Do Hansh solve

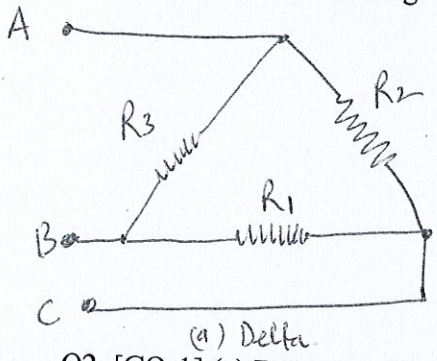
JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST-1 EXAMINATION – February 2019
B. Tech., II[nd] Semester, BT-BI

COURSE CODE: **18B11EC212** MAX. MARKS: **15**
COURSE NAME: **BASIC ELECTRICAL SCIENCE**
COURSE CREDITS: **4** MAX. TIME: **01** Hr.

Note: ***All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Missing data, if any, can be appropriately assumed.***

Q1. (a) State and explain Kirchoff's current Law (KCL) and Kirchoff's voltage Law (KVL).

(b) Derive the expressions for converting the given delta connection to an equivalent star connection shown in Fig. 1.1. (2+3) [CO-1]



(a) Delta

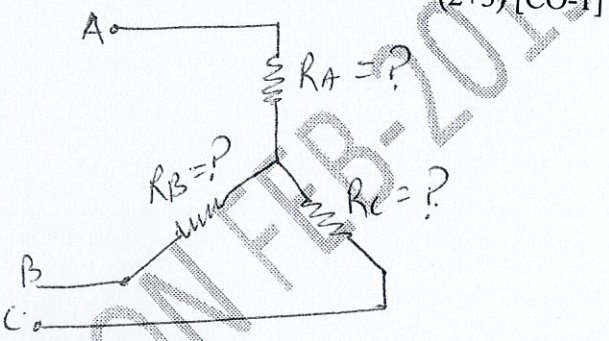


Fig 1.1

Q2. [CO-1] (a) Determine the nodal voltages in the circuit of Fig. 1.2.

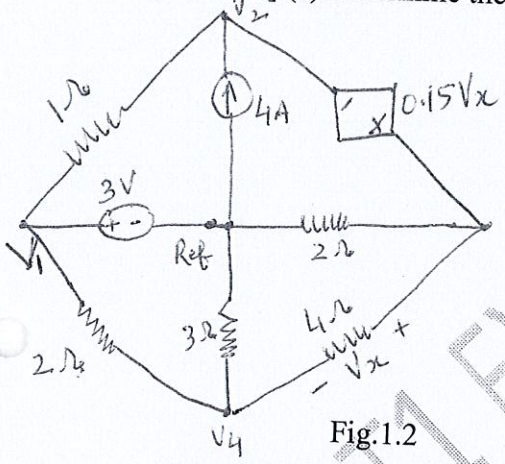


Fig.1.2

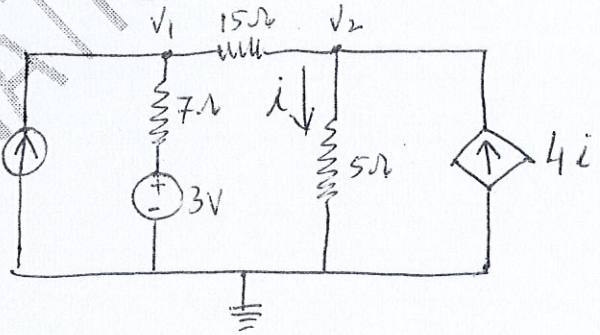


Fig. 1.3

(b) For the circuit of Fig. 1.3, use superposition principle to obtain the voltage across each current source. (3+2) [CO-1]

Q3. State Thevenin's theorem. Using Thevenin's theorem, determine the current in branch AB of the circuit shown in Fig. 1.4. Also draw its Norton's equivalent circuit using source transformation technique. (1+2.5+1.5) [CO-1]

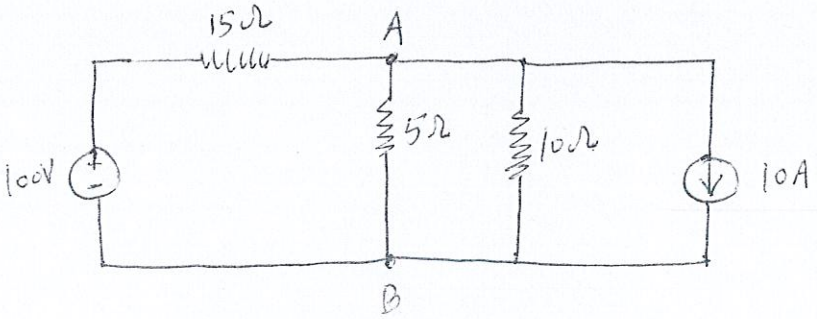


Fig. 1.4