



# ELEMENTS OF ELECTRICAL ENGINEERING

## Course Code : UE25EE141A/B

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# ELEMENTS OF ELECTRICAL ENGINEERING

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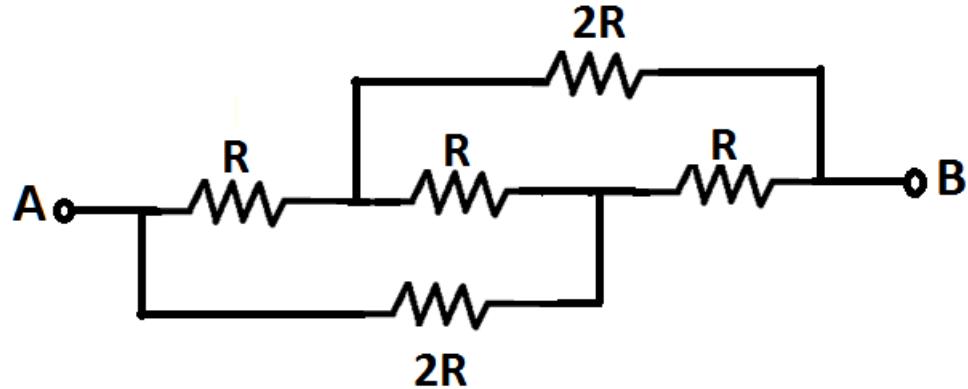
## Numerical Examples – Star-Delta Transformation

Jyothi T N

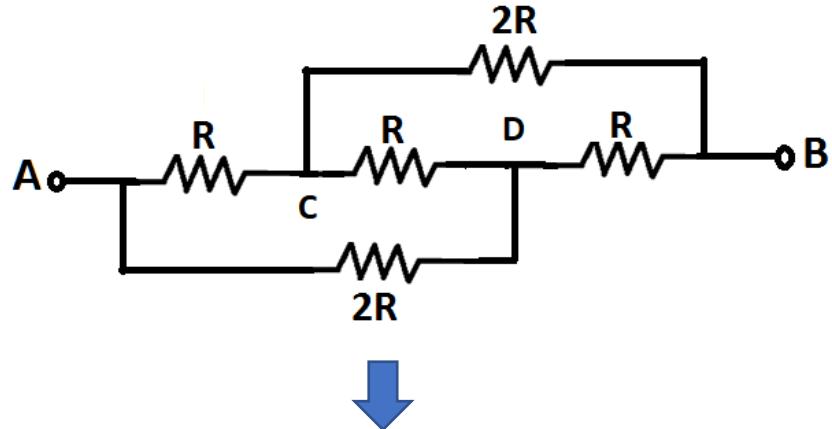
Department of Electrical & Electronics Engineering

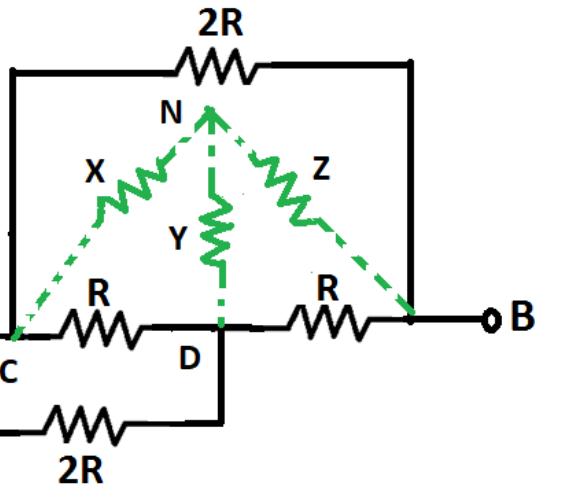
### Question:

Find the equivalent resistance between the terminals A & B in the given network.



