Product Evaluation

45%

Final grade: 45%

First name Last name: James Bond

Student ID number: 100007

Course: CVWW

Exam: CVWWTest

Evaluation date: 23.12.2025

Partial grades: 50%, 40%, 47.5%

Evaluator model: model=gpt-5.2, generator_effort=high, supervisor_effort=high, generator_temperature=0.55, supervisor_temperature=0.1, ensemble_size=3

Software version: batch_ensemble_grade=commit e8f4b43 (e8f4b436b84f5bf1c0a8aa56639a50d5019072fa) +dirty, try_deanonymize=commit e8f4b43 (e8f4b436b84f5bf1c0a8aa56639a50d5019072fa) +dirty, results_to_excel=commit e8f4b43 (e8f4b436b84f5bf1c0a8aa56639a50d5019072fa) +dirty, export_final_pdfs=commit e8f4b43 (e8f4b436b84f5bf1c0a8aa56639a50d5019072fa) +dirty

Note: This is multi-page document. Next two pages are raw scan, then the final consolidated grade (with comments) and then the individual grades with comments.

Document has been translated to English in post-processing so some phrasing in the title page is weird

CLASS "B"

Kolokvij EDT – teden 2

Ime in Priimek: 100007

1. (25 %) Pri uporabi napetostnih delilnikov smo naleteli na kompromis: iz določenih razlogov želimo delilnik zgraditi iz uporov čim manjših upornosti, po drugi strani pa želimo, da so upornosti čim večje. Razložite protislovje in razloge zanj.

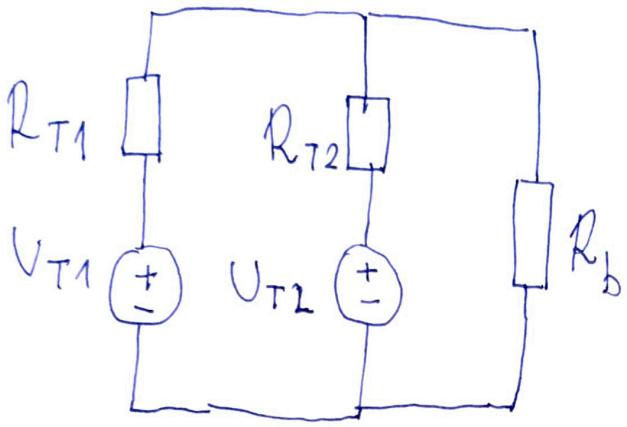
Tako je, po eni strani hočemo imeti čim manjše upore zaradi nagetosti, po drugi strani pa čim večje zaradi toka.

2. (25 %) Kateri pogoj mora biti izpolnjen ob priklopu bremena na napetostni delilnik iz uporov R1 in R2, da je breme krmiljeno tokovno?

Veljati mora $R_1 \gg R_2$, saj tako velja $U_2 = \frac{R_2}{R} \cdot U_1 \simeq U_2$.

3. (50 %) Dve bateriji, ki imata Theveninovi napetosti Ut1 in Ut2 ter Theveninovi notranji upornosti Rt1 in Rt2 vežemo vzporedno in priklopimo na breme Rb.
   a. Skicirajte ustrezno vezje.
   b. Napišite izraz za Theveninovo upornost vira, ki ga tvorita bateriji.
   c. Napišite izraz za Theveninovo napetost vira, ki ga tvorita bateriji.
   d. Napišite izraz za napetost na bremenu Rb.

