



C16-EC-305

6236

BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2018

DECE—THIRD SEMESTER EXAMINATION

NETWORK ANALYSIS

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

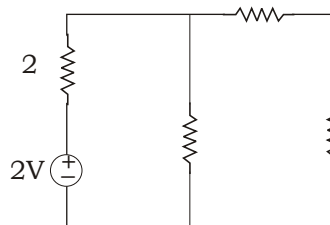
(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State Ohm's law and mention any three limitations.

2. Convert ideal voltage source to ideal current source.

3. Write the node voltage equation for the following network :



4. Write about duality of a network.

5. State superposition theorem.

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6. State reciprocity theorem.
7. Write the first shifting property of LaPlace transform change of scale property.
8. Write LaPlace transforms of unit step function, exponential function and sine function.
9. List the disadvantages of constant K filters.
10. State the function of attenuator circuit.

PART—B

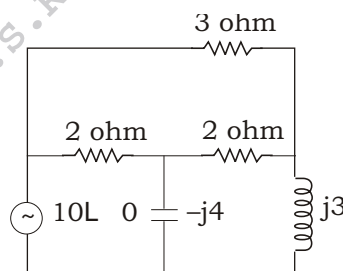
10×5=50

Instructions : (1) Answer *any five* questions.

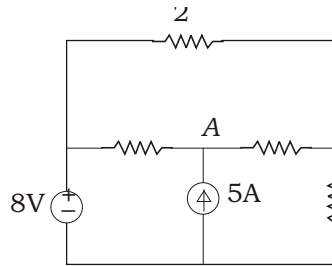
(2) Each question carries **ten** marks.

(3) The answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

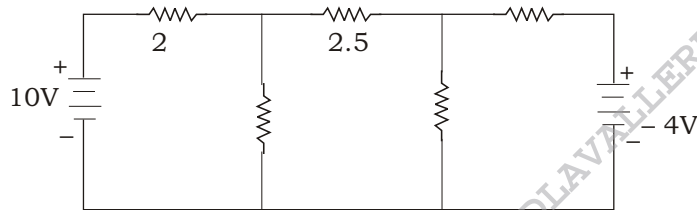
11. (a) Explain about ideal voltage source.
(b) Define active and passive elements with suitable examples.
12. Find the current through capacitor of the following circuit by using mesh current analysis :



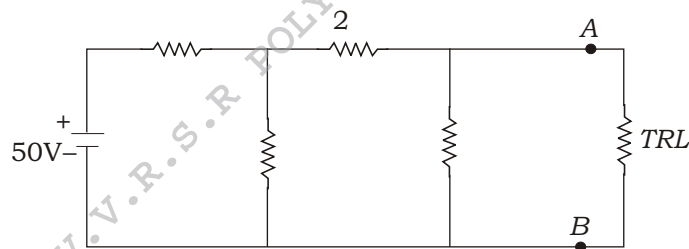
- * **13.** Find the voltage at node A using node voltage analysis :



- 14.** Find the current through 4 ohm resistor by using superposition theorem :



- 15.** Determine the maximum power delivered to the load in the circuit shown below :



- 16.** Explain initial value theorem and final value theorem.

- * **17.** Explain the dc response for a series RL circuit.

- 18.** Explain T attenuators with circuit diagram.
