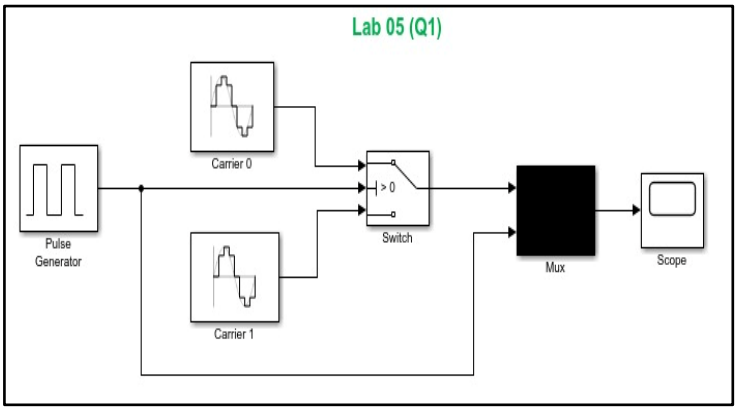
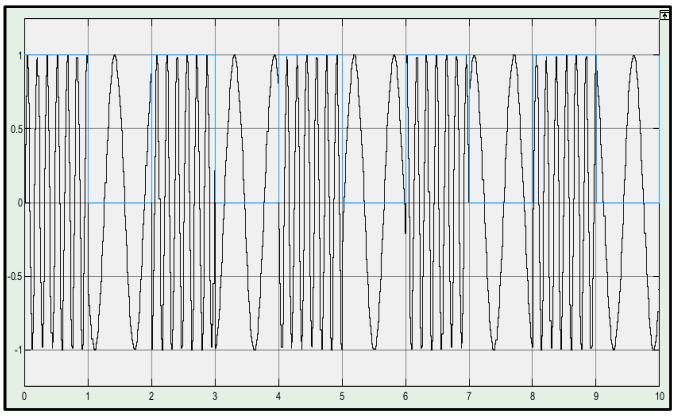
Seat No.: **CS-24037** *Full Name:* **Abdur Rahman** *Group:* **G1**

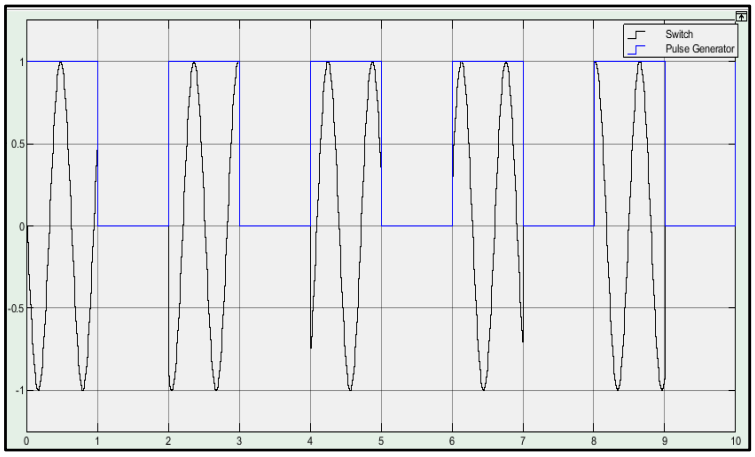
Lab Session No. 05

1. Create the Simulink model for FSK modulation as already demonstrated in the lab, paste the model designed and its scope output.



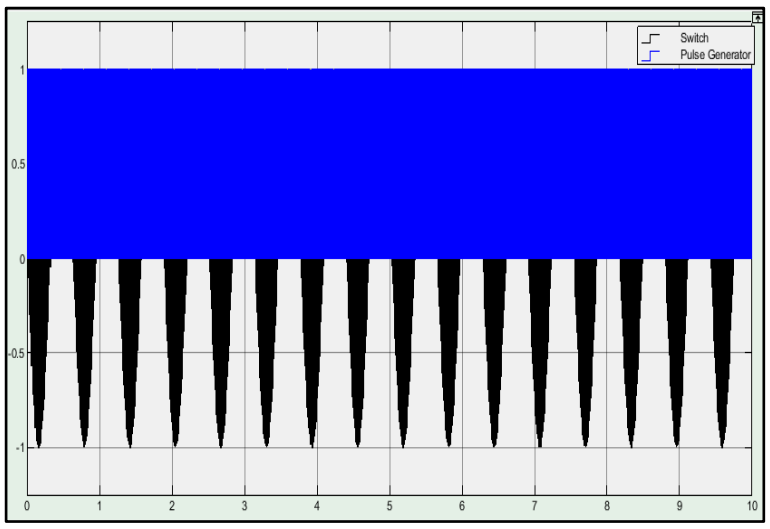


2. Change the carrier frequencies of Carrier0 to 500 Hz and Carrier1 to 1500 Hz. Write down your observations in the frequency shift comparing to the initial model configurations and paste only the scope output.



OBSERVATIONS:

3. Change the bit rate by modifying the Pulse Generator period to 0.001 (1 kHz). Write down your observations and paste the scope output.



OBSERVATIONS:

4. Add Noise in the FSK signal and observe how noise affects clarity of the waveform. Paste the updated model and the waveform output.

(Insert a Random Number block from sources in the library browser and add it to the FSK signal. This block generates white noise with a Gaussian distribution. Set its parameters as: Mean = 0, variance = 0.1 (you can adjust this to control noise intensity), Sample time = 1e-5. For its addition drag and drop Add block from inside the Math operations category. With the Adder block, connect its inputs with the output of Switch block and the output from Random number block. Then connect its output to the Multiplexer. This way, the Scope will show binary input in its top trace and noise added FSK signal in the bottom trace).