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**Republic of Iraq**

**Ministry of Higher Education**

**and Scientific Research**

**Al-Mustaqbal University College**

**Computer Engineering Techniques Department**

**(عملي)**

**Subject: Digital Signal Processing**

**Third stage**

**Experiment No. 3**

**By**

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**Experiment No.3**

**Name of Experiment : Unit Step Waveform - Unit Ramp Waveform - Exponential Waveform .**

**Matlab code**

**d. Unit Step Waveform**

**clc;**

**clear all;**

**close all;**

**t = 0 : 0.001 : 5;**

**a = input ('Enter the value of amplitude');**

**subplot(2,1,1)**

**plot (t,a,'r');**

**xlabel ('time');**

**ylabel ('amplitude');**

**title ('Complex Wave')**

**grid on;**

**Output:**

**Enter the value of amplitude 1**

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**e. Unit Ramp Waveform**

**clc;**

**clear all;**

**close all;**

**t = 0 : 0.001 : 5;**

**m = input ('Enter the value of slope');**

**subplot (2,1,1);**

**y = m\*t;**

**plot (t,y,'r');**

**xlabel ('time');**

**ylabel ('amplitude');**

**title ('Ramp wave')**

**grid on;**

**Output:**

**Enter the value of slope 1**

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**f. Exponential Waveform**

**clc;**

**clear all;**

**close all;**

**a=0.5;**

**t=0:0.1:10;**

**disp('EXPONENTIAL DECAYING SIGNAL');**

**x=a.^t;**

**subplot(2,1,1);**

**plot(t,x);**

**xlabel('Time');**

**ylabel('Amplitude');**

**title('Exponential Decaying Signal Response');**

**grid on;**

**disp('EXPONENTIAL GROWING SIGNAL');**

**x=a.^-t;**

**subplot(2,1,2);**

**plot(t,x);**

**xlabel('Time');**

**ylabel('Amplitude');**

**title('Exponential Growing Signal Response');**

**grid on;**

**Output:**

**EXPONENTIAL DECAYING SIGNAL**

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**EXPONENTIAL GROWING SIGNAL**

