Physics Part 3

LEARNING VERSION

IN THIS LEARNING VERSION ANSWERS ARE IMMEDIATELY AND VISIBLY MARKED, CORRECT ANSWERS ARE INDICATED ON REQUEST, AND END OF SUB-SECTION TOTALS AND PERCENTAGES SHOWN ON SCREEN.

SOME OF THE MORE DIFFICULT QUESTIONS HAVE DROP DOWN HELP BOXES WHICH REVEAL INFORMATION WHEN THE CURSOR IS PASSED OVER THE QUESTION MARK.

WHEN PRINTED OUT ONLY THE QUESTIONS SHOW, THEREFORE THIS CAN BE USED AS A PAPER VERSION FOR TESTS IF REQUIRED.

The questions are of the Multiple Choice style, where the phrase “Which ONE of the following ...” is implied, but is not always stated. So that students are reminded of the type of question that requires short written answers, which unfortunately cannot be automatically marked, each topic has one short passage with missing words, which must be identified in their correct sequence.

NB The practical work presented should be familiar to students, either as a demonstration or as an experiment they might have carried out themselves in the lab.

The illustrated material is NOT presented as a practical guide, and while the procedures were carried out according to recommended safety guidelines, specific safety issues are NOT dealt with.

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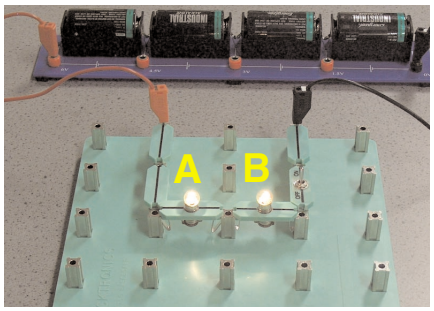
CONTENTS

The following practical topics have been selected according to exam question frequency to form the basis of revision and examination practice.

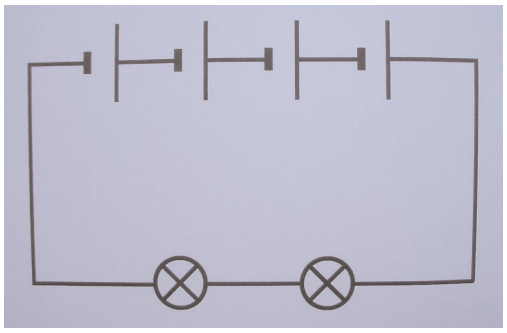
Each section is completely self-contained and they may be attempted in any order.

Series and Parallel Circuits

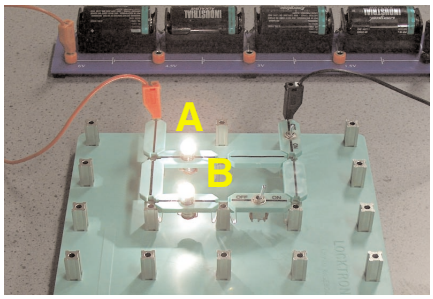
Practical - Two circuits were connected as shown in the photographs and drawings. Each circuit contains a battery (which is made up of 4 identical cells) and 2 identical bulbs.



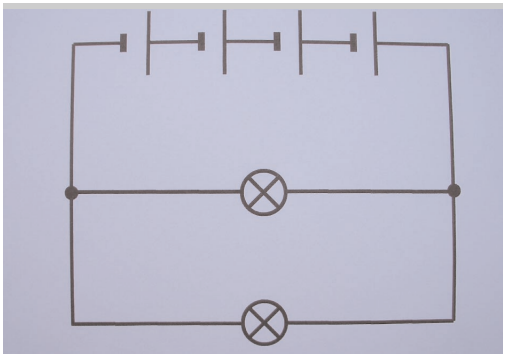
Circuit 1



Circuit 1



Circuit 2



Circuit 2

1. Which pair of words below best completes the following sentence to correctly describe both circuits?

Circuit 1 is a __ circuit and circuit 2 is a __ circuit.

