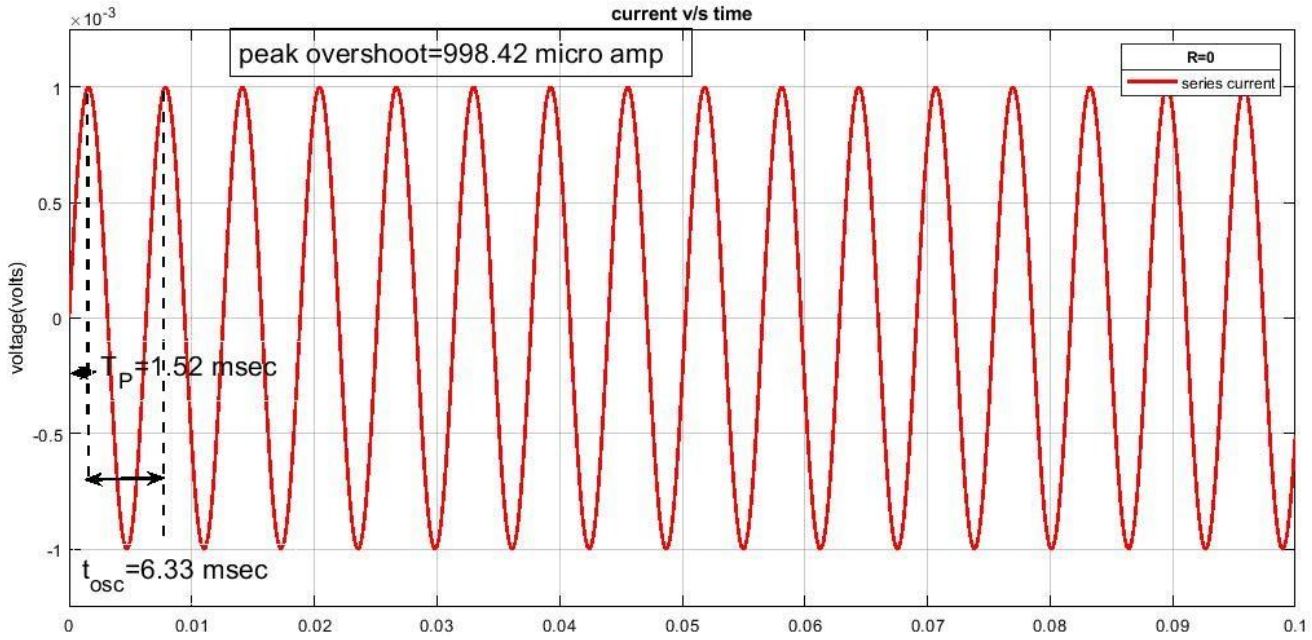
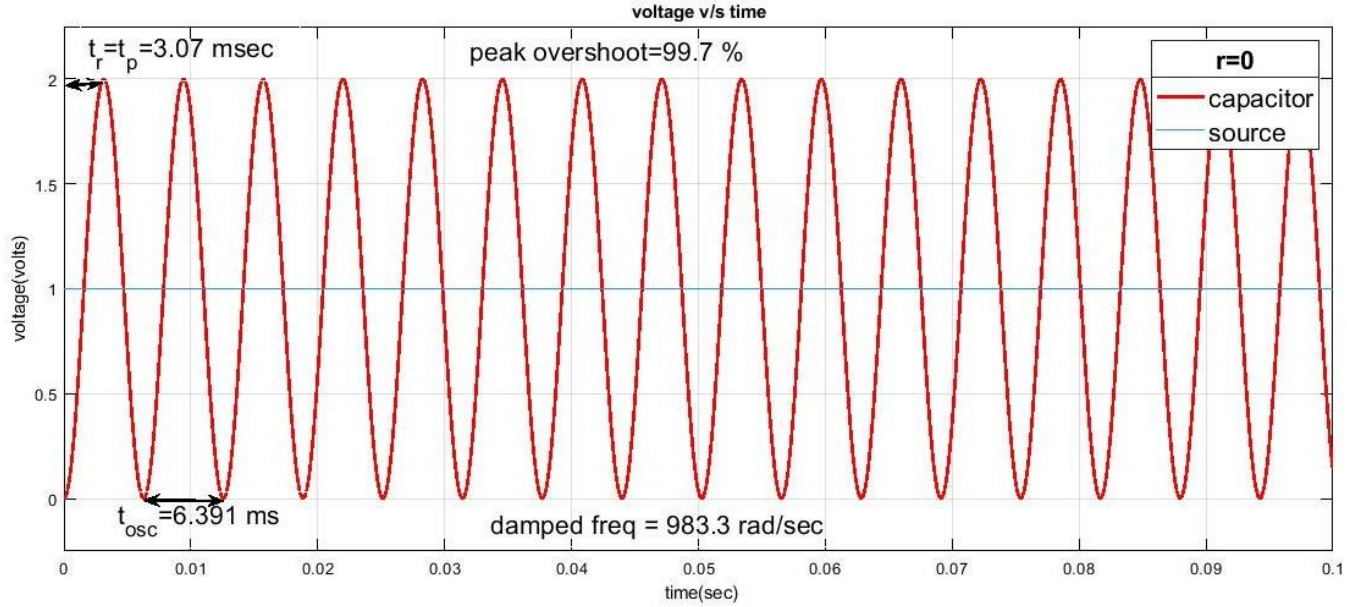
NAME: AVINASH SAROJ ENTRY NUMBER: JID202552 ASSIGNMENT NO.: 2

