

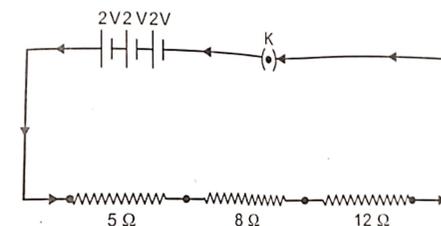
NEW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 10 (PHYSICS) DPP (Academy) 01/07/2024

- Three resistors of resistances 10Ω , 20Ω and 30Ω are connected in parallel with a $6V$ cell. Find (a) the current through each resistor, (b) the current supplied by the cell, and (c) the equivalent resistance of the circuit.
- (a) How will you join three resistors of resistances 4Ω , 6Ω and 12Ω to get an equivalent resistance of 8Ω ?
(b) What would be the highest and the lowest equivalent resistances possible by joining these resistors?
- How many bulb of resistance 6 ohms should be joined in parallel to draw a current of 2 amperes from a battery of 3 volts ?
- A current of $4A$ passes through a resistance of 100Ω for 15 minutes . Calculate the heat produced in calories.
- A current passes through a resistor for some time. It produced 400 cal of heat in this period. If the current is doubled, how much heat will be produced for the same durations?
- A bulb draws $24W$ when connected to a $12V$ supply. Find the power if it is connected to a $6V$ supply. (Neglect resistance change due to unequal heating in the two cases.)
- Two identical resistors of resistance R are connected in series with a battery of potential V for time t . The resistors are later connected in parallel and the same battery is connected across the combination for time t . compare the heat produced in the two cases.
- A bulb is rated $40W$, $220V$. Find the current drawn by it when it is connected to a $220V$ supply.
- A bulb is rated $60W$, $240V$. Calculate its resistance when it is on. If the voltage drops to $192V$, what will be the power consumed and the current drawn?
- What is meant by the statement that the rating of a fuse in a circuit is $5A$?
- Why tungsten is used almost exclusively for filament of electric lamps?

- State the factors on which the heat produced in a current carrying conductor depends. Give one practical application of this effect.
- List in a tabular form two differences in between a voltmeter and an ammeter
- Explain the term resistance. Give its SI unit of measurement.
- On what factors does the resistance of a conductor depend?
- Draw a schematic diagram of a circuit consisting of a battery of three cells of $2V$ each, a 5Ω resistor, 8Ω resistor and a 12Ω resistor and a plug key all connected in series.
- What are the conditions under which Ohm's law is not obeyed?
- There are two wires of the same length and of the same material and



- radius r and $2r$. The ratio of their specific resistance is
- The resistance $4R$, $16R$, $64R$. are connected in series, their resultant will be:
 - Resistance R , $2R$, $4R$, $8R$, are connected in parallel. Their resultant resistance will be

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CLASS 10 (CHEMISTRY) DPP (Academy) 01/07/2024