**Solution:**



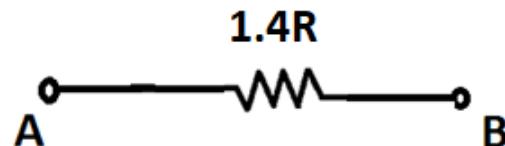
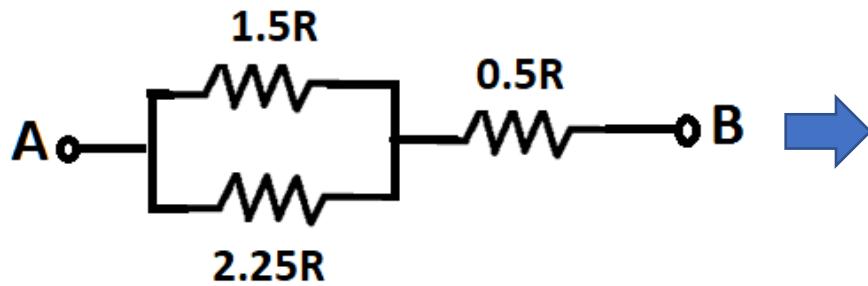
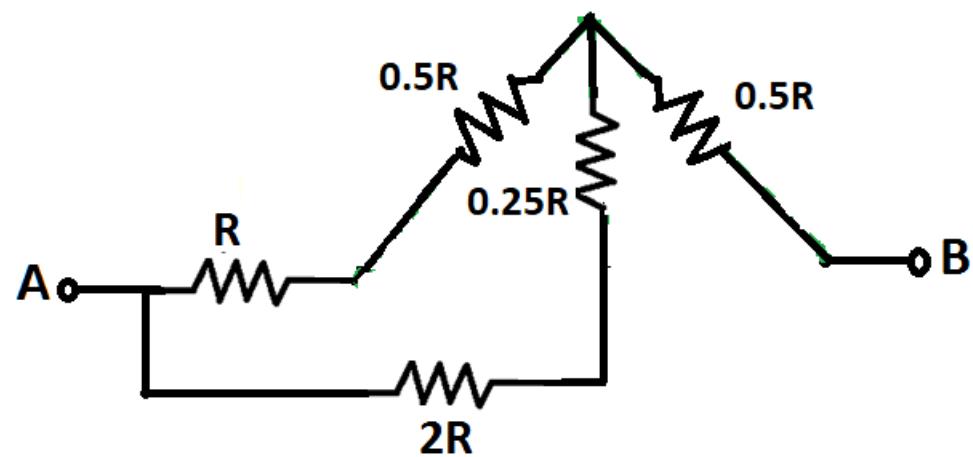


$$X = \frac{R * 2R}{(R+2R+R)} = \frac{R}{2} \Omega$$

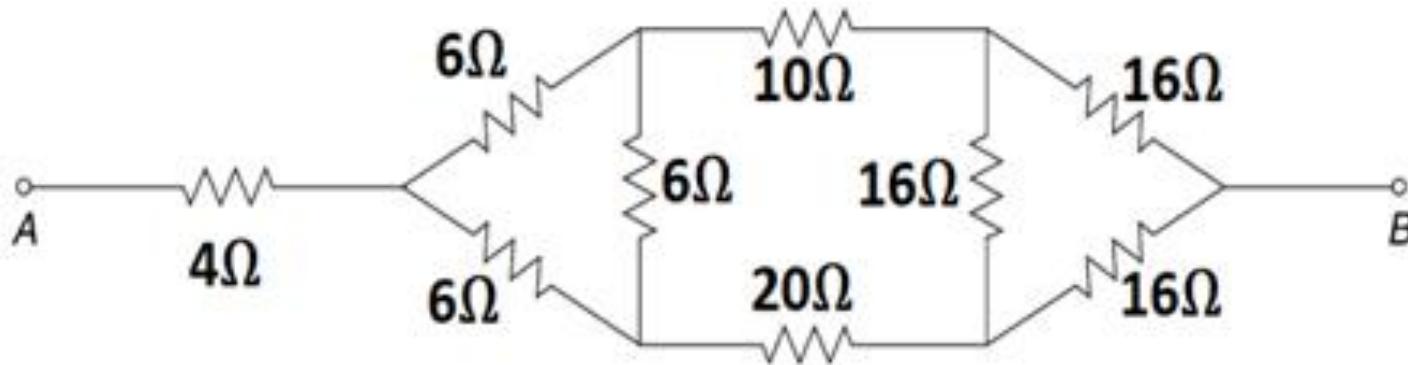
$$Y = \frac{R * R}{(R+2R+R)} = \frac{R}{4} \Omega$$

