

Project-2 (BEE-5A)

Due Date: 27 Thursday, 2014 (Class Presentation)

- Reference Books:**
1. Signals & Systems by Oppenheim (2nd Ed)
 2. Eng. Circuit Analysis by Hayt, Kemmerly (7th Ed)

Note:

Normally assignments are intended to give you practice questions from the topics covered in the class. This time we are going to emphasize more on applications. However the main purpose of an assignment can still be achieved by giving you practice questions. Therefore I am including these questions so that you can practice to get a grip on the topics. In case you can't find their solutions you know what you are supposed to do then.

Practice Questions: (E Kreyszig 9th Ed)

- | | | | |
|------------------|---------------------|------------------|-----------------|
| Ex. 11.1: | Q.3,4,9,15,19,24 | Ex. 11.2: | Q.2,5,9,17,18 |
| Ex. 11.3: | Q. 2-6, 11,14,21,24 | Ex. 11.4: | Q. 7, 9, 11, 13 |
| Ex. 11.8: | Q. 5,8,9,10,11, 17 | Ex. 11.9: | Q. 2,3,6,8,9 |

Rules:

- Each presentation will be around 20 Mins.
- Three students will represent a group
- Top students will be held responsible if others have no idea about the project. They must inform in advance if some or few in the group are not cooperating.
- E-copies of all presentations shall be submitted. They will be available on my webpage.
- I will give a refreshment treat to the group who performs extraordinary :-)
- You may seek guidance from post-graduate students here. Information related to research groups is available on SEecs webpage. (For example for communication systems <http://ipt.seecs.nust.edu.pk/> ; <http://nnrg.seecs.nust.edu.pk/>)

Group-A

Members:

Hamza Saeed Khan; Muhammad Hammad; Saad Mahmood; Asim Javed; Sumbul Bashir; Mona Ali Zaib; Uzair Akbar; Maria Aftab; Hafiz Muhammad Abdullah Bin Ashfaq; Behlol Nawaz;

Task: Apps-1: Communication Systems (General & Continuous)

The objective is to comprehend the role of Fourier series and transforms in working with signals and systems in practical applications. Why is it necessary to divide a signal into oscillatory modes for communication to take place? What are the links of information with signal.

Group-B

Members:

Haris Suhail; Imaan Tariq; Hassan Iqbal; Ehsanullah Zafar; Muhammad Mohsin Zafar; Rida Zainab; Syed Muhammad Ali Qasim Naqvi; Abdul Rahman Bin Saad; Manal Fatima; Syed Qambar Ahmed Rizvi; Arslan Hameed; Amna Aziz

Task: Apps-2: Communication Systems (Continuous)

The objective is to understand communication channel in detail both receiver and transmitter. How does the communication/transmission occur? Role of transmitter or modulator in changing information to a form suitable for transmission over communication channels. Frequency assessment for communication channel. Analysis and design of communication channel.

Group-C

Members:

Osama Waqar Bhatti ; Shahzaib Qazi; Muhammad Faizan Arshad Ch; Sohaib Nasir Maryam Hasan; Muhammad Abdullah Anjum; Atif Salman Sheikh; Summaiya Irfan; Muhammad Sarmad Saeed; Muhammad Saad Qureshi; Muddassir Ahmed Khan; Syed Minhal Sherazi

Task: Apps-3: Communication Systems (Discrete)

Why is it important to work out signals and systems in discrete variables? How does the periodicity retain its structure at a discrete level? How does communication takes place?

Group-D

Members:

Muhammad Saad; Hareem Shafi; Mahnoor Ajaz; Wu Ranlu; Akber Raza; Syed Muhammad Zain Zafar; Sameed Qureshi; Moez Akmal; Muhammad Oneeb Ul Haq Khan; Ali Waqar Durrani; Saad Iftikhar; Tauseef Khan

Task: Apps-4: Circuit Analysis

The objective is to comprehend the sinusoidal steady-state analysis in circuits (RL or RLC). How does steady-state response of a circuit happen to a sinusoidal voltage? Applications of these concepts in TV sets, toaster or a power distribution network. Applications of Thevenin's theorem. The idea is to perform Fourier circuit analysis and study its physical significance. How does the response calculated in frequency domain.
