VIT

Vellore Institute of Technology

G2 slot

SCHOOL OF ELECTRICAL ENGINEERING

CAT – I

Winter Semester 2018 – 19

Class Nbrs. : VL2018195001598,1862,3666,3667,3668,3669,3670,3672
Course Code : EEE1001
Course Title : Basic Electrical and Electronics Engineering
Programme Name & Branch: B.Tech , All branches

Date of Exam : 27/01/19
Max. Marks : 50
Duration : 1 ½ hours

General instruction: Answer all questions

S.No.	Question
1.	Find the current through 100Ω resistor for the circuit shown in **Fig.1** using mesh current method. **[10]**

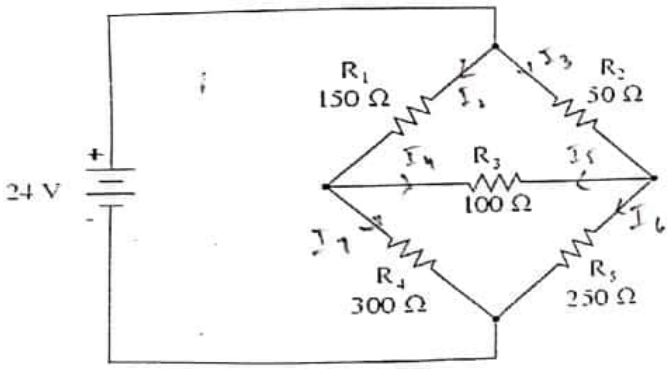

Fig.1

(2) Units	Determine the value of load resistor for the circuit shown in **Fig.2**, if maximum power is transferred. Also calculate the maximum power across the load resistor. **[10]**

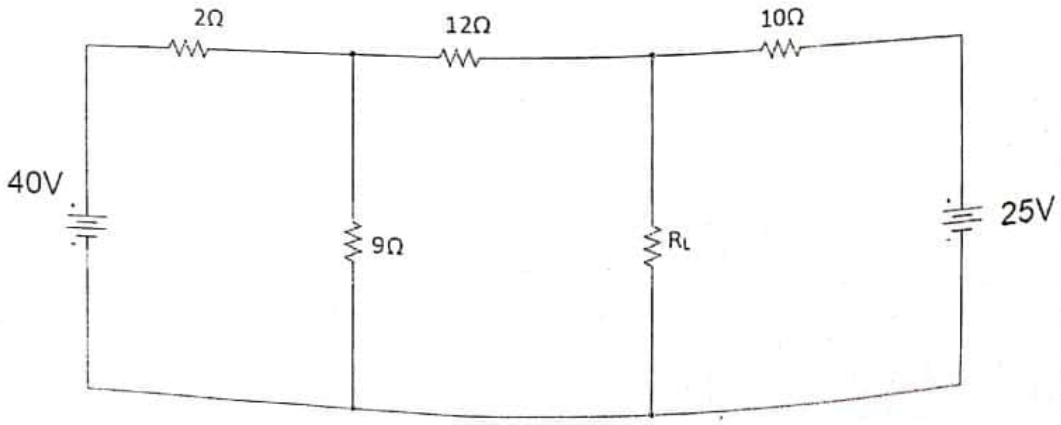

Fig.2

3. Find the voltage across 30Ω resistor in the circuit shown in Fig.3 using nodal analysis. [10]

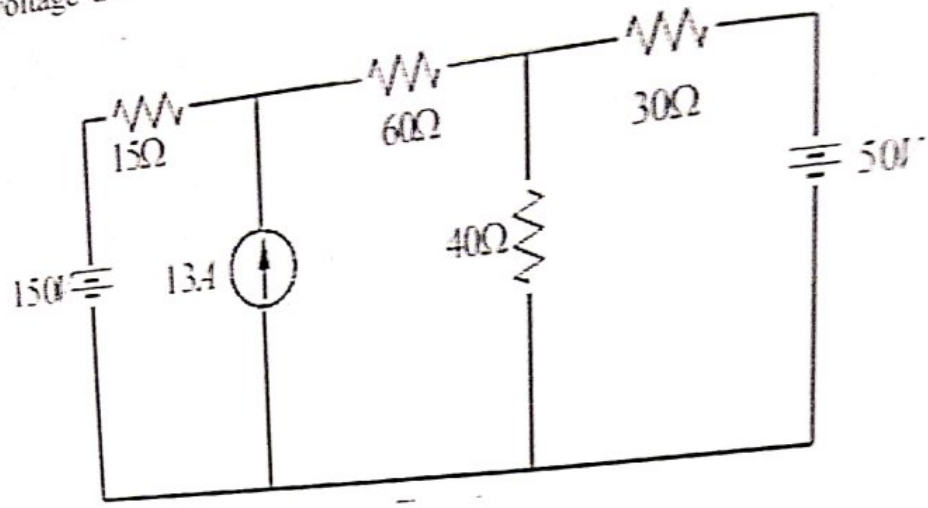

Fig. 3

4. i) Find the **equivalent resistance** in the circuit shown in **Fig.4.**
ii) How much **power is delivered** by the source? [10]

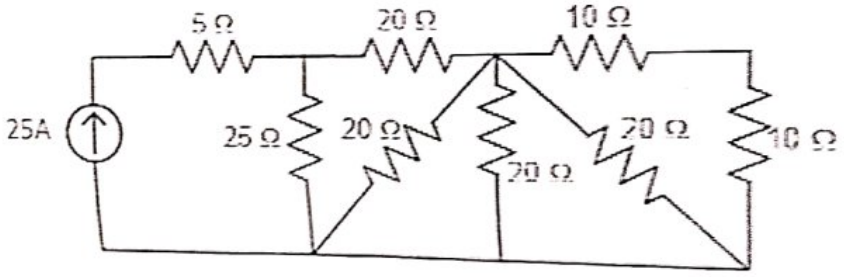

Fig.4

5. A 20 Ω resistance and a 30mH inductance are connected in series and the circuit is fed from 230V, 50Hz, AC supply. Find inductive reactance, RMS value of current, voltage across resistance, voltage across inductance and power factor of the circuit. Draw the phasor diagram. [10]