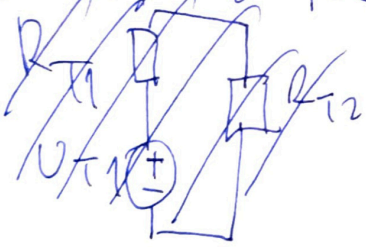
a)



b)

$$R_T = \frac{R_{T1} \cdot R_{T2}}{R_{T1} + R_{T2}}$$

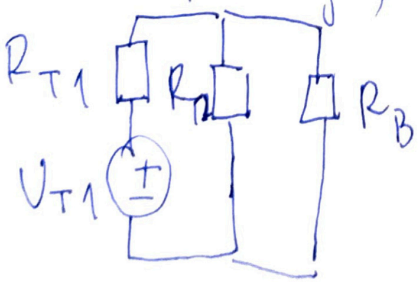
c) (Skica superpozicije)



$U_T = U_{T1} = U_{T2}$

$U_T = \frac{R_{T2}}{R_{T1} + R_{T2}}$

d) (superpozicija)



$$U_B = \frac{R_{T2} \| R_B}{R_{T1} + R_{T2} \| R_B} \cdot U_{T1} + \frac{R_{T1} \| R_B}{R_{T2} + R_{T1} \| R_B} \cdot U_{T2}$$

The list of answered questions includes only Questions 1 and 2, while the graders' reports also include Task 3 (split into 4 subtasks). Since no rows are provided for the additional questions in the list, only tasks with known weights and contributions from the reports are taken into account in the grading.

Task 1

Question

1. (25%) When using voltage dividers, we encountered a trade-off: for certain reasons we want to build the divider from resistors with as small resistance as possible, but on the other hand we want the resistances to be as large as possible. Explain the contradiction and the reasons for it.

Student's answer

Describes the trade-off: small resistors "because of voltage", large resistors "because of current".

Correctness explanation

The answer does indicate the existence of a trade-off, but it does not demonstrate understanding by explaining the key reasons (e.g., the Thevenin resistance of the divider (R_T=R_1\parallel R_2), the effect of loading on the "collapse" of the output voltage, and the divider current (I=U_1/(R_1+R_2)) and the resulting losses/consumption). Therefore, the solution is too general and only partially justified.
References: [R1, R6]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

20% of 25% → contribution: 5.0%

Task 2

Question

2. (25%) What condition must be satisfied when connecting a load to a voltage divider made of resistors R1 and R2 for the load to be current-driven?

Student's answer

States the condition (R_1 \gg R_2) and writes the voltage divider.

Correctness explanation

The question asks for the condition for current drive of the load, i.e., the relationship between the load (R_B) and the output/Thevenin resistance of the divider (typically (R_B \ll R_T), (R_T=R_1\parallel R_2)). The student states a ratio between (R_1) and (R_2) and voltage division (the concept of voltage drive) and does not consider (R_B) at all, so the answer is not relevant to the question asked.
References: [R1, R4]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

0% of 25% → contribution: 0.0%

Task 3A

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
a. Sketch the appropriate circuit.

Student’s answer

Sketches two Thevenin sources (each: voltage source + series internal resistor) in parallel, connected to the load (R_B).

Correctness explanation

The sketch correctly shows the required topology and elements: both Thevenin sources with internal resistors in series, parallel connection at common terminals, and connection of the load (R_B).
References: [R2, R9]; EXAMPLE: NO; SKETCH: [1]; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3B

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
b. Write the expression for the Thevenin resistance of the source formed by the batteries.

Student’s answer

Writes (R_T=\frac{R_{T1}R_{T2}}{R_{T1}+R_{T2}}).

Correctness explanation

The expression is correct for a parallel connection of internal resistances ((R_T=R_{T1}\parallel R_{T2})).
References: [R1]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3C

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
c. Write the expression for the Thevenin voltage of the source formed by the batteries.

Student’s answer

The notation is mostly crossed out/unfinished; the symbols (U_{T1},U_{T2},R_{T1},R_{T2}) are indicated, but without a clear final formula.

Correctness explanation

An unambiguous expression for the Thevenin voltage is expected as a weighted sum of (U_{T1}) and (U_{T2}) with weights derived from (R_{T1},R_{T2}). Since the student’s notation is unclear and without an evident final correct expression, only a minimal portion can be awarded for indicating the appropriate structure/symbols, but not for a correct solution.
References: [R1]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: YES

Scoring

20% of 12.5% → contribution: 2.5%

Task 3D

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
d. Write the expression for the voltage across the load Rb.

