Unit 3 - Week 1

Course outline

How to access the portal

Week 0 Assignment 0

Week 1

- Lecture No 1: Basic Concepts, Examples
- Lecture No 2: Basic Concepts, Examples (Contd.)
- Lecture No 3: Basic Concepts, Examples (Contd.)
- Lecture No 4: Basic Concepts, Examples (Contd.)
- Lecture No 5: Basic Laws
- Lecture Materials
- Feedback for Week 1
- Quiz : Week 1 Assignment 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Download Videos

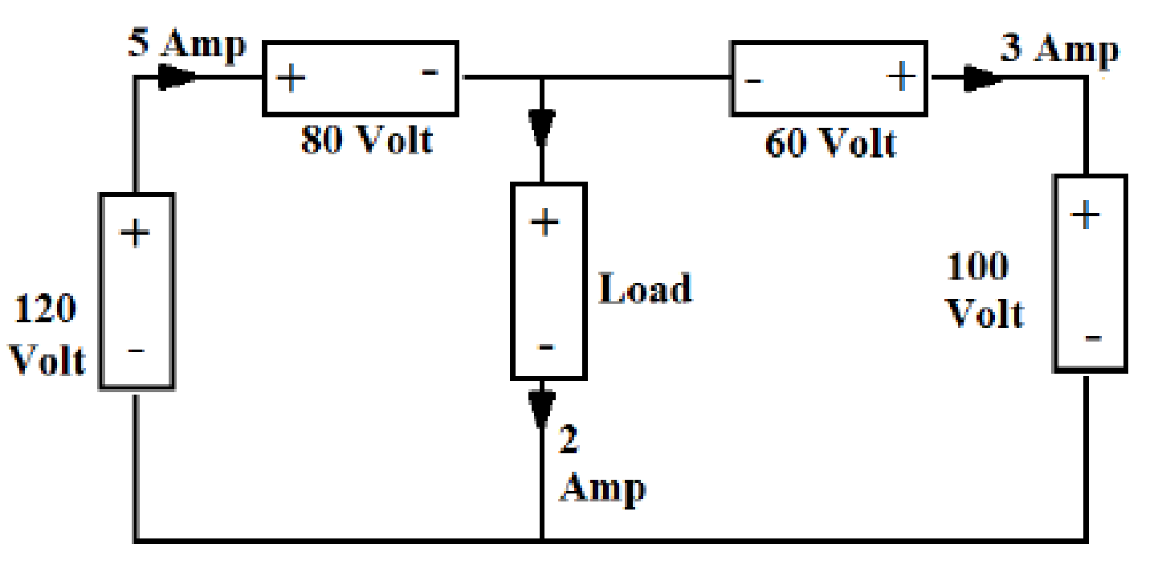
Detail Solution

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 2019-08-14, 23:59 IST.

1) Determine the amount of power supplied or absorbed by the load in the given circuit. *1 point*



a. 80 Watt absorbed
b. 80 Watt delivered
c. 320 Watt delivered
d. 320 Watt absorbed

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

2) For t >= 0, if $q = 0.02(1- e^{-2000t})$ C then calculate amount of current (in ampere) that will flow through the circuit at time t=2 ms. *1 point*

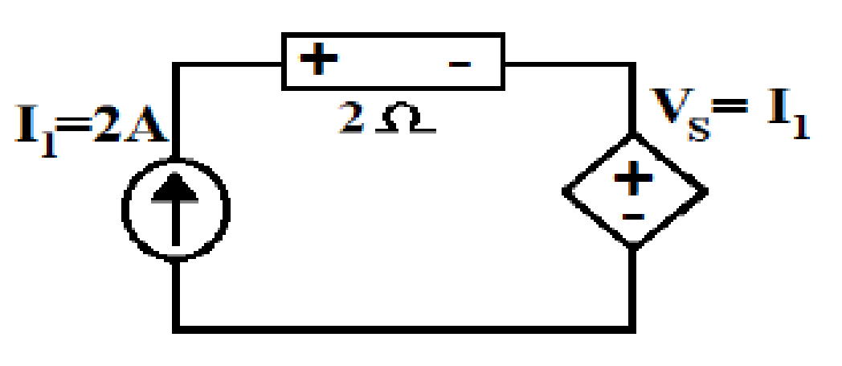
a. 0.60-0.69
b. 0.70-0.79
c. 0.80-0.89
d. 0.90-1.00

