

Federal University of Technology Minna,
School of Science and Technology Education
Department of Industrial and Technology Education
First Semester Examination 2022/2023 Session

COURSE: - Electrical Circuit Theory

COURSE CODE: ITE 353; 2 Units

DURATION: 2 hours

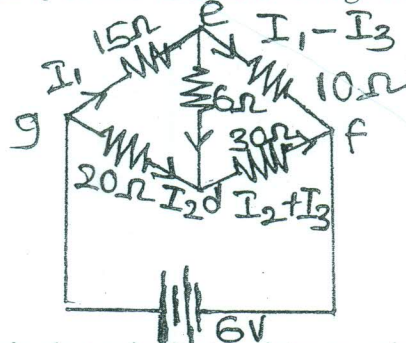
INSTRUCTION: Answer all questions in section A and any Two questions in Section B.

SECTION A (40 MARKS)

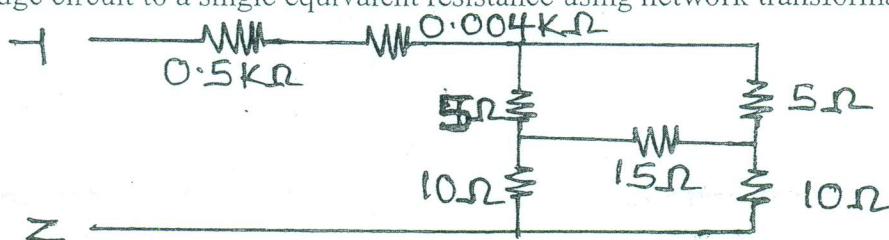
1a Briefly explain the following terms;

- i. Active and Passive Network
- ii. Linear and Non-linear Network

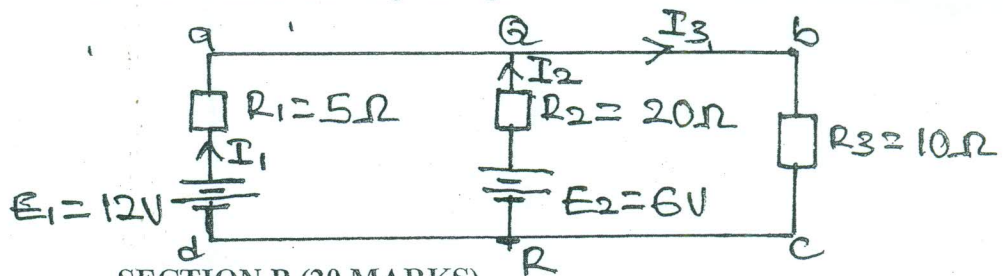
b Determine the value of I_1 , I_2 and I_3 of this unbalance bridge network using Kirchhoff's laws.



2a Reduce the bridge circuit to a single equivalent resistance using network transformation.



c Use superposition theory to calculate the current flowing through each resistor and determine the P.D. across point Q and R.



SECTION B (20 MARKS)

3 Determine all the currents in the circuit using Nodal Analysis.