Student’s answer

Uses superposition and writes an expression for (U_B) with two dividers, featuring ((R_{T2}\parallel R_B)) and ((R_{T1}\parallel R_B)).

Correctness explanation

The superposition procedure is correct: in each contribution, the other voltage source is replaced by its internal resistance, yielding a divider between the active internal resistance and ((R_{\text{other}}\parallel R_B)). The expression is also substantively equivalent to the approach via the combined Thevenin source and then a divider onto (R_B).
References: [R1]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

100007, James Bond, overall grade=45.0%

Manual identity resolution enrollment = 100007, name = James Bond

Individual grades

Pass 1 (valid=True, total=50.0)

Task 1

Question

1. (25%) When using voltage dividers, we encountered a compromise: for certain reasons we want to build the divider from resistors with the smallest possible resistances, but on the other hand we want the resistances to be as large as possible. Explain the contradiction and the reasons for it.

Student’s Answer

That’s right: on the one hand we want to have as small resistors as possible because of voltage, and on the other hand as large as possible because of current.

Explanation of Correctness

The answer captures the basic idea of the compromise (small resistors “because of voltage,” i.e., less loading of the output; large resistors “because of current,” i.e., lower consumption), but the explanation is too general and lacks key elements from the reference solution: the divider’s Thevenin resistance (R_T=R_1\parallel R_2) is not stated, and the divider current (I=U_1/(R_1+R_2)) as well as the connection to losses are not given. Due to missing key formulas and clear justification, the solution is incomplete.
References: [R1, R6] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

40% of 25% → contribution: 10.0%

Task 2

Question

2. (25%) What condition must be satisfied when connecting a load to a voltage divider made of resistors R1 and R2 so that the load is current-driven?

Student’s Answer

It must hold that R1 >> R2, because then (U2 = R2/R \cdot U1 \approx U2).

Explanation of Correctness

The required condition relates to the load (R_B) and the divider’s Thevenin resistance (R_T=R_1\parallel R_2), i.e., (R_B \ll R_T). Instead, the student states the ratio (R_1 \gg R_2) and the divider formula for voltage, which does not answer the question about current driving of the load (mixing concepts), so scoring is not possible.
References: [R1, R4] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

0% of 25% → contribution: 0.0%

Task 3A

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
a. Sketch the appropriate circuit.

Student’s Answer

Sketch 1: two Thevenin sources in a parallel connection (each: a voltage source UT1/UT2 with a series resistor RT1/ RT2), both connected to a common pair of nodes, to which the load RB is connected (RB is in a parallel branch).

Explanation of Correctness

The sketch appropriately shows both Thevenin sources with their internal resistances in series with the sources and their parallel connection to the load (R_B). The connection topology is correct.
References: [R2, R9] (if the rules are available); EXAMPLE: NO; SKETCH: [1]; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3B

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
b. Write the expression for the Thevenin resistance of the source formed by the batteries.

Student’s Answer

RT = (RT1 · RT2) / (RT1 + RT2).

Explanation of Correctness

The correct expression for the parallel connection of internal resistances is given: (R_T = R_{T1}\parallel R_{T2} = \frac{R_{T1}R_{T2}}{R_{T1}+R_{T2}}).
References: [R1] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3C

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
c. Write the expression for the Thevenin voltage of the source formed by the batteries.

Student’s Answer

The writing is mostly crossed out/illegible; visible are attempts with fractions involving RT1, RT2 and UT1, UT2, but the final correct expression is not clearly and unambiguously written.

Explanation of Correctness

An unambiguous expression of the weighted sum is expected: (U_T=\frac{R_{T2}}{R_{T1}+R_{T2}}U_{T1}+ \frac{R_{T1}}{R_{T1}+R_{T2}}U_{T2}). The student’s writing is mostly crossed out and the final formula is not discernible, so only a minimal share can be credited for indicating correct symbols/structure, not for a correct solution.
References: [R1] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: YES

Scoring

20% of 12.5% → contribution: 2.5%

Task 3D

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
d. Write the expression for the voltage across the load Rb.

