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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Basic Electrical Circuits (course)

Announcements (announcements) About the Course (preview) Ask a Question (forum) Progress (student/home) Mentor (student/mentor)

Unit 2 - Week 0

Course outline

How does an NPTEL online course work?

Week 0

Quiz : Assignment 0 (assessment?name=180)

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 analysis; Circuit theorems

Week 6: More circuit theorems; Two port parameters

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

Text Transcripts

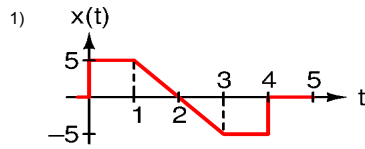
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Assignment 0

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

Due on 2020-09-14, 23:59 IST.

Note : This assignment is only for practice purpose and it will not be counted towards the Final score



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

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

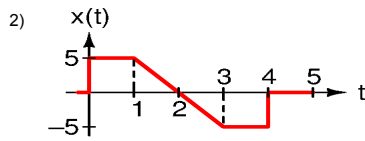
(The answer must be the value of dx/dt . Round off fractional answers to one decimal place.)

(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



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

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

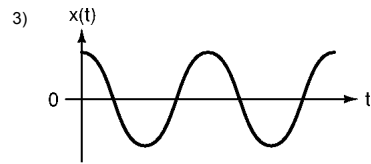
(The answer must be the value of the integral. Round off fractional answers to one decimal place.)

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

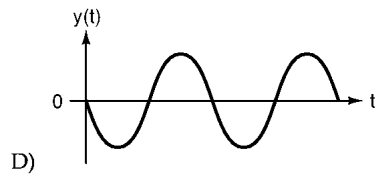
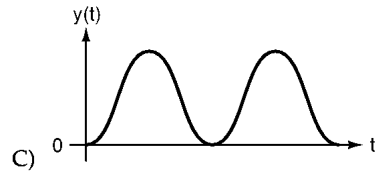
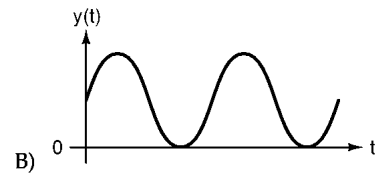
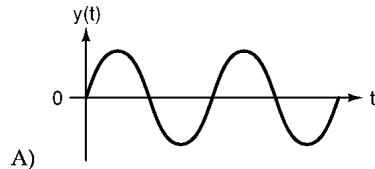
No, the answer is incorrect. Score: 0

Accepted Answers: (Type: Numeric) 2.5

1 point



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



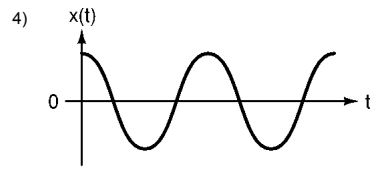
- A
 B
 C
 D

No, the answer is incorrect.

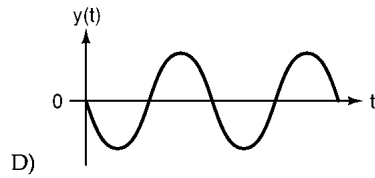
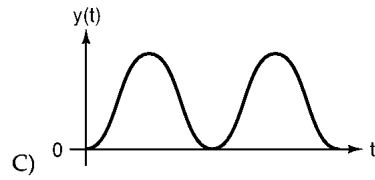
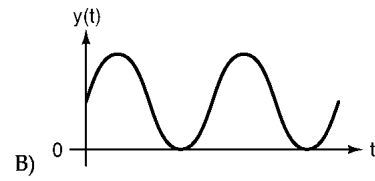
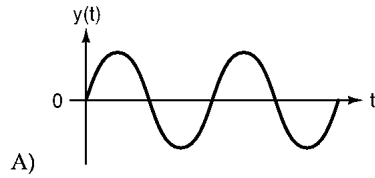
Score: 0

Accepted Answers:

A



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



- A
 B
 C
 D

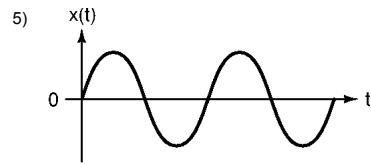
No, the answer is incorrect.

Score: 0

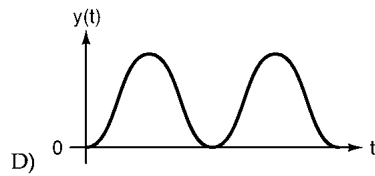
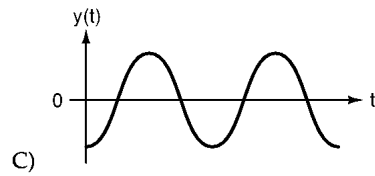
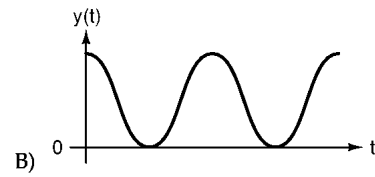
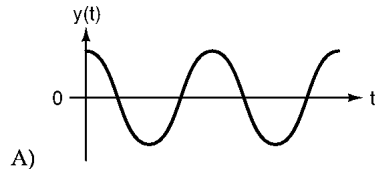
Accepted Answers:

D

...



