## Question 1

0 out of 5 points

The DT signal x[n] given is figure 2 is the input of the system shown in figure 9. Find y[n] and determine y[2].

Selected Answer: 0.75

Correct Answer: 1.75

Answer range +/- 0 (1.75 - 1.75 )

## Question 2

0 out of 8 points

For the causal DT LTI system shown in figure 7 with a = 0.3, find the response y[n] to input x[n] = 2u[n] and determine y[2].

Selected Answer: [None Given]

Correct Answer: 2.78

Answer range +/- 0 (2.78 - 2.78 )

## Question 3

7 out of 7 points

Find the odd part $x_o[n]$ for the DT signal x[n] given in figure 2 and determine $\sum_{n=-1}^{3} x_o[n]$.

Selected Answer: 3.5

Correct Answer: 3.5

Answer range +/- 0 (3.5 - 3.5 )

## Question 4

6 out of 6 points

For the DT signal x[n] given in figure 11, find y[n] = 3 x[2-n] +2 and determine $\sum_{n=1}^{5} y[n]$

Selected Answer: 13

Correct Answer: 13

Answer range +/- 0 (13 - 13 )

## Question 5

4 out of 4 points

Find $\int_{-\infty}^{\infty} \delta(t+1)\ x(t)\ dt$ for the CT signal x(t) given in figure 10.

Selected Answer: 5

Correct Answer: 5

Answer range +/- 0 (5 - 5 )

## Question 6

0 out of 5 points

A CT LTI system has the response $y_1(t) = t\,u(t)$ to input $x_1(t) = u(t)$. Find the response $y_2(t)$ to input $x_2(t) = 5u(t-3)$ and then determine $y_2(25)$.

Selected Answer: [None Given]

Correct Answer: 110

## Question 7

0 out of 6 points

For a CT signal given by x(t) = 2u(t+5) + 3u(t+3) - 2u(t-1) - 3u(t-5) draw the signal and find

$$\int_{-3}^{2} x(t)\,dt$$

Selected Answer: [None Given]

Correct Answer: 23

Answer range +/- 0 (23 - 23 )

## Question 8

4 out of 4 points

Find the fundamental period of the CT signal x(t) = cos(5πt)

Selected Answer: 0.4

Correct Answer: 0.4

Answer range +/- 0 (0.4 - 0.4 )

## Question 9

0 out of 7 points

For the CT signal of figure 1, find the even part $x_e(t)$ and determine $\int_{-3}^{3} x_e(t)\,dt$

Selected Answer: [None Given]

Correct Answer: 16

Answer range +/- 0 (16 - 16 )

## Question 10

0 out of 6 points

For the CT signal x(t) shown in figure 1, find y(t) = 2x(3-t) and determine $\int_{1}^{7} y(t)\,dt$.

Selected Answer: [None Given]

Correct Answer: 40

Answer range +/- 0 (40 - 40 )

## Question 11

8 out of 8 points

A CT LTI system has an impulse response h(t) = 2u(t-1). Find the output y(t) when the input is x(t) = u(t-1) - u(t-3) and determine y(4).

Selected Answer: 4

Correct Answer: 4

Answer range +/- 0 (4 - 4 )

Tuesday, 1 November 2022 21:07:34 o'clock SAST