Student’s Answer

Uses superposition and writes: UB = (RT2 || RB) / (RT1 + (RT2 || RB)) · UT1 + (RT1 || RB) / (RT2 + (RT1 || RB)) · UT2.

Explanation of Correctness

The superposition expression is correct: in the contribution of (U_{T1}) the other source is replaced by (R_{T2}), so the load node is a divider between (R_{T1}) and ((R_{T2}\parallel R_B)); analogously for the contribution of (U_{T2}). The expression is equivalent to the reference procedure (via (R_T), (U_T), and then the divider to (R_B)).
References: [R1] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

100007, UNKNOWN, total grade=50%

Pass 2 (valid=True, total=40.0)

Task 1

Question

1. (25%) When using voltage dividers, we encountered a compromise: for certain reasons we want to build the divider from resistors with the smallest possible resistances, but on the other hand we want the resistances to be as large as possible. Explain the contradiction and the reasons for it.

Student’s Answer

On the one hand we want to have as small resistors as possible because of voltage, on the other hand as large as possible because of current.

Explanation of Correctness

The answer very generally perceives the compromise “voltage vs. current,” but does not provide key elements: the divider’s Thevenin resistance (R_T=R_1\parallel R_2), an explanation of the “collapse” of the divider voltage due to loading, and the expression for the divider current (I=U_1/(R_1+R_2)) and the conclusion about consumption/losses with smaller resistances. Due to missing justification and absent key formulas, the solution is fragmentary.
References: [R1,R3,R6]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

20% of 25% → contribution: 5.0%

Task 2

Question

2. (25%) What condition must be satisfied when connecting a load to a voltage divider made of resistors R1 and R2 so that the load is current-driven?

Student’s Answer

It must hold that R1 >> R2, because then (U2 = R2/R \cdot U1 \approx U2).

Explanation of Correctness

The question asks for the condition for current driving of the load (a condition of the type (R_B \ll R_T) with (R_T=R_1\parallel R_2)). The student states the ratio (R_1 \gg R_2) and the voltage divider equation (voltage driving), and does not mention the load resistance (R_B) at all. This mixes concepts and does not answer the question posed.
References: [R1,R4]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

0% of 25% → contribution: 0.0%

Task 3A

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
a. Sketch the appropriate circuit.

Student’s Answer

1 sketch: two branches in parallel, in each there is a series internal resistor (Rt1 or Rt2) and a voltage source (Ut1 or Ut2); at the common terminals the load Rb is connected.

Explanation of Correctness

The sketch appropriately shows two Thevenin sources (voltage source + series internal resistor) connected in parallel and connected to the load (R_B). The topology and elements are correct.
References: [R2,R9]; EXAMPLE: NO; SKETCH: [1]; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3B

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
b. Write the expression for the Thevenin resistance of the source formed by the batteries.

Student’s Answer

RT = (RT1 · RT2) / (RT1 + RT2).

Explanation of Correctness

The correct relation for parallel connection of resistances is written: (R_T=R_{T1}\parallel R_{T2}=\frac{R_{T1} R_{T2}}{R_{T1}+R_{T2}}).
References: [R3]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3C

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
c. Write the expression for the Thevenin voltage of the source formed by the batteries.

Student’s Answer

Disordered/mixed notes and crossed-out formulas; an approximately written “UT = UT1 ∨ UT2” is also stated, and unclear fractions. There is no final clear expression.

Explanation of Correctness

This subtask requires a clear expression for the Thevenin voltage of the combined source (a weighted sum of (U_{T1}) and (U_{T2}) with weights from (R_{T1},R_{T2})). The student’s writing is illegible and conceptually incorrect (e.g., “(U_T = U_{T1} \vee U_{T2})”), so it is not possible to credit a correct result or method.
References: [R1,R4]; EXAMPLE: NO; SKETCH: —; CROSSED OUT: YES

Scoring

0% of 12.5% → contribution: 0.0%

Task 3D

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb.
d. Write the expression for the voltage across the load Rb.

