



Kasarani Campus
Off Thika Road
P. O. Box 49274, 00101
NAIROBI
Westlands Campus
Pamstech House
Woodvale Grove
Tel. 4442212
Fax: 4444175

**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2020/202 ACADEMIC YEAR
END OF SEMESTER EXAMINATIONS
FOR THE CERTIFICATE INFORMATION COMMUNICATION TECHNOLOGY**

CIT 1009 BASIC ELECTRONICS

Date: DECEMBER, 2020
Time: 2 Hrs.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE COMPULSORY (30 MARKS)

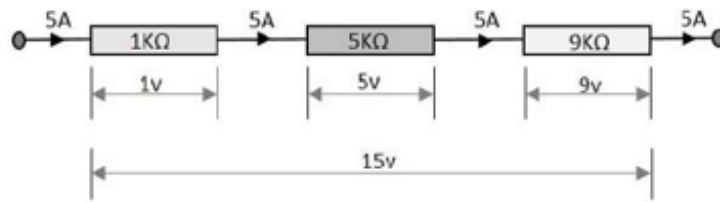
- a) Distinguish between:
- i. Capacitor and Inductor (2 Marks)
 - ii. Drift current and diffusion current (2 Marks)
- b) Determine the value of a resistor with a color code of orange, yellow, red and gold. (4 Marks)
- c) With the aid of a well labeled diagram explain the structure of an atom. (6 Marks)
- d) Discuss the concept of doping in the context of how semiconductors work. (6 Marks)

QUESTION TWO (20 MARKS)

- a) State Faradays Law of electromagnetic induction (4 Marks)
- b) Describe four types of inductors. (8 Marks)
- c) Explain four factors affecting inductance. (8 Marks)

QUESTION THREE (20 MARKS)

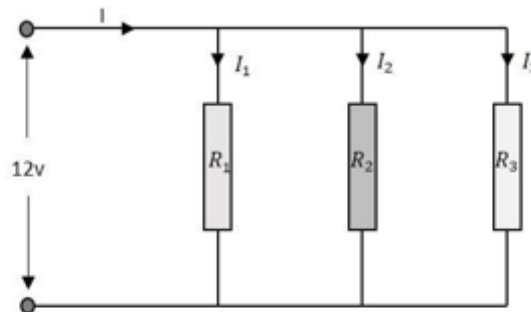
- a) Calculate the resistance in the circuit below. (6 Marks)



- b) Discuss the working principle of a Light Emitting Diode. (6 Marks)
- c) Discuss any four types of transformers. (8 Marks)

QUESTION FOUR (20 MARKS)

- a) Differentiate between voltage and current. (4 Marks)
- b) Calculate the total resistance in the circuit below. (4 Marks)



- c) Describe the working principle of a transistor. (6 Marks)
- d) Describe three types of junction diodes. (6 Marks)

QUESTION FIVE (20 MARKS)

- a) State Ohms Law. (4 Marks)
- b) Differentiate between resistance and reactance. (4 Marks)
- c) Discuss the energy bands as applied to a semiconductor. (6 Marks)
- d) Describe the working principle of a capacitor. (6 Marks)