Reg.No:

SNS College of Technology, Coimbatore-35.
(Autonomous)
B.E/B.Tech Internal Assessment - II
Academic Year 2022-2023(Even)
Fourth Semester
Electronics and Communication Engineering
19ECB212 – Digital Signal Processing

B

Time: 1¹ᐟ² Hours **Maximum Marks: 50**

Answer All Questions

PART - A (5 x 2 = 10 Marks)

		CO	Blooms
1.	Compare Impulse Invariant and Bilinear transformation.	CO2	Und
2.	Outline the properties of Chebyshev type I filters.	CO2	Und
3.	List the steps involved in FIR filter design.	CO3	Ana
4.	Define Gibbs Phenomenon.	CO3	Rem
5.	Recall the equation for blackman window sequence.	CO3	Rem
PART – B (2 x 13 = 26 Marks) (1 x 14 = 14 Marks)			
		CO	Blooms
6. (a)	Construct DF-I and DF-II realization of the system described by the equation. $y(n) - 5/6\, y(n-1) + 1/6\, y(n-2) = x(n) + 2x(n-1)$ 13	CO2	App
	(or)		
(b)	Explain the design procedure for Chebyshev Filter. 13	CO2	Und
7. (a)	Analyze the bandpass filter to pass frequencies in the range 1 to 2 rad/sam using hanning window with N=5. 13	CO3	Ana
	(or)		
(b)	Build a linear phase FIR lowpass filter using rectangular window by taking **9** Samples of window sequence and with a cutoff frequency of **1.2 rad/sample.** 13	CO3	App

8.	(a)	Construct a linear phase FIR highpass filter using hamming window with a cutoff frequency $\omega_c=0.8\pi$ **rad/sam** and **N=7.**	14	CO3	App
		(or)			
	(b)	Explain the design procedure for FIR filters using windowing techniques.	14	CO3	Und
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Abbreviations:

CO – Course Outcomes; **Rem-** Remembering; **Und –** Understanding; **App –** Applying; **Ana –** Analyzing; **Eva –** Evaluating; **Cre** - Creating