lab 7 report:

**INTRODUCTION:-**

A continuous time LTI system is called causal system if its impulse response h(t) is zero t<0. A continuous-time system is a system in which the signals at input and output are continuous-time signals. This chapter connects signals with systems, especially the study of linear time-invariant dynamic systems. A system's impulse response (often annotated as h(t) for continuous-time systems or h[n] for discrete-time systems) is defined as the output signal that results when an impulse is applied to the system input.

**OBJECTIVE:-**

The main objective of this experiment is:

* To design the systems using MATLAB and then compare its output y1[t] and y2[t]**.**
* To draw graphs using the functions that we have designed and implemented.

**APPLICATIONS:-**

* Control Systems are used in domestic applications, general industry, military and virtually every modern vehicle in the world.
* Control Systems are very common in SCADA and Industrial Automation systems.
* Control Systems are also used in Industrial Automation to regulate how devices operate in real time.

**IN LAB WORK AND PROCEDURE:-**

In lab, I have designed circuits and generated MATLAB codes and also plotted the graphs and write codes of different given function. I also generated different signals. I have performed the following steps in my lab work:

* I have written MATLAB code for the signals x[t], h1 [t] andh2 [t].
* I have also write down the system response equation of systems in terms of x[t], h1 [t] andh2 [t].
* I have write the MATLAB code for the system using system response equation.
* Using MATLAB, I have generated the plots of y1[t] and y2[t].
* I have also find the time range of the output signals y1 [t] and y2 [t].

**ISSUES:-**

**No issue regarding this lab.**

**CONCLUSION:-**

I have understand how to design the systems using MATLAB and then compare its output y1[t] and y2[t]and also about the applications of LTI system and system response of continuous time LTI system.