Department of Electronics and Communication Engineering

Assignment -1

Total marks-10

Branch:ECE

Subject & Subject code: Digital Signal Processing (BTEC-502-18)
Semester: 5th
Date on which assignment is given: 21.8.2024   Date of submission of assignment: 26.8.2024

Course Outcomes:

CO1	Analyze the different types of signals and systems.
CO2	Familiarize with the fundamental concepts of convolution and sampling.
CO3	Interpret the concepts of Z transform, DFT and FFT techniques.
CO4	Classify designing and realization concepts of FIR filters.
CO5	Classify designing and realization concepts of IIR filters.
CO6	Demonstrate various DSP processors along with their architectures

Bloom's Taxonomy Levels

L1 – Remembering, L2 – Understanding, L3 – Applying, L4 – Analyzing, L5 – Evaluating, L6 - Creating

Assignment related to COs	Marks	Relevance to CO No.	Blooms Levels
Q1.Check whether the following discrete time system is Linear or not, Causal or non Causal, time Variant or invariant, dynamic or static $y(n) = x(n^2)$	2	CO1	L2
Q2. Evaluate the 8 point DFT of the following signal: $x(n) = \{1,0,2,0.3.0,4\}$	2	CO3	L4
Q3. Find x(n) for the following X(Z): $X(Z)= 1/(1-3Z-1+2Z-2)$ for causal system.	2	CO3	L2
Q4. Compute the linear convolution of the given sequences: x1(n) = [1,3,2,2] x2(n) = [4,2,3,2,2]	2	CO2	L2
Q5. Compare convolution and correlation with example?	2	CO-2	L3

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..Note: In case of Numerical based subjects, the no. of questions can be increased.

Chandigarh Engineering College-CGC Landran, Mohali

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Evaluation scheme

Subject & Subject code: Digital Signal Processing (BTEC-502-18) 3rd Year/5th Sem

Assignment related to COs	Marks	Relevance to CO No.
Q1If all the four systems are check properly according to method then give 2 marks otherwise 0.5 marks for each	2	CO1
Q2. If 8 point DFT is solved correctly then give 2 marks	2	CO3
Q3. If Z transform is find properly for causal sequence then give 2 marks	2	CO3
Q4. If Linear convolution is find properly then give 2 marks	2	CO2
Q5. If Comparison is done with line then give 2marks otherwise step marking to be done .	2	CO-2