$$Z = \frac{R * 2R}{(R+2R+R)} = \frac{R}{2} \Omega$$

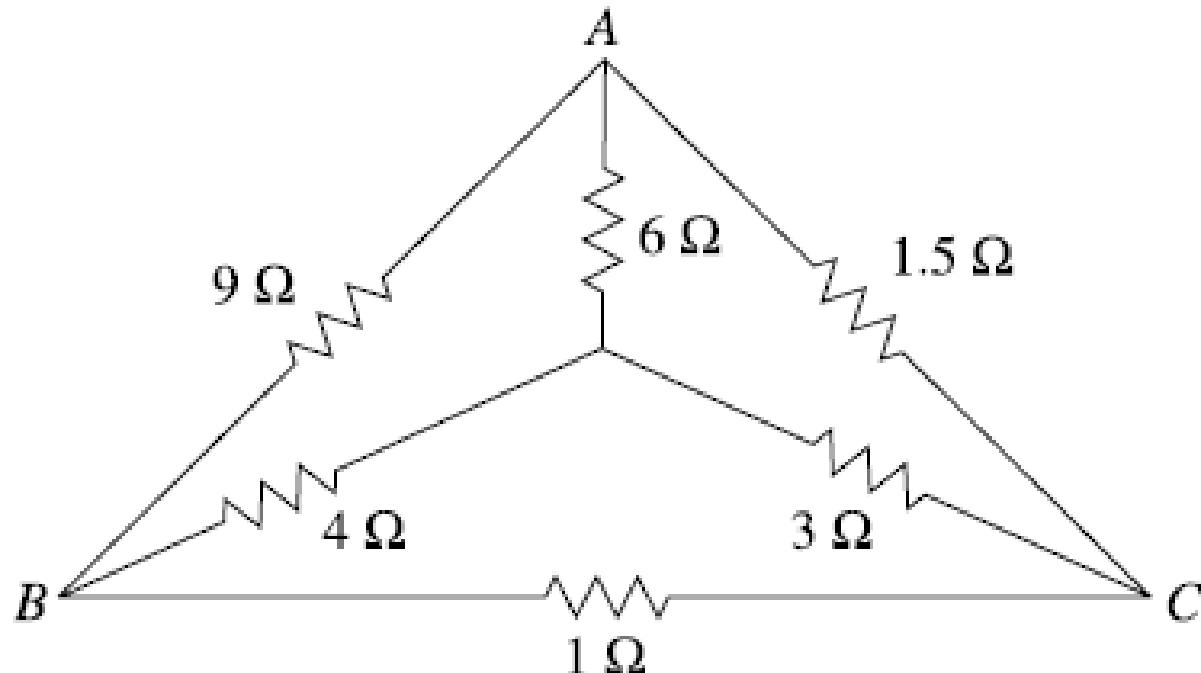
Solution (Continued..) :



Obtain the equivalent resistance between the terminals A & B in the given network



Obtain the equivalent resistance between the terminals A & B in the given network



### Text Book:

1. "Basic Electrical Engineering" S.K Bhattacharya, 1<sup>st</sup> Edition Pearson India Education Services Pvt. Ltd., 2017
2. "Basic Electrical Engineering", D. C. Kulshreshtha, 2<sup>nd</sup> Edition, McGraw-Hill. 2019
3. "Special Electrical Machines" E G Janardanan, PHI Learning Pvt. Ltd., 2014

### Reference Books:

1. "Engineering Circuit Analysis" William Hayt, Jack Kemmerly, Jamie Phillips and Steven Durbin, 10<sup>th</sup> Edition McGraw Hill, 2023
2. "Electrical and Electronic Technology" E. Hughes (Revised by J. Hiley, K. Brown & I.M Smith), 12<sup>th</sup> Edition, Pearson Education, 2016.



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**THANK YOU**

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