JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-II Semester (CSE/IT/BT/ECE/CE)

COURSE CODE (CREDITS): 24B11EC211 /18B11EC211 MAX. MARKS: 15

COURSE NAME: BASIC ELECTRICAL ENGINEERING / ELECTRICAL SCIENCES

COURSE INSTRUCTOR: Dr Rajiv Kumar MAX. TIME: 1 Hour

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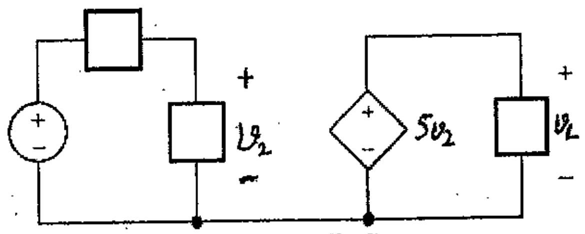
**Note:** *(a) All questions are compulsory.*

*(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

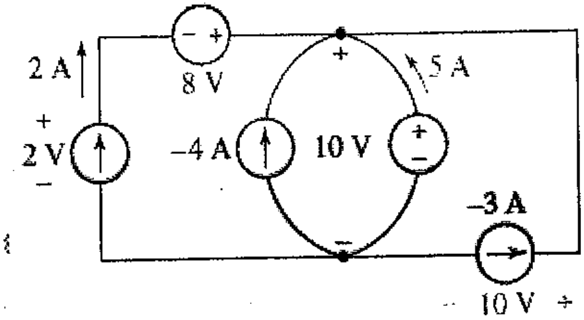
*(c) Use of non-programmable scientific calculators is allowed*

<table>
<tr><th>Q.No</th><th>Question</th><th>CO</th><th>Marks</th></tr>
<tr><td>Q1</td><td>

(a) In the circuit shown below, if $v_2$ is known to be 5 V, find $v_L$.

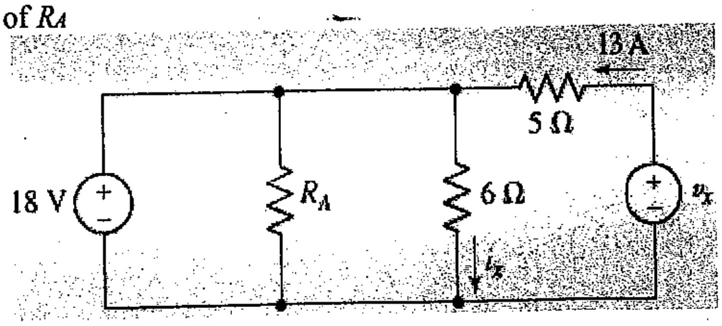



(b) Determine the power supplied or absorbed by the each element in the circuit shown below:




</td><td>CO-1</td><td>3+4</td></tr>
<tr><td>Q2</td><td>

Count the number of branches and nodes in the circuit shown below. If $i_x$ = 3 A and the 18 V source delivers 8 A of current, what is the value of $R_A$




</td><td>CO-1</td><td>4</td></tr>
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(21)

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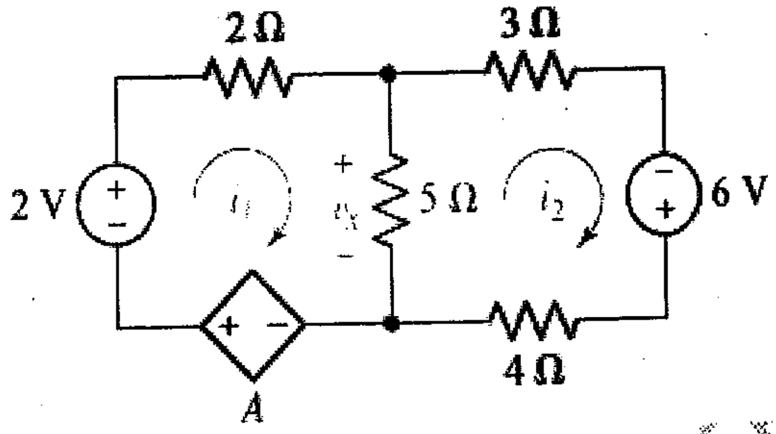
|---|---|---|---|
| Q3 | Determine $i_1$ in this circuit if the controlling quantity $A$ is equal to<br>(*a*) $2i_2$; (*b*) $2v_x$.<br> | CO-2 | 4 |