

Instructions to the Students:

1. Check question paper correct or not.
2. Draw neat and labeled signals.

Attempt following questions

Co Marks
level

1 In the sequence $x(n) = \{0, 3, 5, 8, 6, 8, 6, 4\}$; $x(2) = \underline{\hspace{1cm}}$

(A) 0 (B) 3 (C) 8 (D) 6

2 If message is an analog signal than transmitter perform _____ operations to convert it to digital form

(A) Sampling (B) Quantization (C) Encoding (D) All of these

3 For continuous time signal $x(t) = x(t+T_0)$ is condition of _____

(A) Periodicity (B) Linearity (C) continuity (D) Non-periodicity

4 Impulse response is the response of the system, when applied input is _____

(A) $\delta(n)$ (B) $\delta(t)$ (C) $r(n)$ (D) D.C. signal

5 In Line Spectra phase angle is always measure with respect to _____ waves

(A) Cosine (B) sine (C) Square (D) any

6 The discrete time describe by $y(n) = \sin x(n)$ is—

(A) Shift variant (B) Time variant (C) Time invariant (D) None of the above

Solve Any Two of the following:

Q.2 Find whether the following signal are periodic, if yes find periodicity

(A) $x(t) = 2 \cos 11t + 7 \cos t$

(B) Determine whether the system is 1) Linear 2) causal 3) time invariant $y(t) = \cos x(t)$

(C) Compute the convolution sum where $x(n) = \{1, 1, 0, 1, 0\}$ $h(n) = \{1, -2, -3, 4\}$

Solve Any One of the following:

Q.3 Perform the convolution operation between two function in time domain $x_1(t) = u(t)$ and

(A) $x_2(t) = e^{-t}$

(B) Find whether the following signal is energy or power signal and find the value

$x(t) = e^{-at} u(t)$

*** End ***