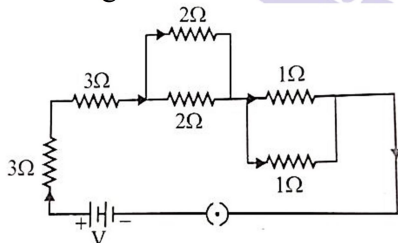
Marks: 80  
Time: 3 HRS

## PHYSICS

1. How much energy is given to each coulomb of charge passing through a 6 V battery?
2. On what factors does the resistance of a conductor depend?
3. Why does the connecting cord of an electric heater does not glow while the heating element does?
4. Compute the heat generated while transferring 96000 coulomb of charge in one hour through a potential difference of 50 V.
5. What determine the rate at which energy is delivered by an electric current?
6. Determine the value of current in the  $2\Omega$  resistance and the potential difference between A and B in the circuit diagram given



7. The length of a wire is doubled and the radius is doubled. By what factor does the resistance change?
8. Find the equivalent resistance of the following circuit.



9. Three resistances of 2, 3 and  $5\Omega$  are connected in parallel to a 10 V battery of negligible internal resistance. The potential difference across the  $3\Omega$  resistance will be

10. You are given n identical wires, each of resistance R. When these are connected in parallel, the equivalent resistance is X. When these will be connected in series, then the equivalent resistance will be?

## CHEMISTRY

1. Define alkali with examples.
2. Write the name and symbols of the ions present in the aqueous solutions of HCL,  $\text{CH}_3\text{COOH}$ , KOH and  $\text{Mg}(\text{OH})_2$ .
3. How does the pH change damage the teeth? How can it be prevented?
4. The pH of the soil of a field is 4.3? Which chemicals can be used to raise its pH to almost 7?
5. What is the function of antacid? Explain with examples.
6. Why should we clean our teeth with tooth paste?
7. Why does distilled water not conduct electricity, whereas rain water does?
8. Why do acids not show acidic behavior in the absence of water?
9. Fresh milk has a pH of 6. How do you think the pH will change as it turns into curd? Explain your answer.
10. What is neutralization reaction? Give two example

## BIOLOGY

1. What is a nastic movement?
2. What is phototropism? Give Example of positive Phototropism.
3. Define negative Hydrotropism. Give an example?
4. What is Geotropism? Give an example.
5. What is Phytohormones? Name the types of plant hormones.
6. What is the role of Gibberellin hormones
7. Name two natural Auxin Hormones.

8. Name two synthetic Auxin Hormones.
9. Which Hormone is a gaseous hormone?
10. Which Hormone is stress Hormones in plants?

**MATHS**

1. Find the HCF and LCM of 84 and 144 by prime factorization method.
2. If  $S_n$  denotes the sum of first  $n$  terms of an AP, prove that  $S_{30} = 3(S_{20} - S_{10})$ .
3. Find the sum of first 1000 positive integers.
4. Two numbers are in the ratio 2:3 and their LCM is 180. What is the HCF of these numbers?
5. If the 8th term of an AP is 31 and the 15th term is 16 more than its 11th term, then find the AP
6. In the following Aps, fill the missing terms in the boxes:  
i) 2, , 26      ii) , 13, , 3
7. The 24th term of an AP is twice its 10th term. Show that its 72nd term is four times its 15th term.
8. Write first four terms of the AP, when the first term  $a$  and the common difference  $d$  are given as follows:  
a)  $a = 5$ ,  $d = -3$   
b)  $a = \frac{1}{2}$ ,  $d = -\frac{1}{6}$
9. Find the AP whose  $n$ th term is  $7-3n$ . Also find the 20<sup>th</sup> term.
10. In an AP (with usual notations):  
a) Given  $l = 28$ ,  $S_9 = 144$ , find  $a$   
b) Given  $a_{12} = 37$ ,  $d = 3$ , find  $a$  and  $S_{12}$

**अमृतं तु विद्या**