Total No. of Pages: 02 Roll No. .....

FIRST SEMESTER B.Tech. (GROUP-A)

MID SEMESTER EXAMINATION SEPTEMBER 2014

EE-105 ELECTRICAL SCIENCES

Time: 1 Hour 30 Min *Max. Marks: 20*

Note: Answer any five questions. All questions carry equal marks. Assume the missing data suitably (if any)

1. *Find the Thevenin's equivalent circuit of the network shown in Fig. 1.* [4]

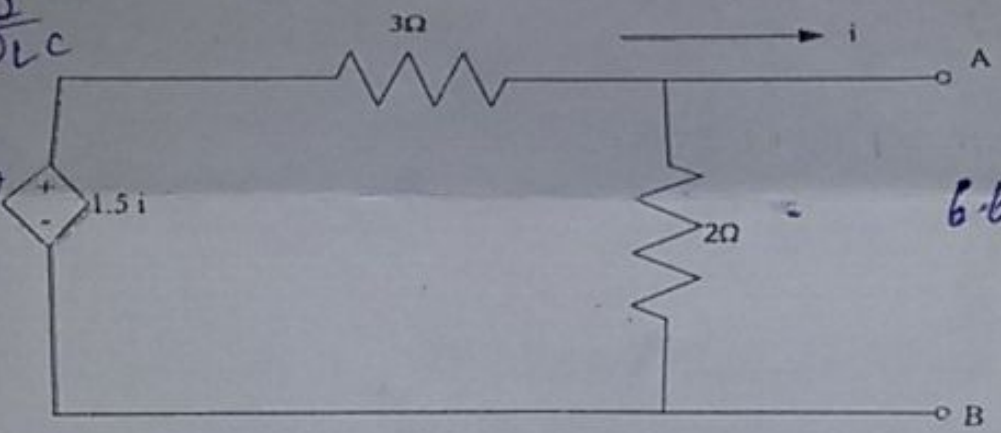

Fig. 1.

