Mansoura University
Faculty of Computers and Information
Computer Science Department
Medical Informatics Program
Academic Year 2019-2020



Course Name: Digital Signal Processing Course Code: IT325P Practical Exam (Sep 2020) Total Grade: Pass/Fail

#### Model 6

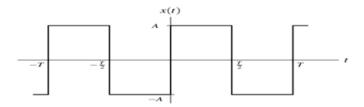
#### Answer the following four questions:

### Question 1

Find y[n] = x[n] \* h[n] of  $x[n] = \{4, 1, 2, 5\}$ , and  $h[n] = \{1, 2, -1\}$  using the matrix method.

## Question 2

Find the Fourier series representation of the periodic square wave x(t) shown in the following figure:



# Question 3

Find the Laplace transform of  $e^{j\omega t} = \cos\omega t + j\sin\omega t$ .

# Question 4

Find the Z-transform of x(k) = u[n].