1. Which acid is produced in our stomach? How can we treat a person suffering from acidity?
2. How does the pH change damage the teeth? How can it be prevented?
3. The pH of the soil of a field is 4.3? Which chemicals can be used to raise its pH to almost 7?
4. How does the acidic rain endanger the aquatic life?
5. Which chemical is present in (a) ant's sting (b) bees-sting (c) nettle-leaf sting and (d) wasp sting? How can the effect of these stings be neutralised?
6. Explain with examples what is meant by (a) salt (b) family of salts.
7. Which of the following salts (a) turn blue litmus to red (b) turn red litmus to blue (c) have pH equal to 7
 NH_4Cl , Na_2CO_3 , KCl , NaCl , CH_3COONa , CuSO_4 , $\text{Zn}(\text{NO}_3)_2$.
8. In the above question, which of the salts give (a) acidic solution (b) basic solution (c) neutral solution?
9. Select the strong acids, weak acids, strong bases and weak bases from the following
 NH_4OH , NaOH , HCl , HNO_3 , KOH , H_2SO_4 , CH_3COOH , H_2CO_3
10. Name the acids and bases from which the following salts are made:
(a) CH_3COONa , (b) KCl , (c) CuCl_2 , (d) ZnSO_4 , (e) Na_2CO_3 , (f) NH_4NO_3
11. Define alkali with examples.
12. Write the name and symbols of the ions present in the aqueous solutions of HCl , CH_3COOH , KOH and $\text{Mg}(\text{OH})_2$.
13. There are two drinks A and B Their pH values are 3.6 and 5.4 respectively. Which drink has (a) more number of H^+ ions (b) more number of OH^- ions.
14. There are two solution P and Q Their pH values are 10. 2 and 13.1 respectively. Which solution has(a) less number of H^+ ions (b) more number of H^+ ions.
15. In the above question which solution has more number of OH^- ions.
16. Which solution is more acidic, pH = 3. pH = 4?
17. Which solution is more basic, pH =10. 8, pH=11.2
18. There are two solutions A and B. Their pH values are 2.4 and 10.6 respectively. Which solution gives red colour and which gives blue colour with litmus.
19. There are two solutions P and Q having pH values 2.5 and 10.7 respectively. What is the colour of phenolphthalein and methyl orange indicator in these solutions?
20. What is the basis of classification of bases as strong and weak bases? Classify the following into strong and weak bases?
 NH_4OH , $\text{Ca}(\text{OH})_2$, NaOH , KOH

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CLASS 10 (MATHS) DPP (Academy) 01/07/2024

- For the following APs, write the first term and the common difference
(i) -5, -1, 3, 7, (ii) 0.6, 1.7, 2.8, 3.9, ...
- In the AP: 10, 5, 0, -5, ... the common difference is equal to 5. Justify whether the above statement is true or false.
- The taxi fare after each km when the fare is 15 for the first km and 10 for each additional km.
- The cost of digging a well after every metre of digging, when it costs and rises by 50 for each subsequent metre.
- Find the 10th term of the AP 2, 7, 12, ...
- The 17th term of an AP exceeds its 10th term by 7. Find the common difference.
- Determine the AP whose 3rd term is 5 and the 7th term is 9.
- An AP consists of 50 terms of which the third term is 12 and the last term is 106. Find the 29th term.
- If the 3rd and the 9th terms of terms of an AP are 4 and -8 respectively, which term of this AP is Zero?
- Show that the sum of (m+n) th term and (m-n) th term of an AP is equal to twice the mth term.
- In an AP the pth term is $\frac{1}{q}$ and the qth term is $\frac{1}{p}$. Find its (pq) th term.
- Two APs have the same common difference. The difference between their 100th terms is 100 what is the difference between their 1000th terms?
- Which term of the AP: 121, 117, 113, ... is the first negative term?
- How many multiples of 4 lie between 10 and 205?
- How many three digit numbers are divisible by 7?
- The sum of three numbers in AP is 24 and the sum of their squares is 194. Find the numbers.
- Which term of the AP: -2, -7, -12, ... will be -77? Find the sum of this AP upto the term - 77.
- Find the sum : $7 + 10\frac{1}{2} + 14 + \dots + 84$.
- If the sum of the first 14 terms of an AP is 1505 and its first term is 10, find its 25th term.
- The first term of an AP is -5 and the last term is 45. If the sum of the terms of the AP is 120 then find the number of terms and the common difference.

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CLASS 10 (BIOLOGY) DPP (Academy) 01/07/2024

1. What is stimulus?
2. What phytohormones? Name any two phytohormones
3. Name the Growth promoter hormones
4. What is a tropic movement?
5. Give an example of a plant hormone that inhibits growth.
6. How do auxins promote the growth of a tendril around a support?
7. How does chemical Co-ordination occurs in plants?
8. How does phototropism occur in plants?
9. What is Nastic movements.
10. Differentiate between tropic and nastic movements in plants. Give one example.
11. Name the stress hormone in plants.
12. What is Positive phototropism and Negative phototropism?
13. What is thigmotropism?
14. Define chemotropism.
15. What is Negative geotropism?
16. What is hydrotropism?
17. Name the gaseous plant hormones.
18. Name two Synthetic auxins.
19. What is the function of Gibberellin Hormone?

What is the function of Cytokinin Hormone?