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

3) The Power supplied and voltage across 2A current source is- *1 point*



a. 6 W , 6 V
b. 8 W , 8 V
c. 10 W , 8 V
d. 12 W , 6 V

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

4) The voltage and current across an element is given by 100 e^{-250t} Volts and 50 e^{-250t} Amps. Calculate the energy delivered by it (in joule) for t>=0. *1 point*

a. 20
b. 15
c. 12
d. 10

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

5) The resistance of a wire of length ‘l’ and diameter‘d’, is R. If the length is reduced by 50% and diameter is increased by 100% then new resistance will be- *1 point*

a. R/8
b. R/4
c. R/2
d. 2R

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

6) If n nodes, b branches and L independent loops are there in a network then the relation between them is- *1 point*

a. b =L+2n-1
b. b =L+n+1
c. b =L+n-1
d. b =L+2n+1

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

7) The current through an element is shown in the given figure. The total charge (in Coulomb) passed through the element from 0-9 seconds is- *1 point*

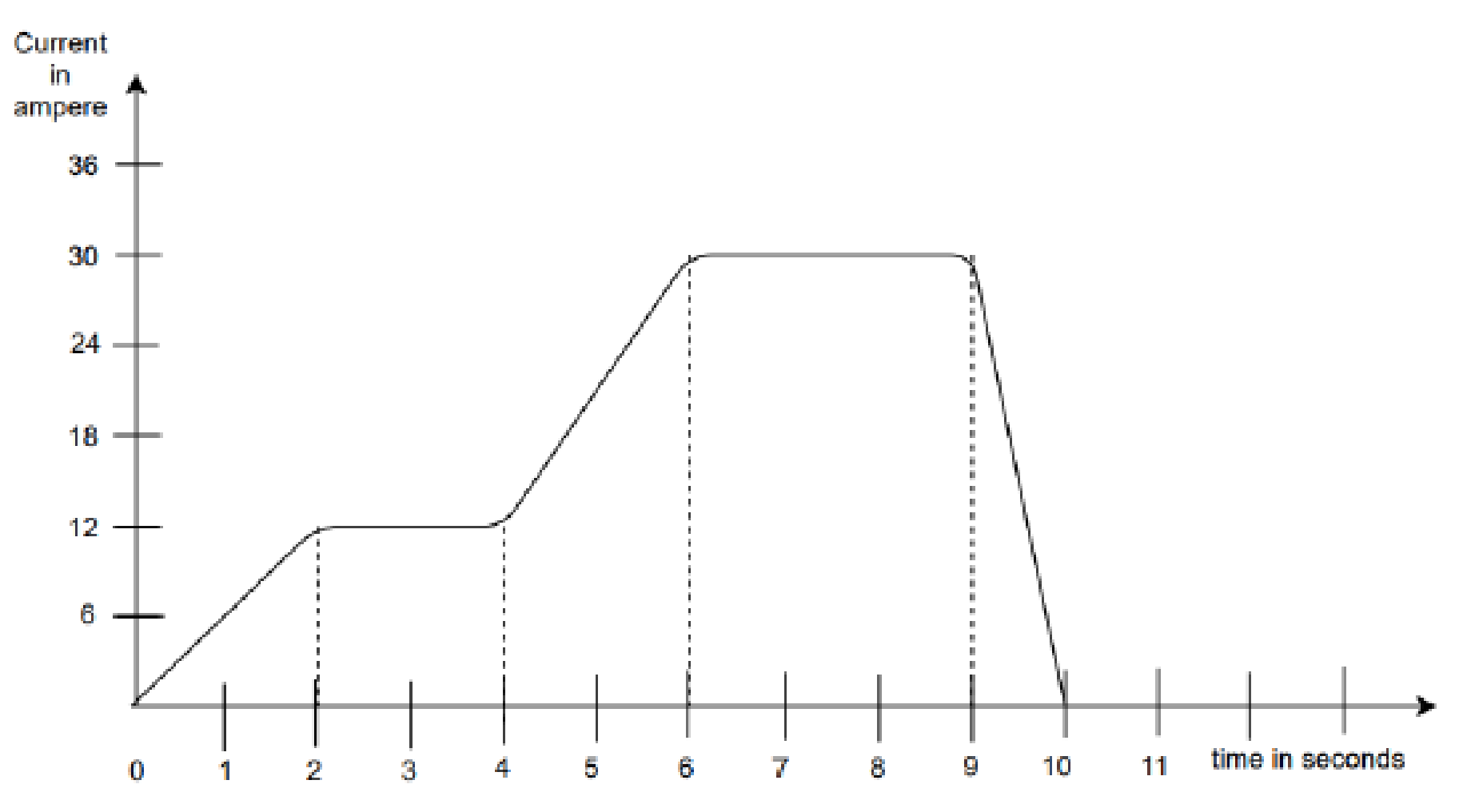


Fig: Graph between current and time

a. 100-150
b. 151-200
c. 201-250
d. 0

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

8) Across any two terminals, in case of open circuit and short circuit, the value of resistance will be (respectively)- *1 point*

a. 0 and infinity
b. Infinity and 0
c. 0 and 0
d. Infinity and infinity

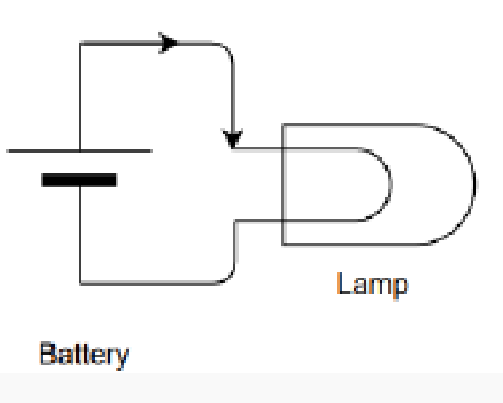
○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

9) In the given circuit, Calculate current drawn and conductance of the lamp, if battery provides 200 Volt and Power rating of Lamp be 200W. *1 point*

a. 1 Amp, 5 milli℧
b. 5 Amp, 1 milli℧
c. 1 Amp, 200 ℧
d. 5 Amp, 200 ℧



○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

10) In a cyber cafe, total load consists of 6 lamps of 20 W, 4 fans of 75 W, 10 computers of 200 W, 2 air conditioner of 1500 W and 2 printers of 50 W. If the supply is 230 V and basic monthly meter charge is 100/- then for an average loading of 50% throughout a day, what will be the electric bill for 1 month? Assume cost per unit for 1st 500 units be 2/- and after that 4/-. *1 point*

