

Assignment No-1 [10 Marks]

TASK:

This assignment is to be done in MATLAB. The code should follow the following steps:

1. Define a CT signal y_1 by using the code below. In this code, X should be the last digit of your registration number. If the last digit of your registration number is 0, then use digit 9 instead.

```
tc = gauspuls('cutoff',50e3,0.6,[],-X0);  
t1 = -tc : 1e-6 : tc;  
y1 = gauspuls(t1,50e3,0.6);
```

2. Plot the signal as figure-1 using the code: `figure(1);plot(t1*1e3,y1);hold on;`
3. Perform the transformation $y_2(t) = x(-2t+3/2+X)$ on the signal. Here X should be the last digit of your Registration number. In this case, shift the signal first and then perform the remaining transformations.
4. Plot the resulting signal $y_2(t)$ as figure-2.
5. Perform the transformation $y_3(t) = x(-2t+3/2+X)$ on the signal. Here X should be the last digit of your Registration number. In this case, shift the signal at the end and perform the other transformations first.
6. Plot the resulting signal $y_3(t)$ as figure-3
7. Is figure-2 the same as figure-3? If no, then discuss the reason for their difference. The discussion should be of 4 to 5 lines maximum and should appear at the end of the code.

OUTPUT:

The output should be a **FirstNameLastNameX.m** file which should perform the above mentioned tasks in a sequence when the RUN button is pressed. The file should have the name in the pattern mentioned above where you need to write your first and last name with the last digit of your registration number. The comments should also appear at the end in the command window. That is the only file you need to submit on LMS.

DEADLINE

The deadline for the assignment is: **11pm, Thursday 6th October 2022.**

LATE SUBMISSIONS WILL NOT BE ACCEPTED.