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NPTEL

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Courses » Basic Electrical Circuits

Announcements **Course** Ask a Question Progress Mentor FAQ

Unit 2 - Pre-requisite Assignment

Course outline

How to access the portal

Pre-requisite Assignment

Quiz : Assignment 0

Week 1:
Preliminaries;
Current and voltage;
Electrical elements and circuits;
Kirchhoff's laws;
Basic elements;
Linearity

Week 2:
Elements in series and parallel;
Controlled sources

Week 3: Power and energy in electrical elements;
Circuit analysis methods

Week 4: Nodal analysis

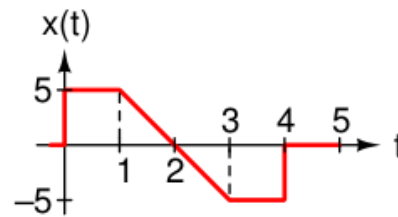
Week 5 : Mesh

Assignment 0

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-07-30, 23:59 IST.**

1)



The above figure shows $x(t)$. The waveform consists of straight line segments.

What is dx/dt at $t = 2.5$?

(The answer must be the value of dx/dt . Round off fractional answers to one decimal place.)

(Additional exercise: Sketch dx/dt for $0 \leq t \leq 5$)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) -5

1 point

2)

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Week 7: Two port parameters continued; Reciprocity in resistive networks

Week 8: Opamp and negative feedback; Example circuits and additional topics

Week 9 :First Order Circuits

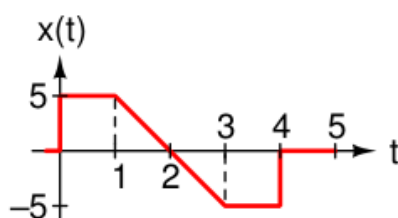
Week 10 : First order circuits with time-varying inputs

Week 11: Second order system response

Week 12: Direct calculation of steady state response from equivalent components

Video Download

ce De



The above figure shows $x(t)$. The waveform consists of straight line segments.

What is $\int_0^{3.5} x(t)dt$?

(The answer must be the value of the integral. Round off fractional answers to one decimal place.)

(Additional exercise: Sketch $\int_0^t x(\tau)d\tau$ for $0 \leq t \leq 5$)

No, the answer is incorrect.

Score: 0

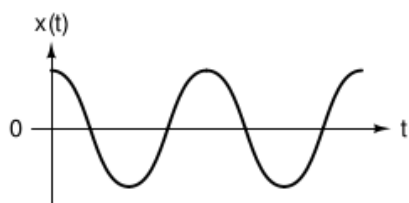
Accepted Answers:

(Type: Numeric) 2.5

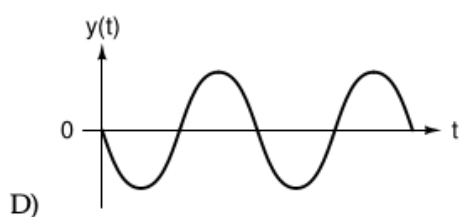
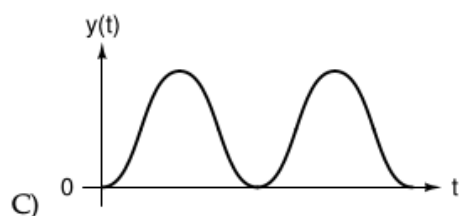
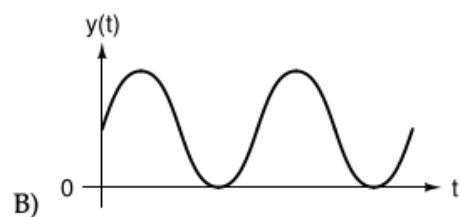
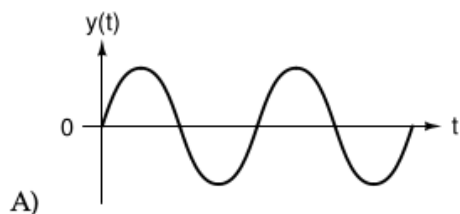
1 point

3)

1 point



The figure above shows $x(t)$. Which of the choices below best represents $y(t) = \int_0^t x(\tau) d\tau$?



- A
 B
 C
 D

No, the answer is incorrect.

