Department of Computer Systems Engineering

University of Engineering & Technology

Peshawar, PAKISTAN

Subject: Signal and Systems (4th Semester)
Exam: Final Term (Spring 2020)
Max Marks: 20

Time allowed : **one (1) hour**

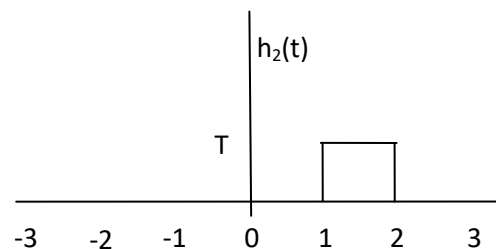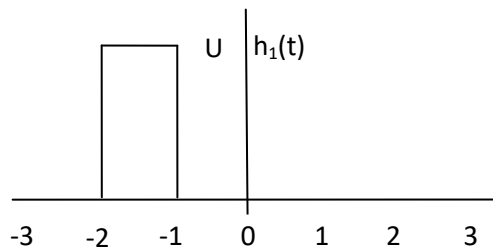**Note: <u>Write your registration number on the top of your answer sheet</u>**

Question 1:

1)   State the associative and distributive properties of convolution? How these properties are used to find equivalent system when LTI systems are inter-connected in series or parallel?   (CLO2)   **(2 Marks)**

2)   Find the impulse response h(t) of system made by inter-connecting the two systems $h_1(t)$ and $h_2(t)$ given bellow in;   (CLO2)   **(5 Marks)**

(i) **Parallel** as shown in Figure-1(a)

(ii) **Series** as shown in Figure-1(b)

U = Digit at unit place of your registration number, if it is zero then use U=5
T = Digit at tens place of your registration number, if it is zero then use T=5
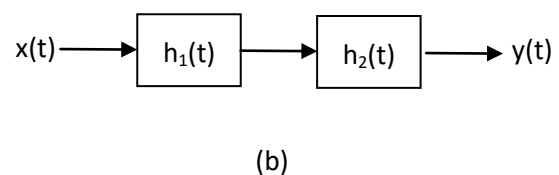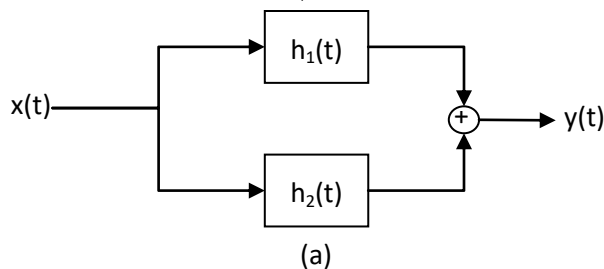**Note: Figure is not to scale, as the values are based on your registration numbers**

Figure-1