

國立虎尾科技大學 105 學年度第二學期博士班資格考試題

系別：動力機械系機械與機電工程博士班

科目：電路學

注意事項：

- (1) 本試題共有 7 題，每題 15 分，合計一百分。
- (2) 請依序作答於答案卷上並註明題號，若未註明選答題號及超過規定題數時，謹採計作答順序較前之題目計分。
- (3) 可使用計算機 close-book exam

1. Find the i_1 與 i_2 for the network of Fig.1

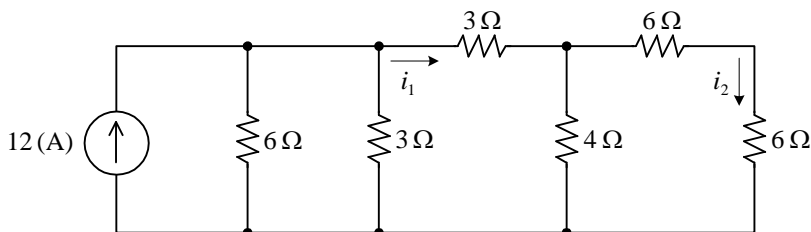


Fig.1

2. Find the R_{eq} and i_1 when $i=6A$ for the network of Fig.2

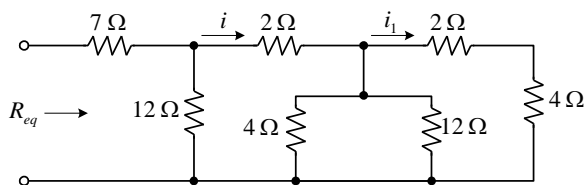


Fig.2

3. Find the v for the network of Fig.3

$$i(t) = \begin{cases} 0 & , -\infty < t < 0 \\ t & , 0 \leq t < 1 \\ -(t-2) & , 1 \leq t < 2 \\ 0 & , 2 \leq t < \infty \end{cases}$$

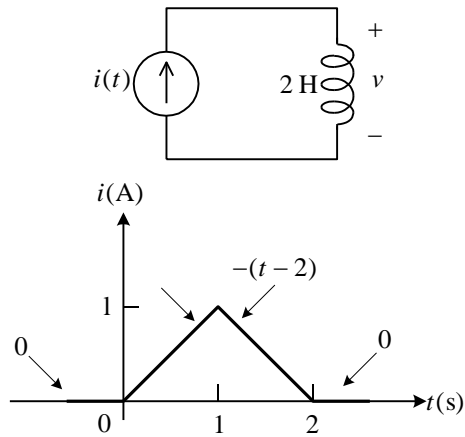


Fig.3

4. Find the I and v_{ab} for the network of Fig.4

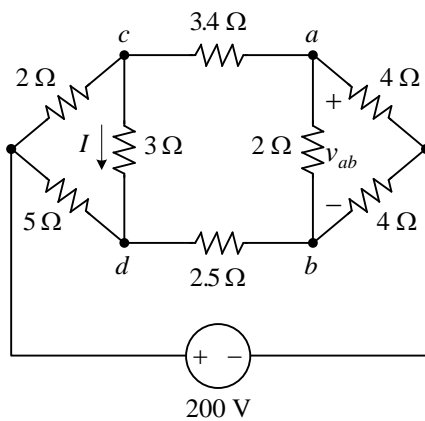


Fig.4

5. Find the R from A-C terminal for the network of Fig.5

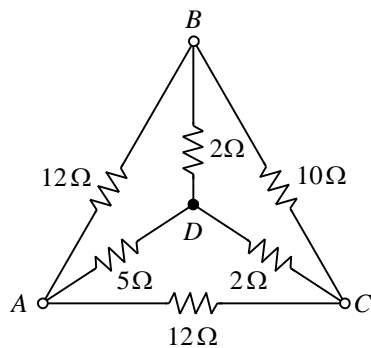


Fig.5

6. Find $v(t)$ of $t > 0$ if $v(0^-) = 15(\text{V})$ for the network of Fig.6

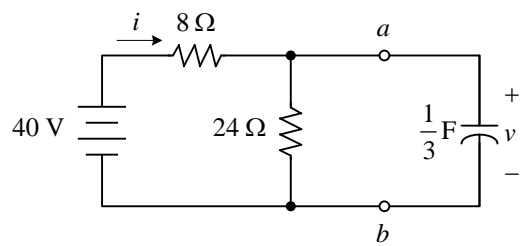


Fig.6

7. Find the v for the network of Fig.7

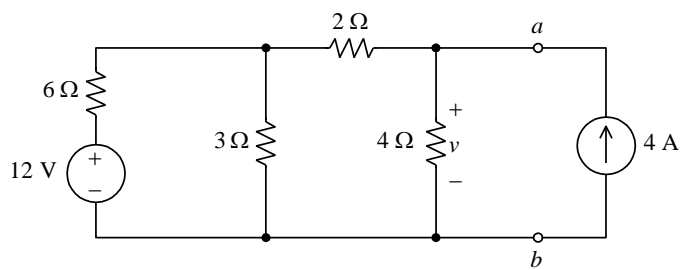


Fig.7