

University of Wales Trinity saint David

Swansea Campus

Faculty of Computing

Module Name : Electronics Principles and Concepts

Module Code: ACDA4015

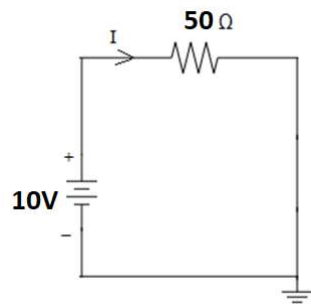
Marks: 50

Assignment -1

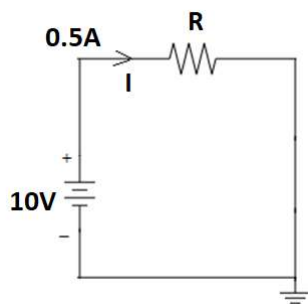
Instructions:

- Answer all the question
- Assignment should be submitted on or before 23/11/2022.
- Write your student ID number, student name, module name and module code at the front page of the assignment.
- Write your answers using black or blue or blue black ink pen in A4 paper (ruled or unruled), scan the pages and insert it in a MS word document or type the answers in MS word document.
- Use pencil for drawing diagrams.
- Answers should be clear and readable.
- Question 1-10 (2 marks each) ; Question 11-15 (4 marks each); Questions 16 – 17 (5 marks each)
- Send the document to s.wpackiadhas@uwtsd.ac.uk
- **This is not the Coursework question paper or END assessment question paper**

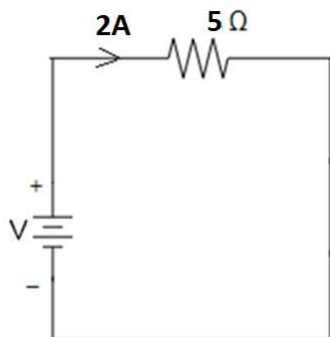
- 1) Calculate the current flowing through the resistor in the following circuit diagram.



- 2) Calculate the value of the resistor in the following circuit diagram.

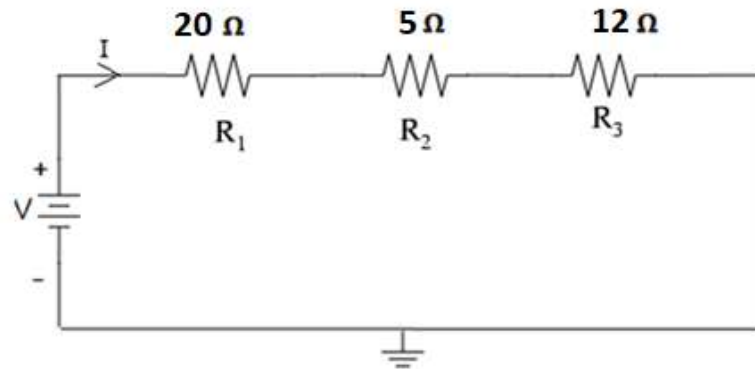


- 3) Calculate the Voltage supplied by the battery.

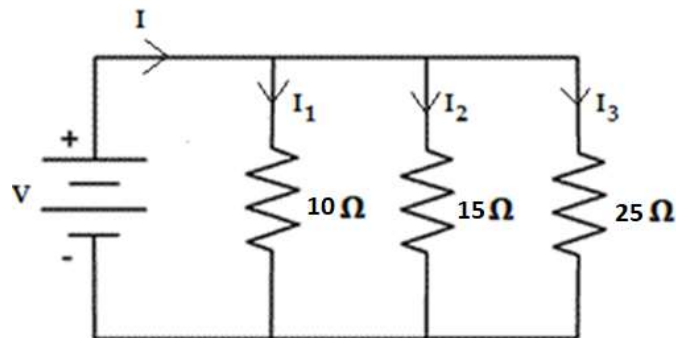


- 4) Calculate the potential difference across a circuit, if the current across the circuit is 5A and the resistance is 10K Ω .
- 5) Calculate the resistance in a circuit, if the current across the circuit is 2A and the potential difference is 20V.
- 6) A 20V battery is connected to a resistor having a resistance of 100 Ω . Calculate the current and power across the resistor.
- 7) What is the power of the kettle that can heat water in 100s, by doing 600J of work?

