Institute of Engineering and Technology

DAVV INDORE

II YEAR (CS) (A&B)

Subject code –CER4G2, Subject Name – Digital Signal Processing

Time: 70 Minutes Test # 3, June 2021 Maximum Marks: 20

Note: Attempt any four Questions and each Questions Carry equal marks.

Q.(1) Determine the Fast Fourier transform of x(n) = { 5, 7, 3,8 } using DITFFT.

Q.(2) Determine the parallel realization of the IIR digital filter transfer function

$H(Z) = 2Z^2 + 5Z + 4 / (2Z+1)(Z+2)$

Q.(3) Make use of bilinear transformation to obtain H(Z) if it is given that

$H(S) = 1 / (S+1)^2$ and T = 0.2 sec

Q.(4) The Transfer function of analog filter is $H(s) = 2 / (S+1)(S+2)$ with T=0.1 sec .

Design the digital filter IIR filter using Bilinear transformation.

Q.(5) Given an analog transfer function as follows H(S) = 1 / (S+3) (S+5) obtained H(Z)

using impulse invariant design method take T = 1 sec.