CASE 1:

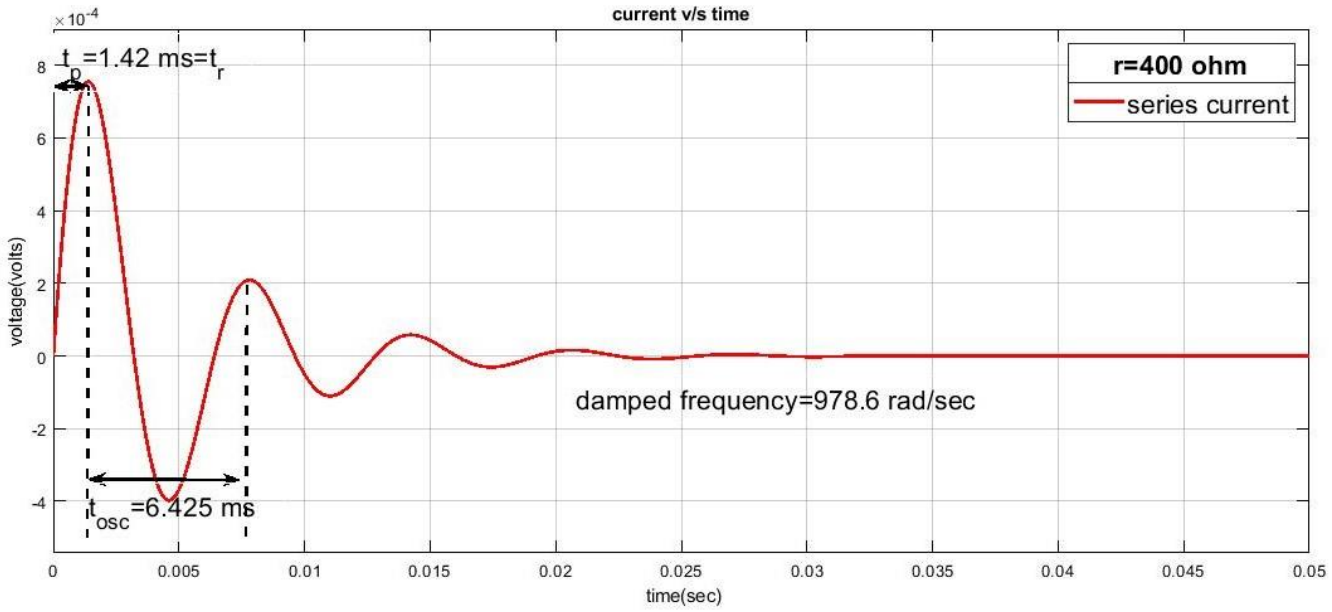
R=0 OHM , L= 1H , C= 1 MICROFARAD , $W_n$ =1000 rad/sec , $\zeta$=0

