B.E Sem VII Computer Choice Based. Nov - Dec 2019.
14/11/19.

(3 Hours) [Total Marks: 80]

N.B. 1) Question No. 1 is compulsory.
2) Attempt any three out of remaining five questions.
3) Figures to the right indicate full marks.
4) Make suitable assumptions wherever necessary and justify them

Q.1. a) Write a note on dynamic range compression. 4

b) Find DTFT of x(n) = {1,2,3,4} 4

c) Explain energy and power signal with examples. 4

d) Write a note on distance measures. 4

e) Explain Image segmentation. 4

Q.2. a) Explain any 5 properties of Discrete Fourier Transform 10

b) (i) Find the 4 point DFT of x(n) = {1,-1,2,-2} 10

(ii) Find the IDFT of X(k) = {1,0,1,0}

Q.3. a) For x(n) = {1,3,-1,2,0,4}, plot the following discrete time signals 10

(i) x (n+2)

(ii) x(-n-1)

(iii) 2x(n)

(iv) x(n-1). δ (n-3)

(v) x(n).u(n-2)

b) (i) Find the cross correlation of the causal sequences 10

x(n) = {1,4,7,8} and y(n) ={2,0,1,3}

(ii) Determine whether the following system is linear or non linear

y(n) = 4x(n)+ 2

Q 4. a) Determine radix 2 DIT-FFT Flow graph for 10

x(n) = {2,2,3,1}

b) Justify or Contradict 10

(i) Point processing techniques are called as Zero memory operations

(ii) To remove salt and pepper noise median filter is better than low pass filter