

Council for Technical Education and Vocational Training
Office of the Controller of Examinations
Sanothimi, Bhaktapur

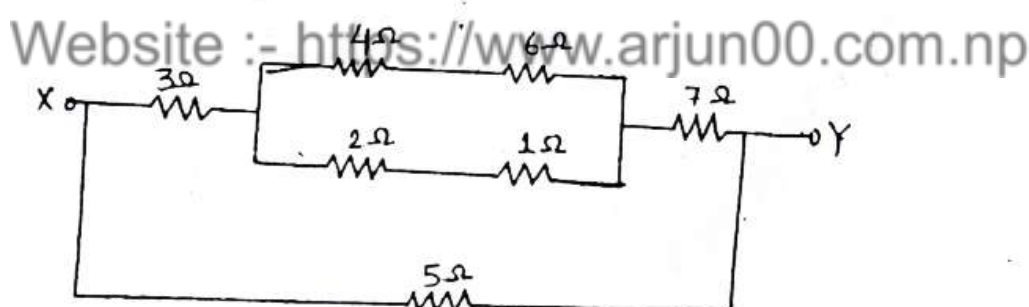
Regular/Back Exam-2076, Shrawan/Bhadra

Program: Diploma in Computer /IT Engineering Full Marks: 80
Year/Part: I/ II (2018, 2010 & IT 2008) Pass Marks: 32
Subject: Electrical Engineering Time: 3 hrs

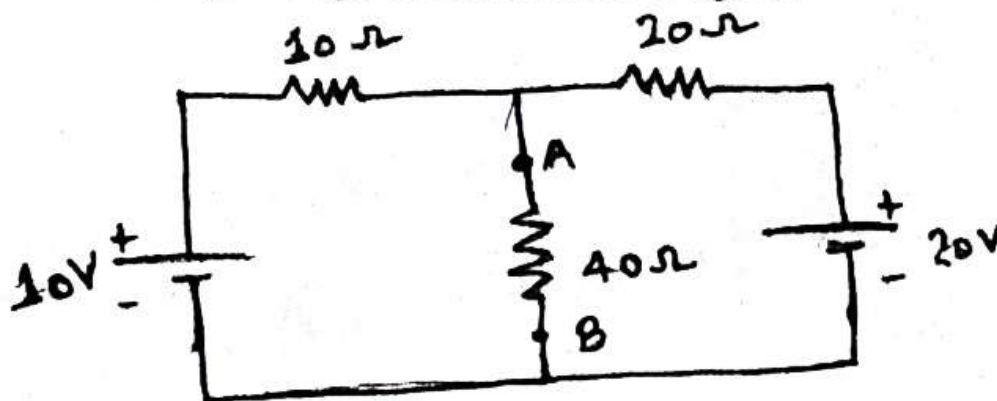
Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Attempt **Any Eight** questions.

- 1.a) Define magnetic material. Differentiate between soft and hard magnetic material. Also explain about Hysteresis loop. [1+4+3]
- b) State and explain Kirchhoff's current and voltage law with necessary clear diagram. [8]
- 2.a) Explain Lenz's law and also calculate the equivalent resistance of the network given in figure : [8]



- b) Find Thevenin's equivalent circuit across 40Ω and value of current flowing through 40Ω resistance of figure: [8]



- 3.a) Explain the phasor representation of single phase AC. [4+4]
Explain the use of J operator in AC analysis.

Contd.....

- b) Explain the Maximum power transfer theorem with your own example and necessary diagram. [8]
- 4.a) Explain the construction and working principle of single phase AC motor. [8]
- b) Explain the construction and working principle of three phase induction motor. [8]
- 5.a) Write down the advantages of 3-phase system over single phase system. [8]
- b) Differentiate between primary and secondary cells. Define the internal resistance of a cell. [6+2]
6. Write Short Notes on. (Any Four) [4x4= 16]
- a) Single phase Transformer
 - b) RMS value
 - c) Magnetic flux and flux density
 - d) Faraday's law of Induction
 - e) Mercury cell
 - f) Ohm's law

Good Luck!