# Unit 13 - Week 12

Course outline

How does an NPTEL online course work?

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

- Double tuned and damped filters
- Reactive power requirement
- Comparison of AC and DC transmission
- Quiz : Assignment 12
- Week 12 Feedback

Assignment Solution

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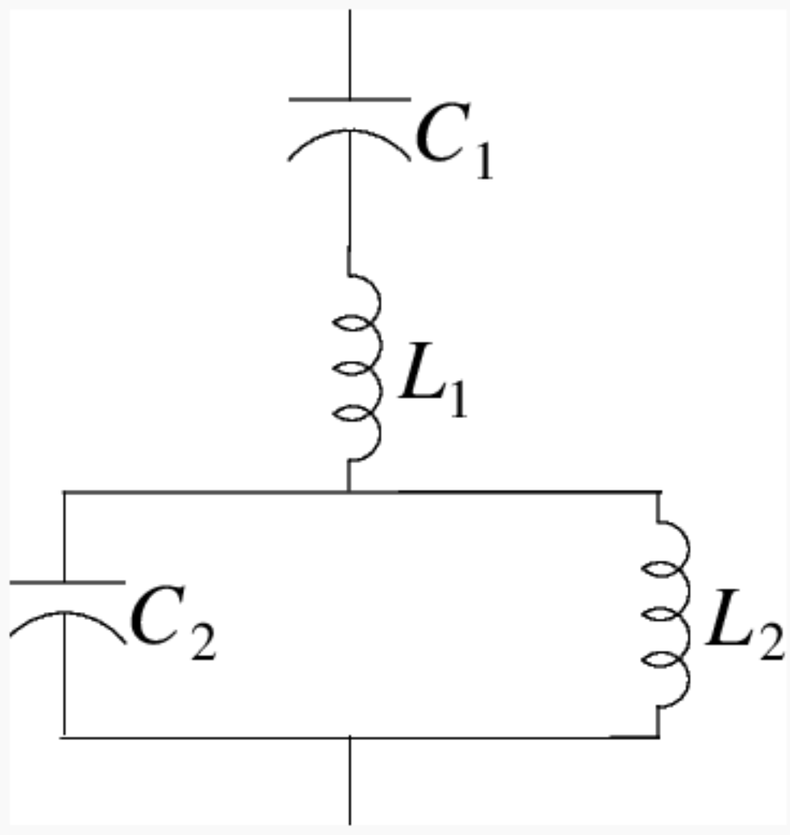
## Assignment 12

**The due date for submitting this assignment has passed.**
**As per our records you have not submitted this assignment.**

**Due on 2020-04-22, 23:59 IST.**

Questions 1 and 2 are on the double tuned filter shown in the figure below. $C_1 = 0.77\ \mu$F, $L_1 = 94.43$ mH, $C_2 = 31.69\ \mu$F, and $L_2 = 2.29$ mH. There are two values of the angular frequency at which the impedance of the filter is zero.




1) What is the lower value of the angular frequency in radian/s at which the impedance of the filter is zero? (Give the answer after rounding off to 4 significant figures.)

No, the answer is incorrect.
Score: 0

Accepted Answers:
*(Type: Range) 3429,3437*

***1.5 points***

2) What is the higher value of the angular frequency in radian/s at which the impedance of the filter is zero? (Give the answer after rounding off to 4 significant figures.)

No, the answer is incorrect.
Score: 0

Accepted Answers:
*(Type: Range) 4007,4015*

***1.5 points***

3) In a damped filter, using the notations mentioned in the course, the limit of the filter impedance, as frequency tends to infinity, is _____. ***1 point***

- $R$
- greater than $R$
- less than $R$
- dependent on the value of $L$ and not dependent on the value of $C$
- dependent on the value of $C$ and not dependent on the value of $L$
- dependent on the values of both $L$ and $C$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$R$

4) For a given value of the (active) power to be transferred, which of the following sentences is correct? ***1 point***

- Cost of terminal equipment for overhead DC transmission is less than that for overhead AC transmission.
- Cost of terminal equipment for overhead DC transmission is greater than that for overhead AC transmission.
- Cost of terminal equipment for overhead DC transmission is equal to that for overhead AC transmission.

No, the answer is incorrect.
Score: 0

Accepted Answers:
*Cost of terminal equipment for overhead DC transmission is greater than that for overhead AC transmission.*