

FEDERAL UNIVERSITY OF TECHNOLOGY MINNA, NIGER STATE
 SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
 DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
 FIRST SEMESTER 2019/2020 ACADEMIC SESSION EXAMINATION

Course Title: Circuit Theory Course Code: ITE 353, Time: 1 hour 30 mins

INSTRUCTION: Answer 3 Questions Only

1a. State Kirchoff's current and voltage Laws

1b. Using Kirchoff's laws, determine the values of unknown current in figure 1a and emf in figure 1b

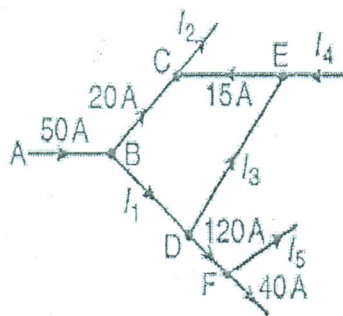


Figure 1a

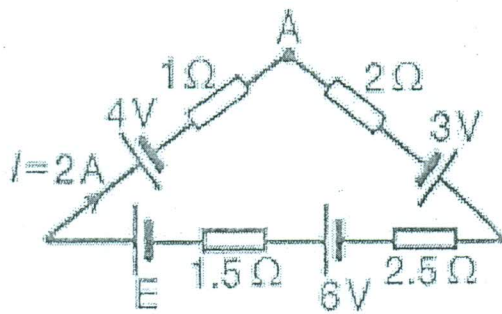


Figure 1b

2a. Explain the meaning of the following terms

(i). Node (ii). Mesh (iii) Bilateral Network (iv). Lumped Network (v) Distributed Network

2b. For the bridge network shown in Figure 2 determine the currents in each of the resistors

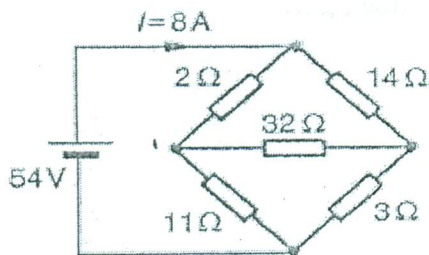


Figure 2

3a. State Superposition Theorem

3b. Determine the current in each branch of the network in figure 3 using the superposition theorem