Student’s Answer

“Superposition” is mentioned. 1 sketch (partial): shows the contribution of one source with the load. A formula of the type is written: UB = (RT2 ‖ RB) / (RT1 + (RT2 ‖ RB)) · UT1 + (RT1 ‖ RB) / (RT2 + (RT1 ‖ RB)) · UT2.

Explanation of Correctness

Although the reference solution expects the form (U_B=\frac{R_B}{R_B+R_T}U_T) (with (R_T=R_{T1}\parallel R_{T2}) and the corresponding (U_T)), the student used superposition and provided a direct expression for the voltage across (R_B), where for each source they considered loading by ((R_{\text{other}}\parallel R_B)). This is substantively correct, but it is not written in the expected (simplified) Thevenin form and is not additionally arranged, so it does not receive full credit.
References: [R1,R3,R6]; EXAMPLE: NO; SKETCH: [1]; CROSSED OUT: YES

Scoring

80% of 12.5% → contribution: 10.0%

100007, UNKNOWN, total grade=40%

Pass 3 (valid=True, total=47.5)

Task 1

Question

1. (25%) When using voltage dividers, we encountered a compromise: for certain reasons we want to build the divider from resistors with the smallest possible resistances, but on the other hand we want the resistances to be as large as possible. Explain the contradiction and the reasons for it.

Student’s Answer

On the one hand we want to have as small resistors as possible because of voltage, on the other hand as large as possible because of current.

Explanation of Correctness

The answer indicates the idea of the compromise (small resistors “because of voltage,” large “because of current”), but does not explain the key reasons: the divider’s Thevenin resistance (R_T=R_1\parallel R_2) and an explanation of voltage collapse under load are missing, and the expression for the divider current (I=U_1/(R_1+R_2)) and its consequences (consumption/losses) are missing. Due to missing key elements, the solution is only fragmentary.
References: [R1],[R3],[R5] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

20% of 25% → contribution: 5.0%

Task 2

Question

2. (25%) What condition must be satisfied when connecting a load to a voltage divider made of resistors R1 and R2 so that the load is current-driven?

Student’s Answer

It must hold that R1 >> R2. Writes the divider: U2 = (R2/R) · U1 (with a note about an approximation).

Explanation of Correctness

The required condition is tied to the load (R_B) and the divider’s Thevenin resistance (typically (R_B \|\| R_T), where (R_T=R_1\parallel R_2)). The student states a condition between (R_1) and (R_2) and the voltage divider, rather than the condition for current driving of the load; (R_B) is not mentioned at all. The answer is therefore irrelevant to the question asked.
References: [R1],[R4] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: NO

Scoring

0% of 25% → contribution: 0.0%

Task 3A

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb. a. Sketch the appropriate circuit.

Student’s Answer

Draws a circuit: two Thevenin sources (UT1 with RT1 and UT2 with RT2) connected in parallel to common terminals; at the same terminals the load RB is connected.
Sketch 1: parallel connection of both branches (RT1 + UT1) and (RT2 + UT2) and the branch RB.

Explanation of Correctness

The sketch correctly shows the required topology: each source as a voltage source with an internal resistor in series, both sources in parallel and connected to the load (R_B). (Note: because task 3 is given with a total weight of 50% without a split across a–d, the weight in the grading is divided evenly across the 4 subtasks: 12.5% each.)
References: [R2],[R9] (if the rules are available); EXAMPLE: NO; SKETCH: [1]; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

Task 3B

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb. b. Write the expression for the Thevenin resistance of the source formed by the batteries.

Student’s Answer

Writes: RT = (RT1 · RT2) / (RT1 + RT2).

Explanation of Correctness

The correct Thevenin resistance of the combined source is written: (R_T=R_{T1}\parallel R_{T2}=\frac{R_{T1} R_{T2}}{R_{T1}+R_{T2}}). (Subtask weight assumed 12.5% as 1/4 of 50%.)
References: [R3] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: YES

Scoring

100% of 12.5% → contribution: 12.5%

Task 3C

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb. c. Write the expression for the Thevenin voltage of the source formed by the batteries.