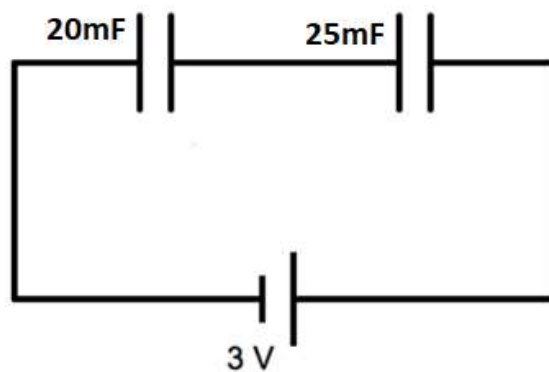
- 8) Calculate the Power of an refrigerator , if the voltage supplied is 220V and the resistance offered is 2000Ω .
- 9) What capacitance is needed to store 20C of charge at a voltage of 400 V.
- 10) Calculate the total resistance in the following circuit.



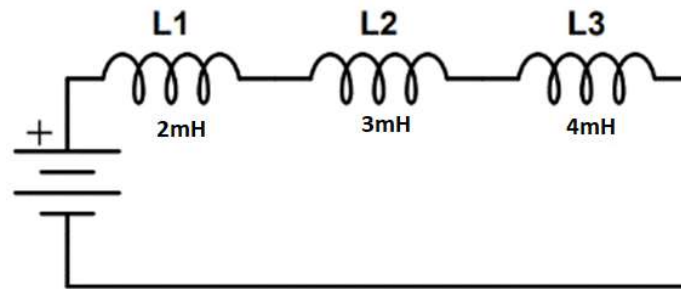
- 11) Calculate the total resistance in the following circuit.



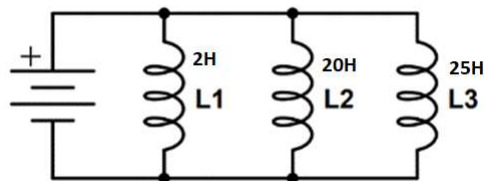
- 12) Calculate the total capacitance in the following circuit



13) Calculate the total inductance in the following Circuit

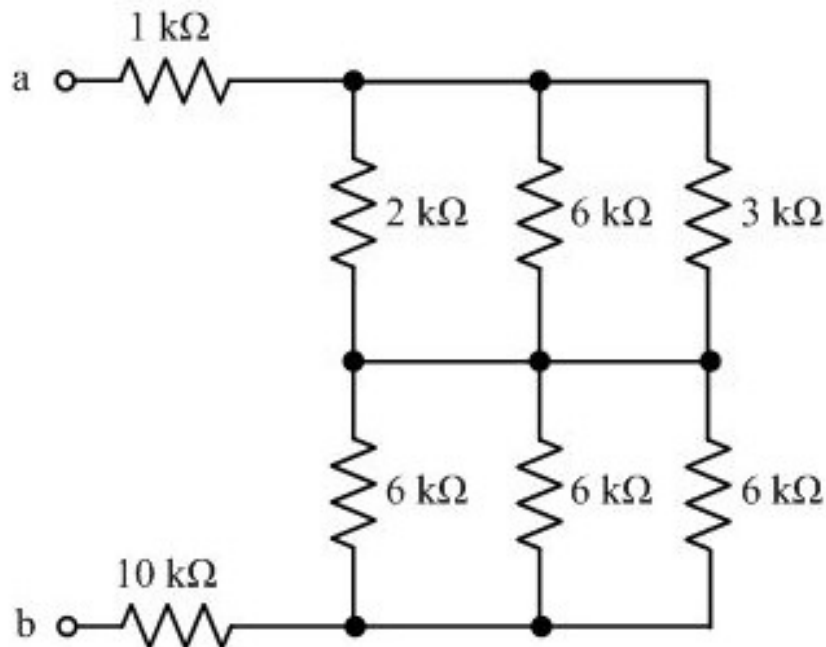


14) Calculate the total inductance in the following circuit



15) Three capacitors $2\mu\text{F}$, $3\mu\text{F}$, and $6\mu\text{F}$ are connected in parallel. Calculate the total capacitance.

16) Calculate the total resistance for the following circuit.



17) Calculate the total resistance in the following circuit

