MINI FIRST TERM EXAMINATION. Class.10
PHYSICS

Maximum mark:25 **Time:45 minute**

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1. Complete the second pair according to the relation of the first. **1**
   Electric lamp: Lighting effect; Safety fuse: .....

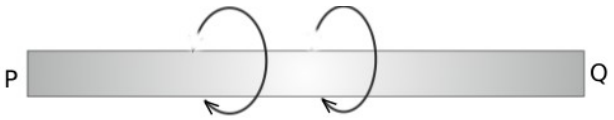
2. "Fleming's left hand rule is used to detect direction of magnetic force experienced in a current carrying conductor" State whether the statement is TRUE or FALSE. **1**

3. If 1Ω, 2Ω, 5Ω, 10Ω resistors are connected in parallel, which of the following is likely to be the effective resistance? **1**
   (0.5Ω, 1.5 Ω, 5Ω, 12Ω)

4. Name the substance used to make filament of incandescent lamp. Which is the gas filled in the lamp? **1**

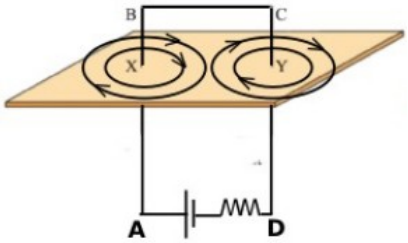
5. What is the maximum resistance make available using two 10 Ω resistors? How are to be connected them for this? **1**

6. It is marked the direction of magnetic field lines around the conductor PQ, when current flows through it. **1**



   a.What might be the direction of current through the conductor PQ?
   (From P to Q, From Q to P)
   b. Name the rule that helped you to find the answer.

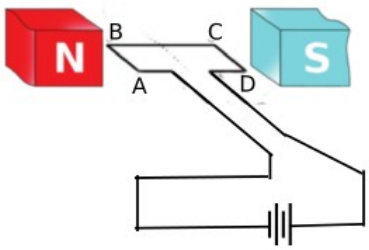
7. Magnetic field lines produced while current flowing through the conducting loop ABCD are marked. **2**



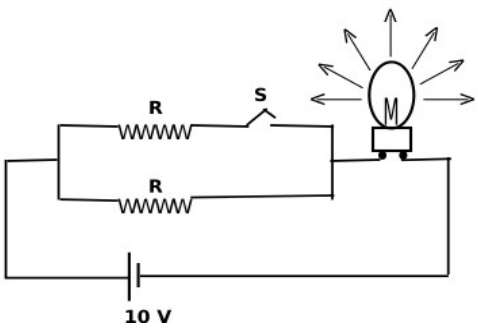
   a. Which is the direction of current through the loop? (ABCD/DCBA)
   b. Is there any thing wrong in the marking of the field lines?

8. Suppose you are given two 20 Ω resistros. **2**
   a. What is the minimum resistance can be made using both of them?
   b. Draw the digram of arrangement of resistors for getting the minimum value.

9. A coil ABCD is arranged in between two magnetic poles. **2**
   a. The direction of force experienced on the side AB is .....
   (upward/ downward)
   b. State the rule used to find the direction of force.
   c. If the armature is arranged to rotate freely, what will be the direction of rotation? (Clockwise/ Anti clockwise)



10. See the circuit. Here the swith S is OFF. 2
    a. What happens to the brightness of the lamp, when the switch turn ON?
    b. Justify your answer.



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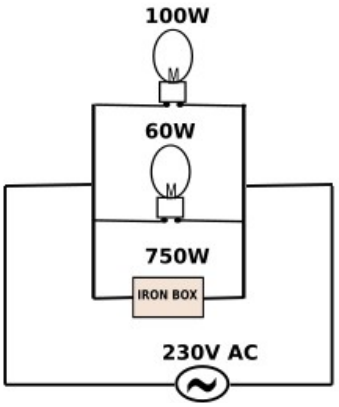
11. When current is passed through a solenoid, it becomes an electromagnet.
    a. How is its polarity identified?
    b. What is the major difference between electromagnet and permanent magnet (bar magnet)?

12. The amperages of fuse wires currently available in the market are given in the bracket. 3
    (1A, 1.25A,1.5A,2.2 A, 5A, 10A)
    a. Name the substance used to make fuse wire.
    b.What is the major characteristic of the substance?
    c. Suggest a fuse wire suitable to this circuit.
    Hint: All devices are designed to work at 230V.



13. Iron box is a heating device. 3
    a. Which substance is used to make heating coil?
    b. A 1000W Iron box works at its marked power. What amount of heat energy will be released by the Iron box in one second?
    c. 2A current is flowing through a 100 Ω resistor. Calculate heat generated in two minutes.

14. Loud speaker is one of the major components of sound system.
    a. What is the working principle of moving coil loud speaker? **3**
    b. Explain its working with the help of schematic diagram.