Student’s Answer

Crosses out most of the writing; visible are partial weight terms with denominator (RT1 + RT2), but the full expression of the weighted sum of UT1 and UT2 is not clearly and unambiguously written.

Explanation of Correctness

A clear expression is required for the Thevenin voltage of the combined source as a weighted sum of both sources (with weights involving (R_{T1}) and (R_{T2})). The answer contains only incomplete/inconsistent fragments and many cross-outs, so the key final expression is not provided clearly enough to be considered correct. (Subtask weight assumed 12.5% as 1/4 of 50%.)
References: [R1],[R3],[R5] (if the rules are available); EXAMPLE: NO; SKETCH: —; CROSSED OUT: YES

Scoring

40% of 12.5% → contribution: 5.0%

Task 3D

Question

3. (50%) Two batteries with Thevenin voltages Ut1 and Ut2 and Thevenin internal resistances Rt1 and Rt2 are connected in parallel and connected to a load Rb. d. Write the expression for the voltage across the load Rb.

Student’s Answer

Uses superposition and writes: UB = (RT2 || RB) / (RT1 + (RT2 || RB)) · UT1 + (RT1 || RB) / (RT2 + (RT1 || RB)) · UT2. Sketch 1: auxiliary circuit for superposition (one voltage branch active, the other replaced by the internal resistor), with load RB.

Explanation of Correctness

The expression corresponds to the correct calculation of the voltage across the load using the superposition method: for the contribution of (U_{T1}) the load is (R_B\parallel R_{T2}), analogously for the contribution of (U_{T2}). This is equivalent to the reference expression via (R_T=R_{T1}\parallel R_{T2}), (U_T) (weighted sum), and then the divider to (R_B). (Subtask weight assumed 12.5% as 1/4 of 50%.)
References: [R1],[R3] (if the rules are available); EXAMPLE: NO; SKETCH: [1]; CROSSED OUT: NO

Scoring

100% of 12.5% → contribution: 12.5%

100007, James jbond Bond, total grade=48%

Grading rules:

[R1] Require evidence of understanding.
– Grade only those answers that demonstrate understanding of the issue.
– If an answer is not justified or explained, assign 0%, even if the result is correct.
– The exception is questions that require only a fact or a definition.

[R2] Encourage the use of sketches.
– The answer should include a block diagram, signal diagram, circuit schematic, or arrows showing the flow of information/energy.
– If the content is clear from the sketch, do not award additional points for a textual description of the same.
– If sketches are missing in tasks where they should be present, lower the grade or assign 0%.

[R3] Assess conciseness and focus.
– Award points to answers that concisely and directly address the question asked.
– Overly long, unfocused explanations or listing irrelevant facts do not bring additional points.

[R4] Do not reward “fishing.”
– If the answer is obviously unrelated to the question or indicates that the student is guessing, assign 0%.
– Do not award partial credit for random or unrelated statements.

[R5] Reward clarity and brevity.
– Reward short and clear explanations that show understanding with a higher band.
– Reduce long, drawn-out, and unclear explanations by one band.

[R6] Require explanation, not description.
– A “description of operation” without explaining cause and effect is not awarded points.
– Award points only to answers that explain why the phenomenon happens, not merely what happens.

[R7] Do not go into numerics if it is not necessary.
– Do not expect specific numerical results unless the task explicitly requires them.
– A correct formula or description of the procedure is sufficient; the calculation itself is not required for full credit.

[R8] Do not use negative points.
– The lowest assigned grade is 0%.
– Do not additionally penalize with a negative contribution; do not reduce the total grade below 0%.

[R9] Electrical circuits – topology, not orientation.
– When grading sketches of electrical circuits, assess topology (connections between elements) and the presence of elements, not orientation or visual placement on the paper.
– A circuit that is rotated, mirrored, or otherwise shifted is considered correct if the nodes and connections are equivalent to the reference solution (the circuit is electrically equivalent).
– Do not lower the grade solely because the circuit is “turned,” mirrored, or drawn in a different orientation than the reference sketch, as long as the topology is correct.