a. 6000/- 6499/-
b. 6500/- 6999/-
c. 7000/- 7499/-
d. 7500/- 8000/-

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

11) Which of the following circuits are invalid- *1 point*

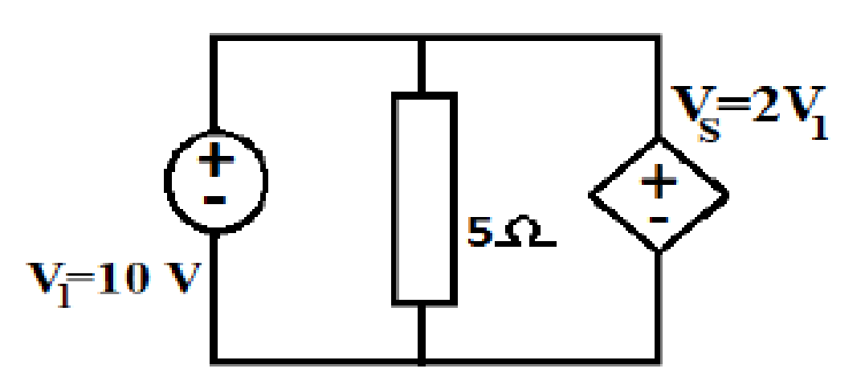


Fig- a

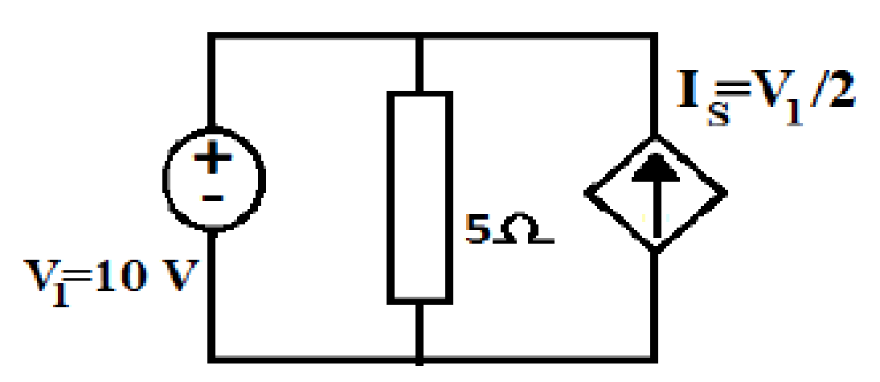


Fig- b

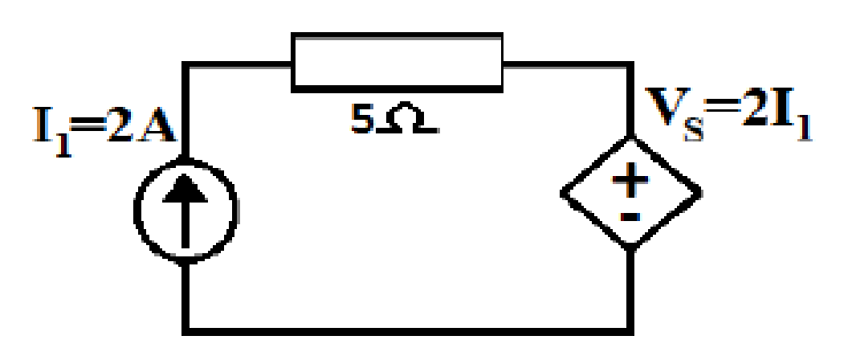


Fig- c

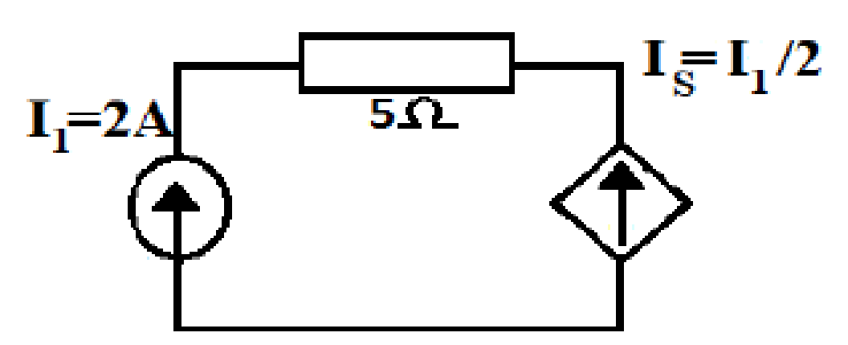


Fig- d

a. a, c and d
b. a and d
c. c and d
d. a, b and d

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

12) In a house, the net energy consumption in a day is 27.6 kWh. If the supply is 230 V, then what is the current drawn in Ampere - *1 point*

a. 0.2
b. 5
c. 3
d. Data insufficient

○ a.
○ b.
○ c.
○ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.