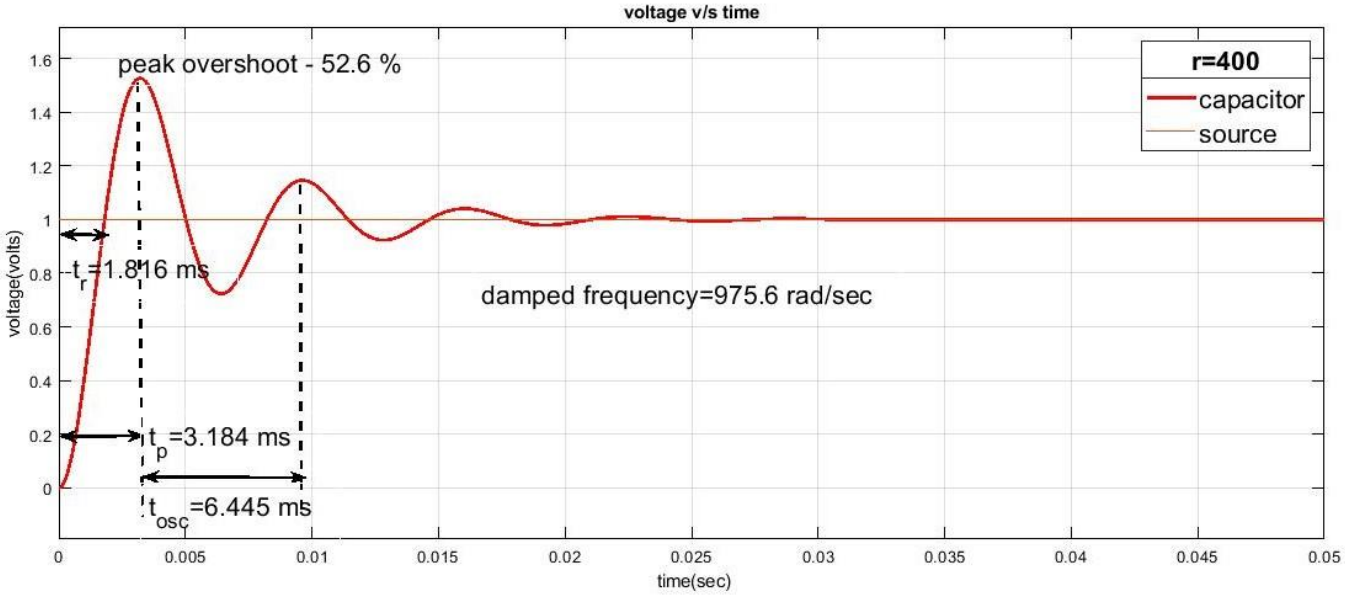


CASE 2:

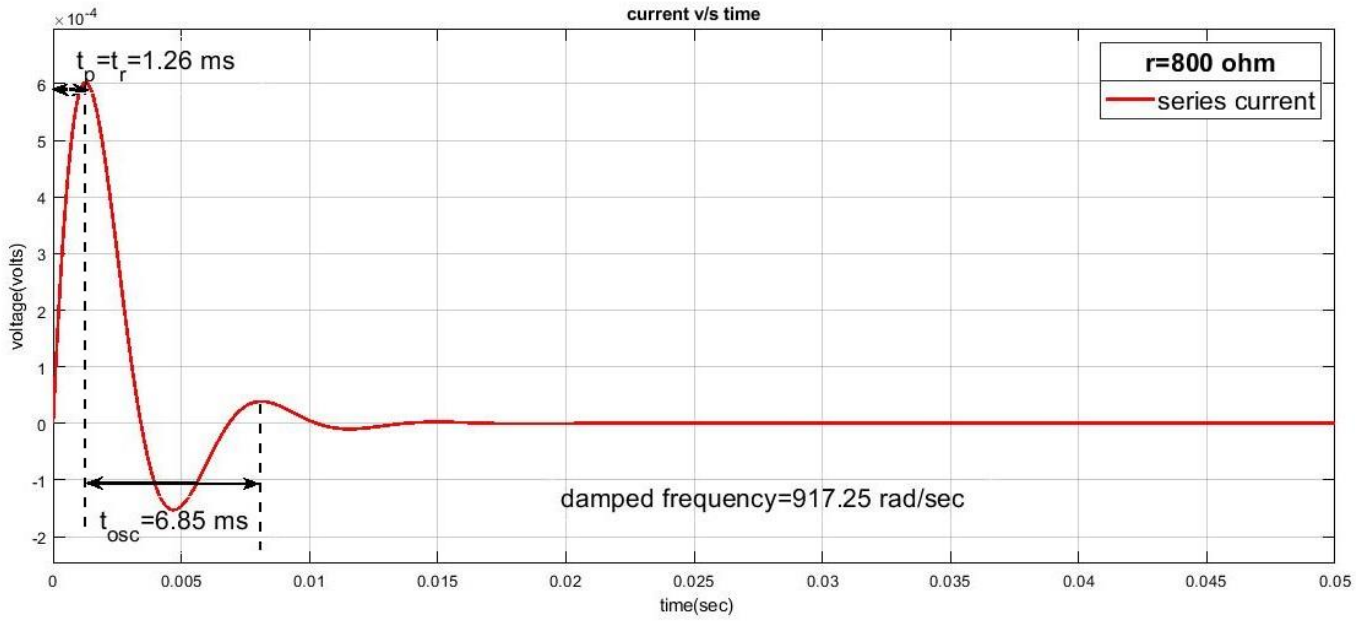
R=400 OHM , L= 1H , C= 1 MICROFARAD , $W_n$ =1000 rad/sec , $\zeta$=0.2