2. Find the value of capacitance (C) so that resonance occurs in the circuit shown in Fig. 2. [4]

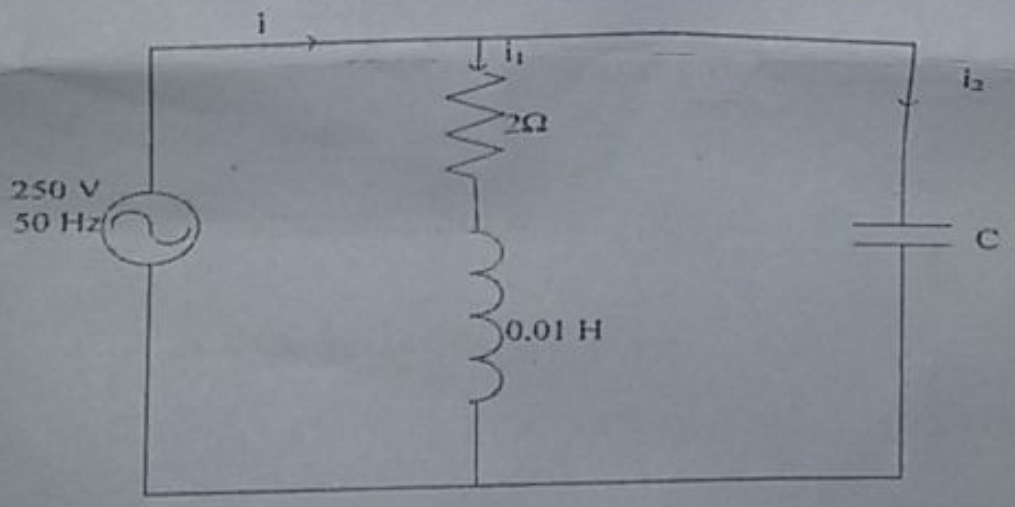

Fig. 2

3. Draw the approximate phasor diagram for the circuit shown in Fig. 3. [4]

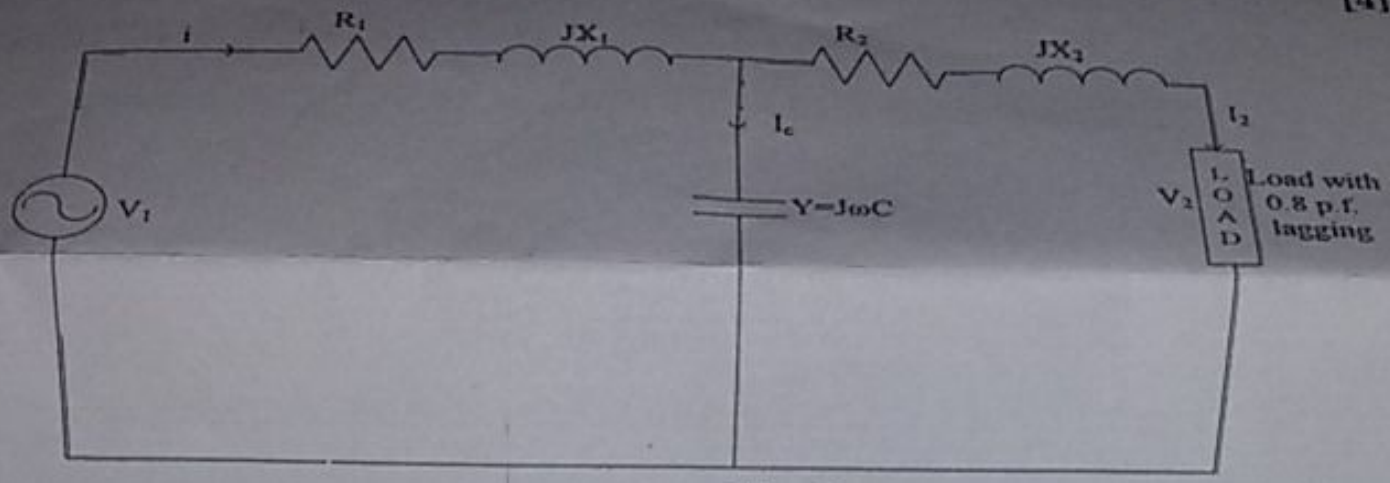

Fig. 3

4. What is the potential difference between X and Y of the network shown in Fig. 4. [4]

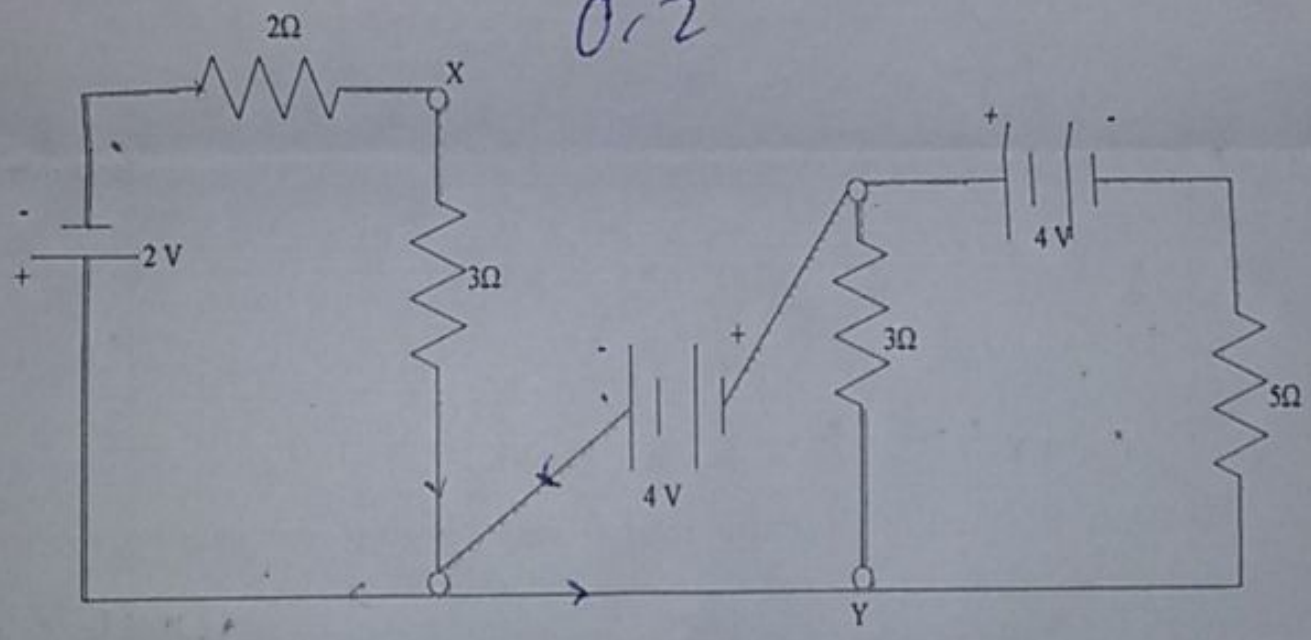

Fig. 4

5. Define the following terms:

(a) Quality factor (b) Form factor (c) Bandwidth (d) Resonance [4]

6. State and explain superposition theorem with the help of suitable example. [4]

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