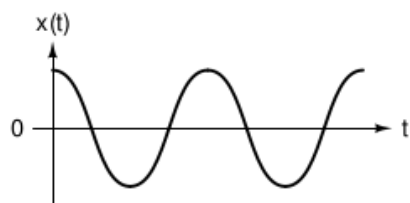
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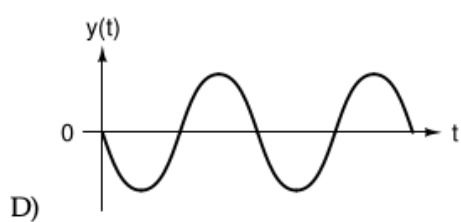
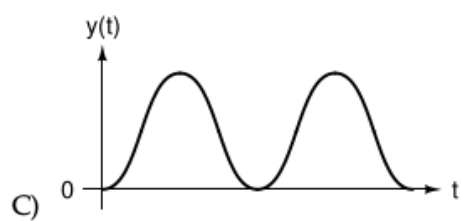
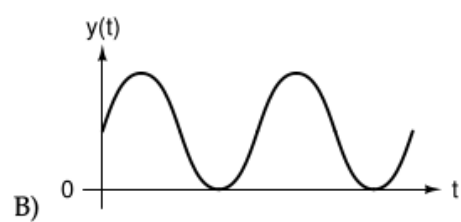
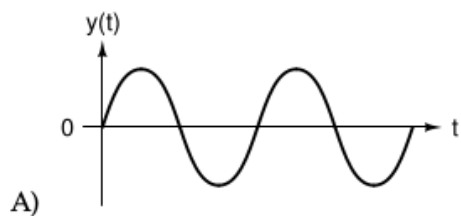
A

4)

1 point



The figure above shows $x(t)$. Which of the choices below best represents $y(t) = dx/dt$?



- A
 B
 C
 D

No, the answer is incorrect.

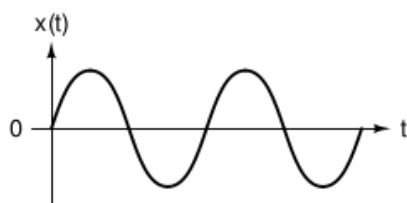
Score: 0

Accepted Answers:

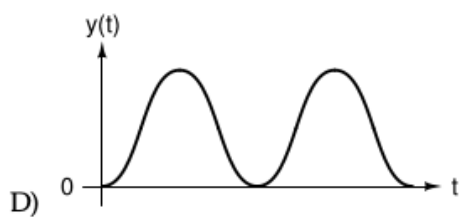
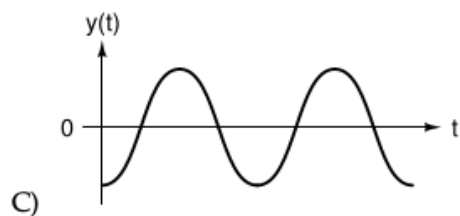
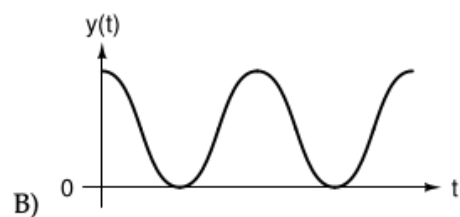
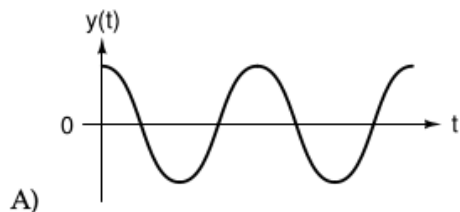
D

5)

1 point



The figure above shows $x(t)$. Which of the choices below best represents $y(t) = \int_0^t x(\tau) d\tau$?



- A
 B
 C
 D

No, the answer is incorrect.

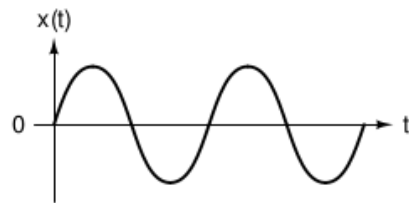
Score: 0

Accepted Answers:

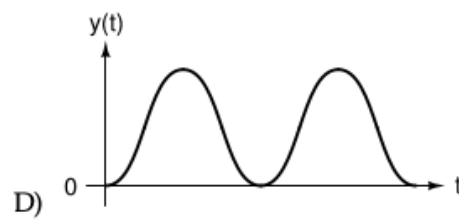
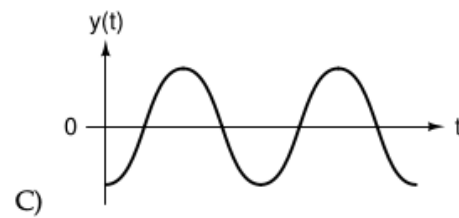
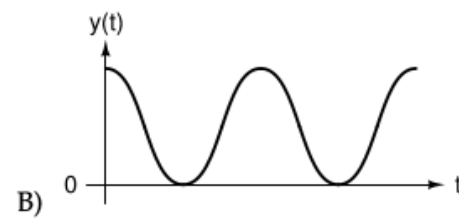
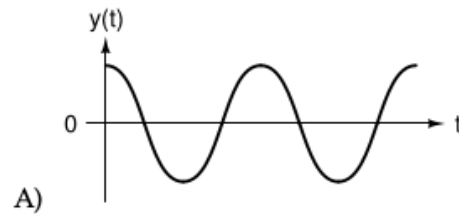
D

6)

1 point



The figure above shows $x(t)$. Which of the choices below best represents $y(t) = dx/dt$?