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



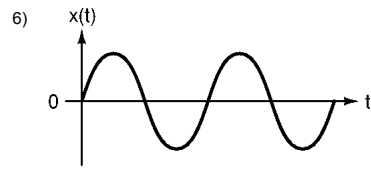
- A
 B
 C
 D

No, the answer is incorrect.

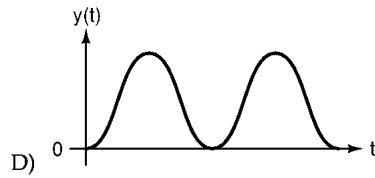
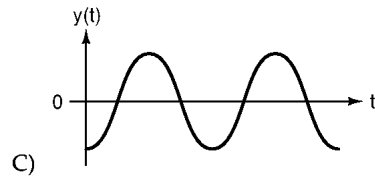
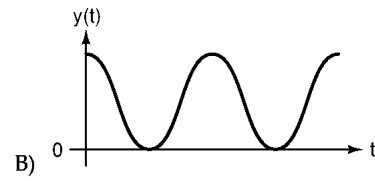
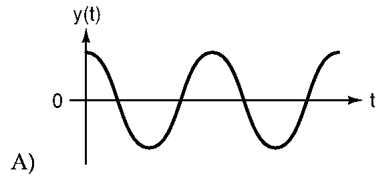
Score: 0

Accepted Answers:

D



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



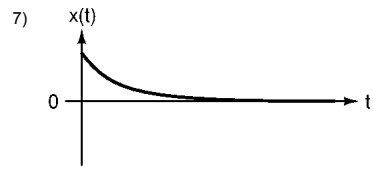
- A
 B
 C
 D

No, the answer is incorrect.

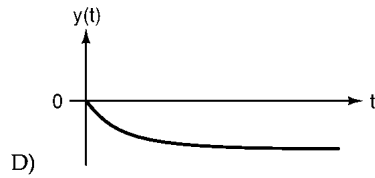
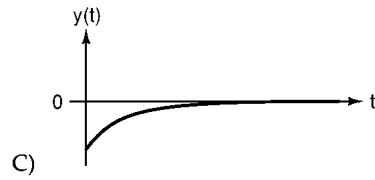
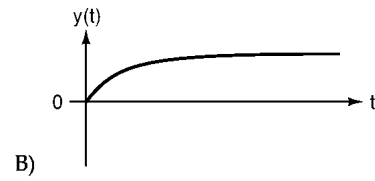
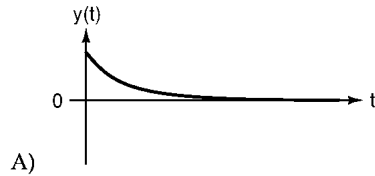
Score: 0

Accepted Answers:

A



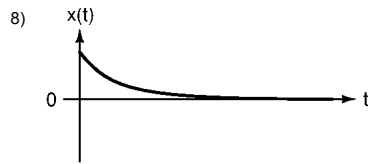
The figure above shows $x(t)$. Which of the choices below best represents $y(t) = dx/dt$?



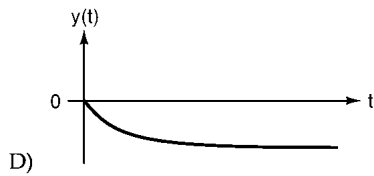
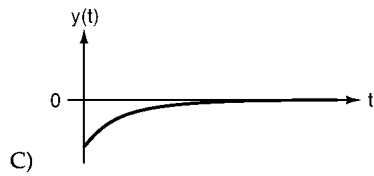
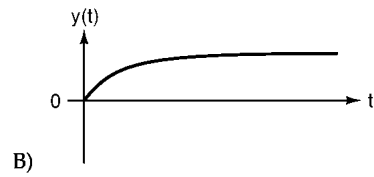
- A
 B
 C
 D

No, the answer is incorrect.
 Score: 0
 Accepted Answers:
 C

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

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

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

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

9) What is the value of b_{11} ?

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) -2

10) What is the value of b_{12} ?

1 point

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 1

11) What is the value of b_{21} ?**Hint**

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 1.5

12) What is the value of b_{22} ?**Hint**

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) -0.5

1 point

1 point

1 point