

Assalamualaikum, I am Md Samsur Rahman Shanto, and I am a student of Electrical and Electronic Engineering in Rajshahi University of Engineering & Technology. I passed secondary from Police Lines School, then higher secondary from Azizul Haque College. My hometown is Sirajganj and I grew up in Bogra. My favorite hobby is playing video game.

**Course Code:**

EEE 4100 Industrial Training  
EEE 4107 Digital Signal Processing  
EEE 4108 Digital Signal Processing Sessional  
EEE 4117 Radio and TV Engineering  
EEE 4118 Radio and TV Engineering Sessional  
EEE 4141 Power System II  
EEE 4142 Power System II Sessional  
EEE 4183 Digital Communication  
EEE 4184 Digital Communication Sessional  
IPE 4111 Project and Operations Management

**Exp name:**

**DSP:**

1. Python Code for Sampling & Quantizing of a Signal and Determination of Error Due to Sampling Frequency and Number of Bits
2. Python Code for Cross-correlation and Auto-correlation
3. Study of Addition of Two Signals, Imposing Noise with Third Signal and Denoising the Fourth Signal by FFT, Butterworth filter Using Python Code
4. Study of Addition of Two Signals, Imposing Noise with Third Signal and Denoising the Fourth Signal by FFT, Chebyshev filter Using Python Code
5. Study of Convolution using Python Code
6. Design a digital filter (high pass, low pass, band pass, band reject) and filtrate signal from mixture of high, medium and low frequency signals using MATLAB Code

**Radio & TV:**

1. Study of AM receiver and observation of signals at different stage of AM receiver kit
2. FM receiver and observation of signals at different stages of FM receiver kit
3. Study of color TV trainer and observation of different signals
4. Fault simulation of color TV trainer
5. Fault simulation in integrated AM/FM fault simulation
6. Observation of waveshapes in FM transmitter

**Power system:**

01. Design of a simple 3-phase RLC model
  - 3-phase RLC model with 3-phase RLC branch
  - 3-phase RLC model with 3-phase RLC load
  - Including transformer
- 0.2 Creating 3-phase system with electrical machine
  - Modelling a synchronous generator
  - Connection to the grid

- Adding an induction motor as load

### 0.3 Study of transient stability of synchronous machine

- Swing equation
- Equal area criterion
- Fault conditions and stability

### **Communication:**

1. Write the program of pdf, cdf, mgf of Rayleigh Fading SISO channel by using mathematica.
2. Write the programs of the outage probability of Rayleigh fading SISO channel by Using Mathematica.
3. Write a program of the channel capacity for MIMO channel by Using MATLAB.
4. Investigate the effect of transmitting antennas and receiving antennas on the channel capacity of MIMO channel.
5. Write a program of the channel capacity for MIMO interference channel by Using MATLAB.
6. Investigate the effect of transmitting antennas, receiving antennas, interfering antennas on the channel capacity of MIMO interference channel.