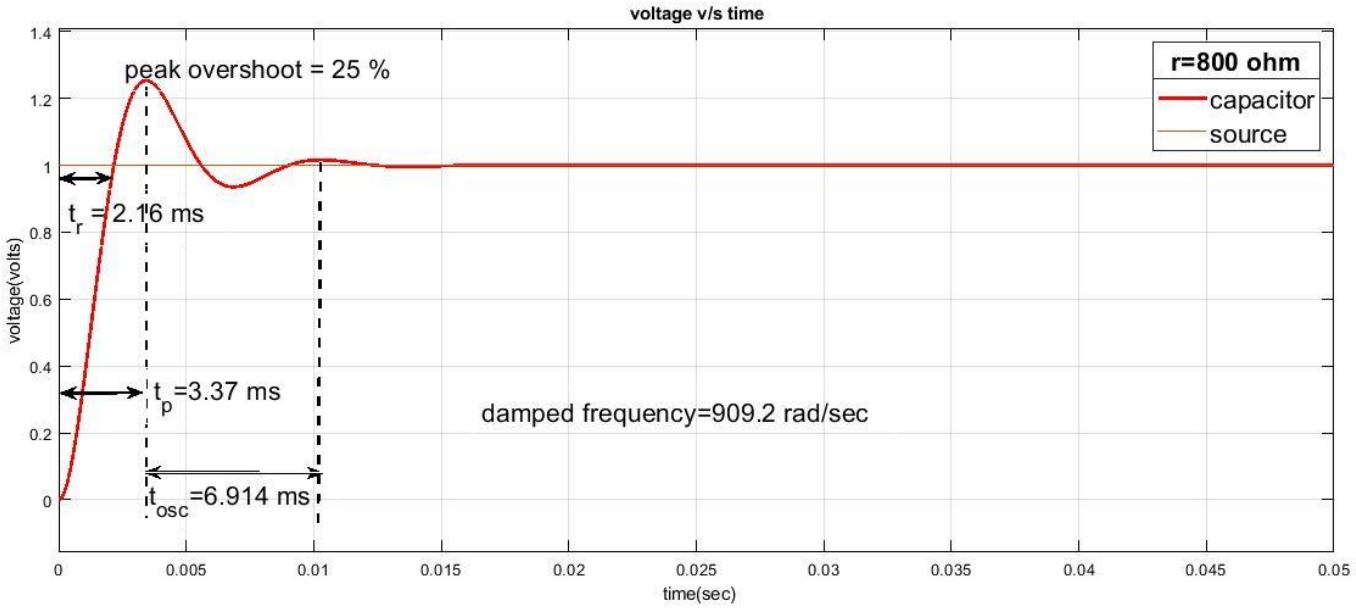


CASE 3:

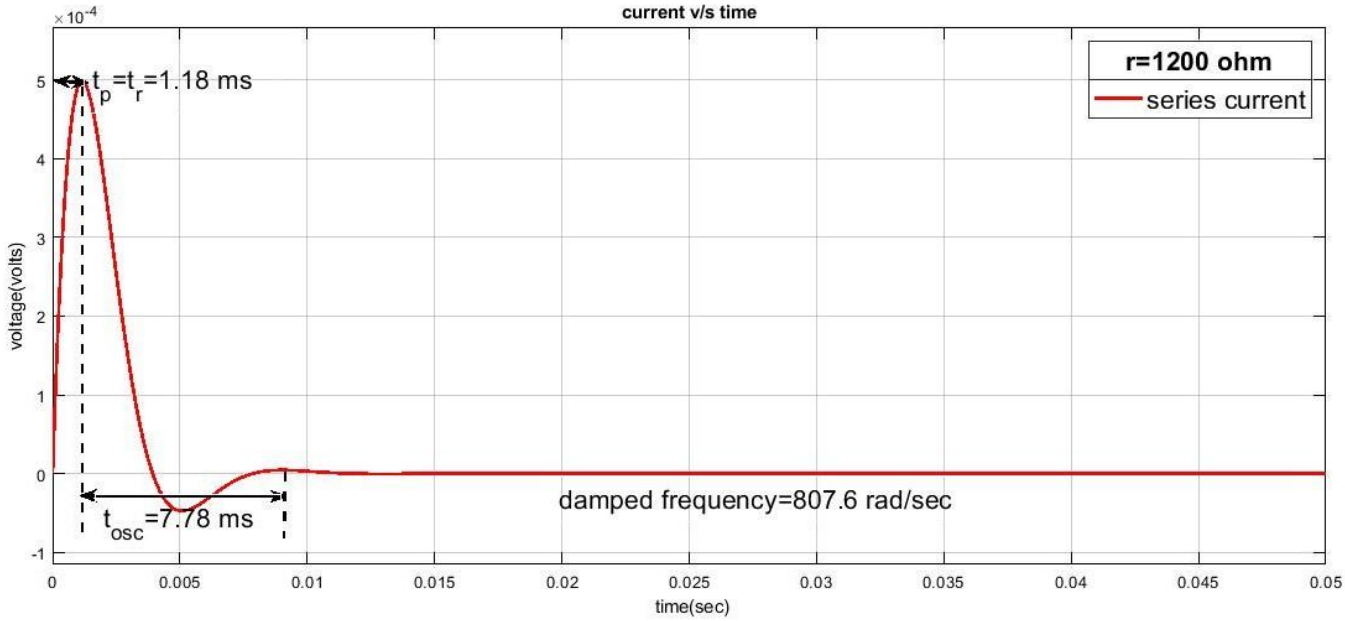
R=800 OHM , L= 1H , C= 1 MICROFARAD , $W_n$ =1000 rad/sec , ζ=0.4

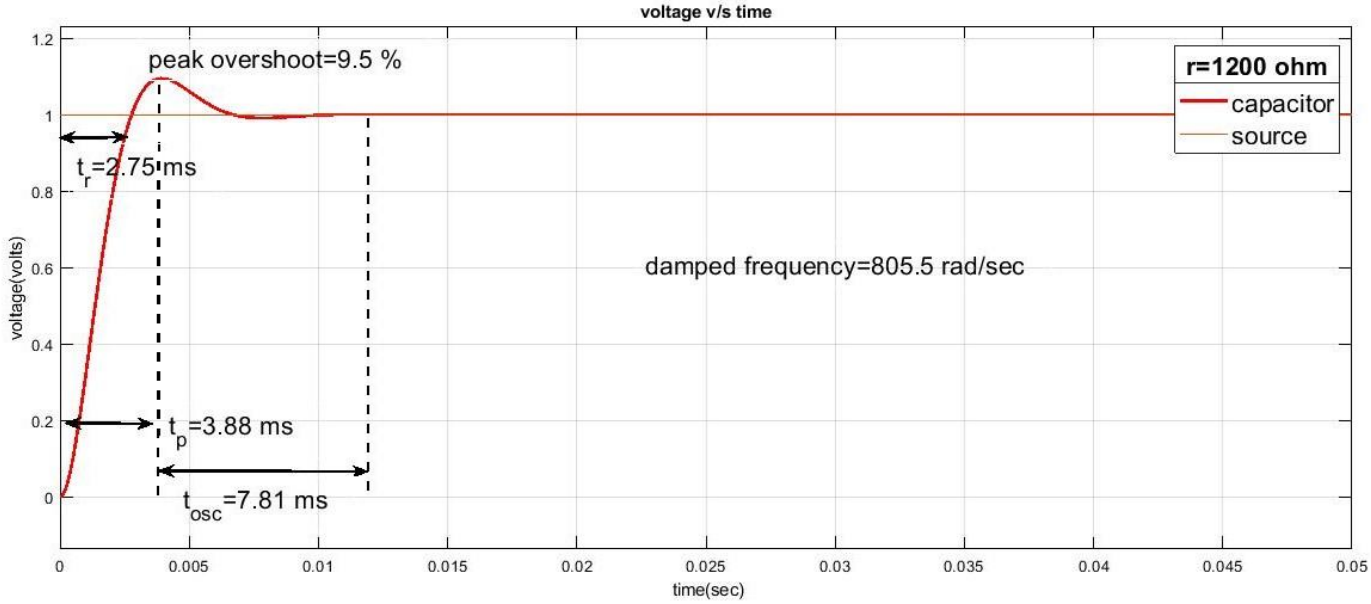


CASE 4:

