Assignment 1 for electronics on 1/10/2020

Instructions; Answer all questions and submit your feedback not later than 7/10/2020, 6:00pm (include in your response your name and index number. Any work which will not be submitted before the deadline time will not be considered. For any clarification reach the instructor on: 0777684675/0706769223.

Distinguish between resistance and resistivity. (2mks)

ii) 250v/10A fuse is made out of 50.0cm of constantan wire. Estimate the gauge (diameter) of the wire, take the conductivity of constantan to be approximately equal to Ω-1m-1 (4mks)

iii) A given resistor has the following color code yellow/violet/red/silver. Determine the lower and upper possible values of the resistance. (5mks)

|  |  |  |  |
| --- | --- | --- | --- |
| color | S.F | M | T(%) |
| Yellow | 4 | 4 | 4 |
| violet | 7 | 7 | 7 |
| Red | 2 | 2 | 2 |
| silver | - | -2 | 10 |

iv) A current source of amplitude I=20mA and frequency f=1 kHz feeds an inductor of inductance L=100mH. Calculate the magnitude of reactance of the inductor. (4mks)