

Maulana Azad National Institute of Technology, Bhopal
Mid Term Examination, February, 2022

Department: Electrical Engineering
Semester: B.Tech. Ist Sem Section: G
Subject: Basic Electrical & Electronics Engineering

Date: 05/02/2022

Subject Code: EE-108

Time: 1:30 Hrs

Max. Marks: 20

Note: (i) All Questions are compulsory.

(ii) Name of the submitted answer sheet (PDF file) must be your Roll number.

1. For the network shown in Fig.1 determine the currents in each of the resistors using mesh analysis. [5]

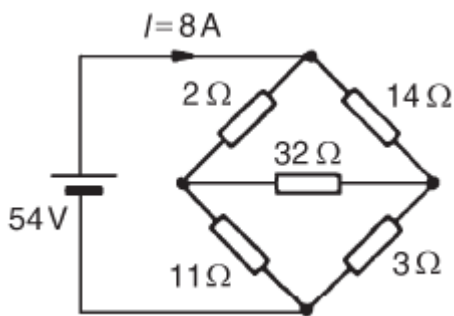


Fig.1

2. An alternating voltage is given by $v = 282.8 \sin 314t$ volts. Find (a) the rms voltage, (b) the frequency and (c) the instantaneous value of voltage when $t = 4\text{ ms}$. [5]

3. A coil having a resistance of $10\ \Omega$ and an inductance of 125 mH is connected in series with a $60\ \mu\text{F}$ capacitor across a 120 V supply. At what frequency does resonance occurs? Find the current flowing at the resonant frequency. [5]

4. A star-connected load consists of three identical coils each of resistance $30\ \Omega$ and inductance 127.3 mH . If the line current is 5.08 A , calculate the line voltage if the supply frequency is 50 Hz . [5]