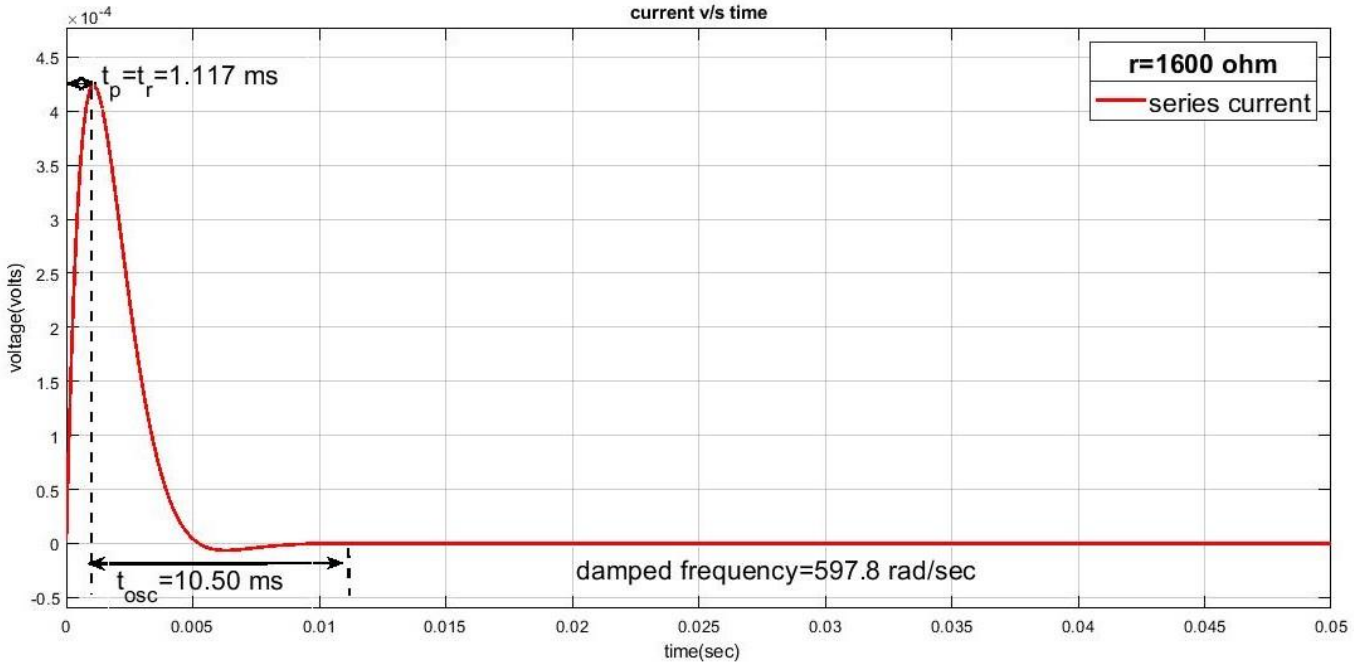
R=1200 OHM , L= 1H , C= 1 MICROFARAD , $W_n$ =1000 rad/sec , $\zeta$=0.6

