Unit 3 - Week 1

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-12, 23:59 IST.

1) Suppose an unknown sinusoidal voltage is displayed on the CRO screen. If the peak to peak distance of the displayed waveform is 8 divisions of the vertical scale and the volt/div control is set at 5ms/div, find the r.m.s value of the a.c voltage — 0 points

(a) 12.13 V

(b) 10.23 V

(c) 14.14 V

(d) 20.14 V

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

2) A sine wave is displayed on a CRO screen with the calibrated time base set at 0.1ms/div. One cycle of displayed waveform spreads over 10 divisions along the horizontal axis, find the frequency of the waveform. — 1 point

(a) 1 kHz

(b) 2 kHz

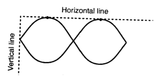
(c) 3 kHz

(d) 4 kHz

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)

3) Two harmonic vibration having different frequencies take place along x and y axes and the following Lissajous figure trace out on CRO screen. If the frequency of the harmonic vibration which takes place along x-axis is 5 kHz, then find out the value of the frequency of the harmonic vibration which takes place along the y-axis. — 1 point



(a) 5 kHz

(b) 10 kHz

(c) 20 kHz

(d) 15 kHz

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

4) Two harmonic vibration having different frequencies take place along x and y axes and the following Lissajous figure trace out on CRO screen. If the frequency of the harmonic vibration which takes place along x-axis is 3 kHz, then find out the value of the frequency of the harmonic vibration which takes place along the x-axis. — 1 point

(a) 1 kHz

(b) 3 kHz

(c) 6 kHz

(d) 9 kHz

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

5) A Lissajous figure with three tangencies with the horizontal and five tangencies with the vertical is obtained on a CRO screen by applying two sinusoidal signals simultaneously to the horizontal and vertical plates. If the frequency of the signal applied to the horizontal plates is known to be 12 kHz, find the frequency of the signal applied to the vertical plates. — 1 point

(a) 5.2 kHz

(b) 30 kHz

(c) 7.2 kHz

(d) 20 kHz

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

6) Two a.c signals of same frequency but having a phase difference are displayed simultaneously on a dual-trace CRO. If the horizontal separation between two neighboring peaks of the displayed waveform corresponds to 2 divisions and the distance between two consecutive peaks of a signal wave corresponds to 12 divisions of the horizontal scale, calculate the phase difference between the two signals. — 1 point

(a) 10°

(b) 30°

(c) 60°

(d) 70°

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

7) The calibrated time base of a CRO is set at 0.1ms/cm. The horizontal display switch is kept at the "5-magnified" position. A sinusoidal signal applied to the vertical deflection plates gives 5/2 cycles over a sweep width of 10 cm. Calculate the frequency of the signal. — 1 point

(a) 6.5 kHz

(b) 10 kHz

(c) 12.5 kHz

(d) 18.5 kHz

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

8) Two sinusoidal voltages of the same amplitude and frequency are applied simultaneously to the vertical and the horizontal deflection systems of a CRO. An ellipse is trace on the fluorescent screen. The slope of the major axis is positive. The trace has a maximum vertical value of 2.6 divisions and it crosses the vertical axis at 1.1 divisions above the origin. What is the phase difference between the voltages? — 1 point

(a) 25°

(b) 45°

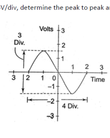
(c) 155°

(d) 135°

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)

9) The waveform shown in figure below is observed on the screen of an oscilloscope. If the vertical attenuation is set to 0.5V/div, determine the peak to peak amplitude of the signal. — 1 point



(a) 5 V

(b) 1.5 V

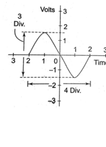
(c) 2.5 V

(d) 4.5 V

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

10) If the time/div control is set at 2μs/div. The waveform in figure below is displayed on the CRO screen; determine the frequency of the signal. — 1 point



(a) 100 kHz

(b) 125 kHz

(c) 200 kHz

(d) 250 kHz

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)