- A
 B
 C
 D

No, the answer is incorrect.

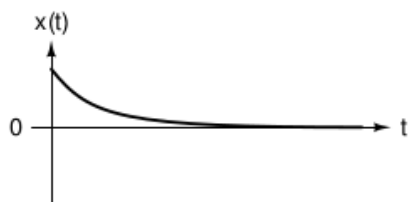
Score: 0

Accepted Answers:

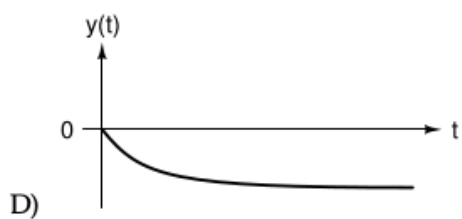
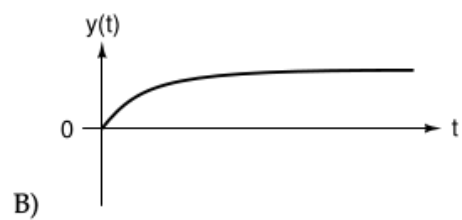
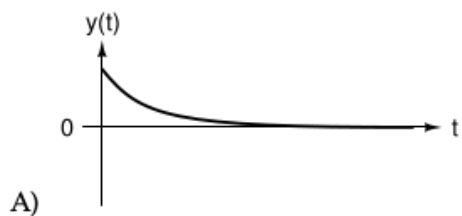
A

7)

1 point



The figure above shows $x(t)$. Which of the choices below best represents $y(t) = dx/dt$?



- A
 B
 C
 D

No, the answer is incorrect.

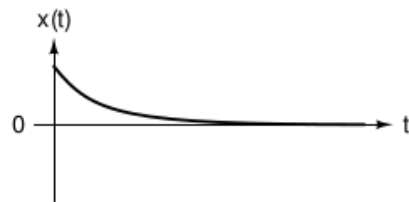
Score: 0

Accepted Answers:

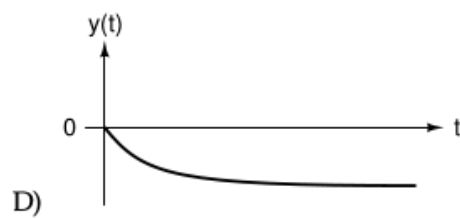
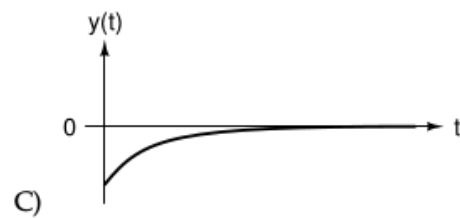
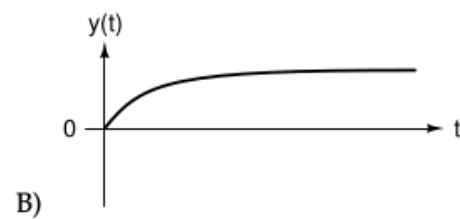
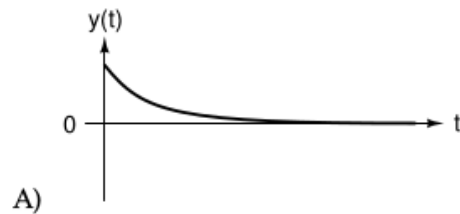
C

8)

1 point



The figure above shows $x(t)$. Which of the choices below best represents $y(t) = \int_0^t x(\tau) d\tau$?



- A
 B
 C
 D

No, the answer is incorrect.

Score: 0

Accepted Answers:

B

9)

$$\mathbf{A} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

Its inverse $\mathbf{B} = \mathbf{A}^{-1}$ is

$$\mathbf{B} = \begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{bmatrix}$$

What is the value of b_{11} ?

(The answer must be the value of b_{22} . Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) -2

1 point

10

$$\mathbf{A} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

Its inverse $\mathbf{B} = \mathbf{A}^{-1}$ is

$$\mathbf{B} = \begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{bmatrix}$$

What is the value of b_{12} ?

(The answer must be the value of b_{22} . Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 1

1 point

11)

$$\mathbf{A} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

Its inverse $\mathbf{B} = \mathbf{A}^{-1}$ is

$$\mathbf{B} = \begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{bmatrix}$$

What is the value of b_{21} ?

(The answer must be the value of b_{22} . Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 1.5

1 point

12

$$\mathbf{A} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

Its inverse $\mathbf{B} = \mathbf{A}^{-1}$ is

$$\mathbf{B} = \begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{bmatrix}$$

What is the value of b_{22} ?

(The answer must be the value of b_{22} . Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) -0.5

1 point

End