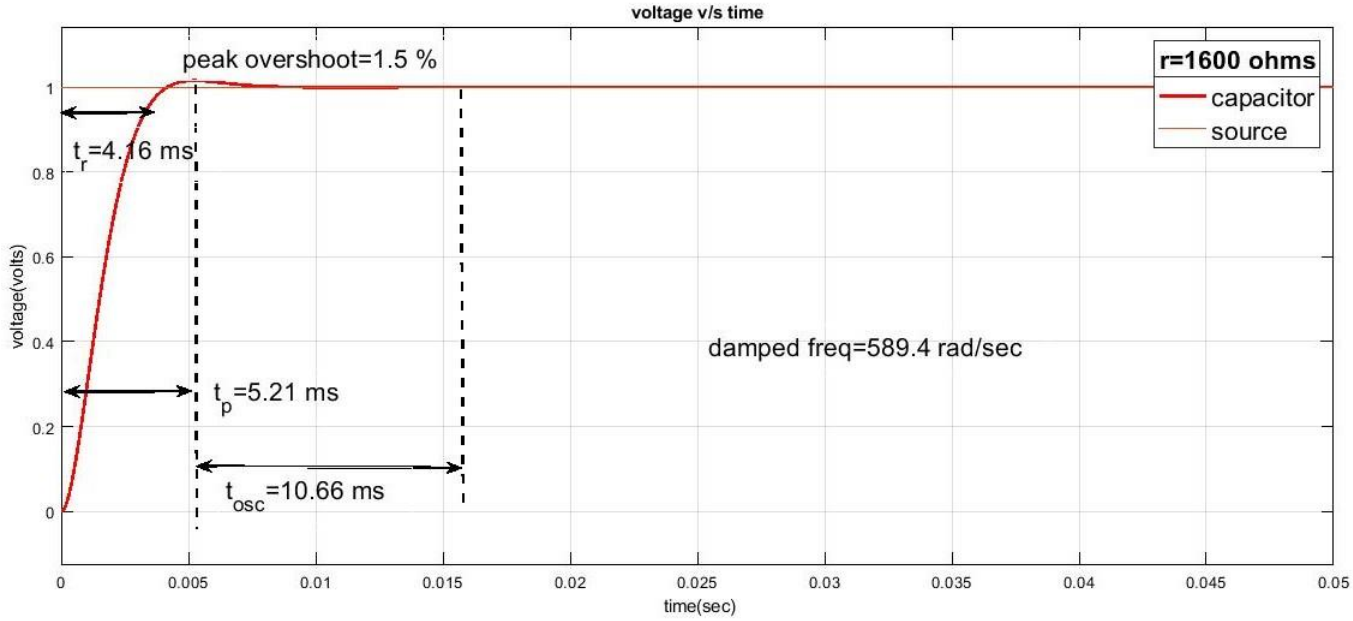


CASE 5:

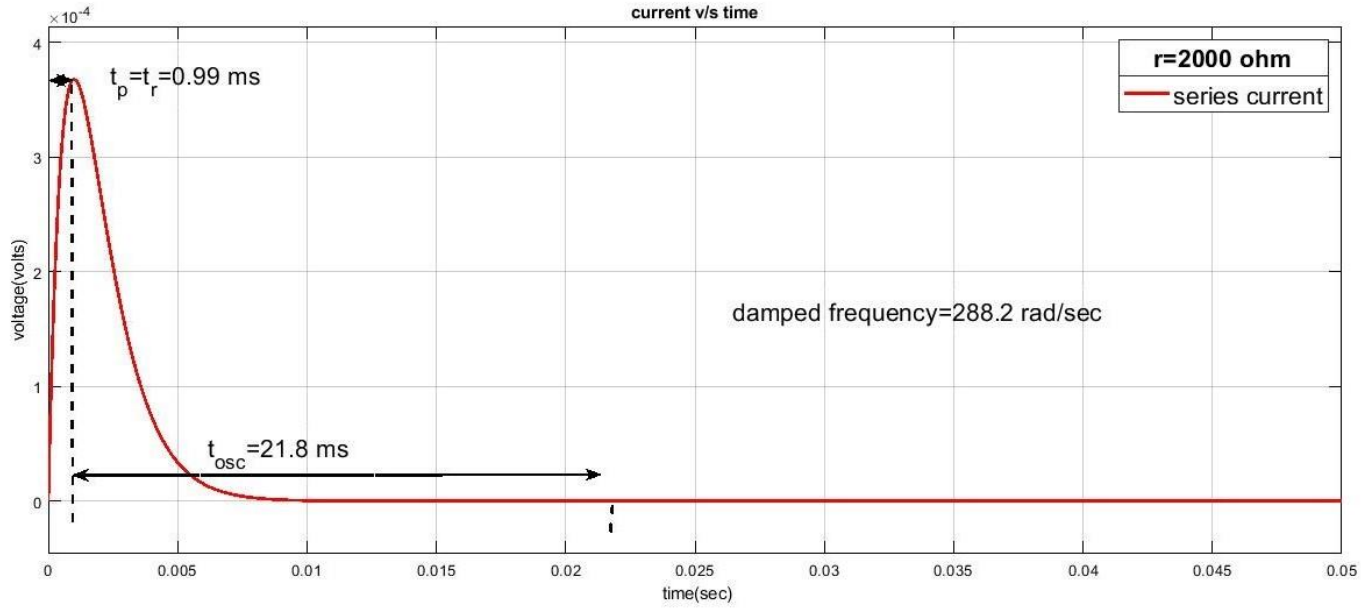
R=1600 OHM , L= 1H , C= 1 MICROFARAD , $W_n$ =1000 rad/sec , $\zeta$=0.8