A - parallel - full
B - series - parallel
C - full - series
D - parallel - series

2. Choose the best sentence below to compare the resistance and brightness of the bulbs in each circuit.

A - Circuit 1 has a higher resistance because the bulbs are dimmer than in circuit 2.
B - Circuit 2 has a higher resistance because the bulbs are dimmer than in circuit 1.
C - Circuit 1 has a lower resistance because the bulbs are dimmer than in circuit 2.
D - Circuit 2 has a higher resistance because the bulbs are brighter than in circuit 1.

Click to Enter

Show Answers

Series and Parallel Circuits

3. What would happen if bulb A in circuit 1 was unscrewed?

A - The battery would overheat.
B - Bulb B would stay on, but be much dimmer.
C - Bulb B would stay bright.
D - Bulb B would go out.

4. What would happen if bulb A in circuit 2 was unscrewed?

A - The battery would overheat.
B - Bulb B would stay on, but be much dimmer.
C - Bulb B would go out.
D - Bulb B would stay bright.

HELP BOX

PASS CURSOR OVER QUESTION MARK FOR HELP WITH QUESTION NUMBERS **5 & 6**

5. In circuit 1, the current through bulb A is 2 Amps. What would the current be through bulb B?

A - Impossible to say
B - 1 Amp
C - 2 Amps
D - 3 Amps

6. In circuit 2, the current from the battery is 4 Amps. What current would be passing through each bulb?

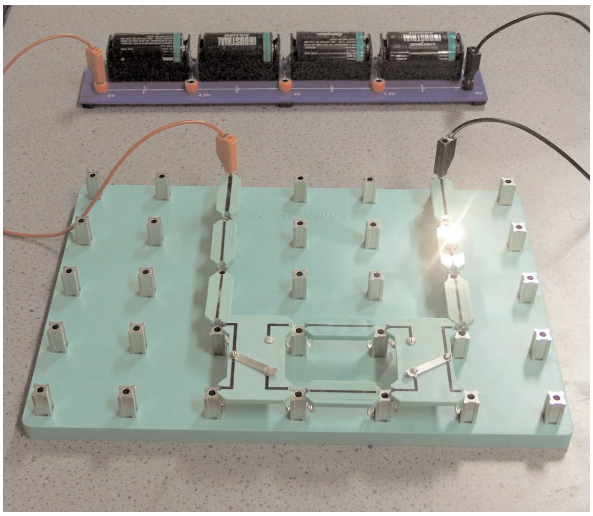
A - 4 Amps through each bulb.
B - 3 Amps through bulb A and 1 Amp through bulb B.
C - Impossible to say without knowing the voltage of the battery.
D - 2 Amps through each bulb.

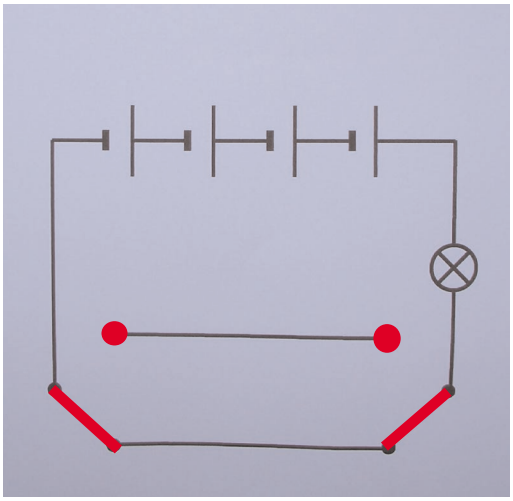
Click to Enter

Show Answers

Series and Parallel Circuits

Practical - The circuit shown below is connected using two 2-way switches, linked to a single bulb.





HELP BOX

PASS CURSOR OVER QUESTION MARK FOR HELP WITH QUESTION NUMBER **7**

7. Where might you find a circuit like the one above?

A - Operating lights over a set of stairs.

B - In a bathroom.

C - In the circuit to operate car headlights.

D - In a garage or other outbuilding.

Click to Enter

Show Answers

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PAGES 6 -14 BLOCKED, GO TO PAGE 15

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- Series and Parallel Circuits
- Voltage and Current Characteristics
- Potential Divider Circuits

SECTION TOTAL	0/19

SECTION PERCENTAGE	0%

Reset All