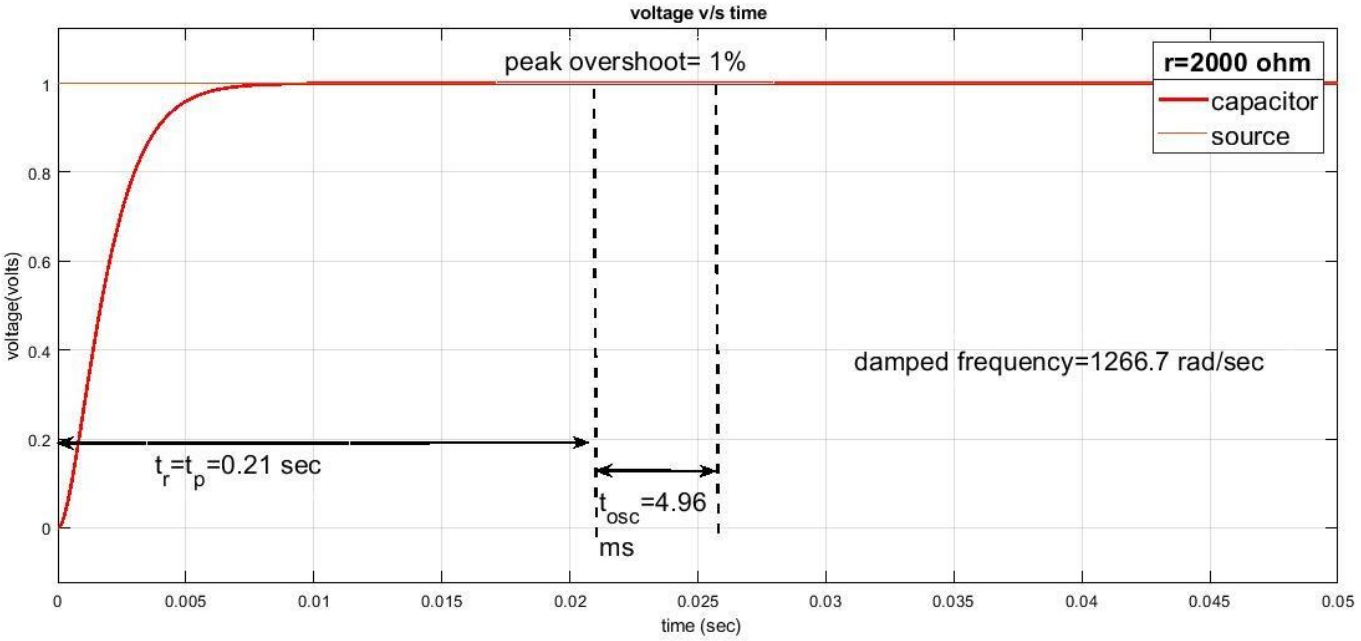


CASE 6:

R=2000 OHM , L= 1H , C= 1 MICROFARAD , $W_n$ =1000 rad/sec , $\zeta$=1



| s. no. | wn | ζ | rise time(ms) I,V | peak overshoot(%) V | peak time (ms) I,V | oscillation time(ms) I,V | damped freq(rad/sec) I,V |
|---|---|---|---|---|---|---|---|
| 1 | 1000 | 0 | 1.52, 3.07 | 99.7 | 1.52, 3.07 | 6.33, 6.39 | 983.3 , 987.2 |
| 2 | 1000 | 0.2 | 1.42, 1.18 | 52.6 | 1.42, 3.18 | 6.24, 6.44 | 978.6 , 975.6 |
| 3 | 1000 | 0.4 | 1.26, 2.16 | 25 | 1.26, 3.37 | 6.85, 6.91 | 917.2, 909.2 |
| 4 | 1000 | 0.6 | 1.18, 2.75 | 9.5 | 1.18, 3.88 | 7.78, 7.81 | 807.6, 805.5 |
| 5 | 1000 | 0.8 | 1.11, 4.1 | 1.5 | 1.11, 5.2 | 10.5, 10.6 | 597.8, 589.4 |
| 6 | 1000 | 1 | 0.99, 0.21 | 1 | 0.99, 0.21 | 21.8 , 4.96 | 288.2, 1266.7 |
| 7 | | | | | | | |