Scoring instructions VSBO PBL

2025

Physics and Chemistry 1

Submitting scores

Process scores of all candidates in the online AWP program.
The scores must be posted no later than Monday June 2, 2025 at 12.00 midday.

The scoring instructions comprise:
1 Assessment standards
2 General rules
3 Subject-specific rules
4 Appraisal model

1 Assessment standards

The candidate's work is assessed with due observance of articles 30, 31 and 32 of the Federal Examination Decree vwo-havo-vsbo of 23-06-2008, PB 2008 no 54.
The following passages from the articles of the Federal decree mentioned above are of essence.
1 The school principal submits the completed exam assignments including a copy of the exam questions, the scoring instructions and the official report of the exam to the examiner. The examiner evaluates the work and submits it to the principal along with his/her evaluation. The examiner applies the assessment standards and the appraisal model decreed by ETE (the Examination Bureau).
2 The principal immediately submits the deposited exams, including a copy of the exam questions, the scoring instructions and the official report of the exam to the external examiner.
3 The external examiner promptly evaluates the work, applying the appraisal model and the assessment standards decreed by ETE (Examination Bureau).
4 The examiner and the external examiner confer and jointly determine the score totals for the national exam.
5 If they cannot reach a consensus, the score totals are determined by way of a mathematical average of the scores proposed by each of them, rounded off upwards if so required.

2 General rules

As far as evaluation of the exam goes, the following stipulations apply:

1 The examiner declares on a list, the candidate names and/or numbers, the scores awarded to each candidate for each question and the total score acquired by each candidate.
2 The examiner and the external examiner award scores to the answer to a question in accordance with the appraisal model. Scores are represented by the numbers 0, 1, 2, ..., n, whereby n represents the maximum score attainable for a question. Additional scores, not being a whole integer, or a score being less than 0, are not legitimate.

3   Scores are awarded in compliance with the following rules

     3.1   If a question is answered correctly in full, the maximum score attainable is awarded;

     3.2   If an answer to the question is partially correct, a portion of the score attainable is awarded, in compliance with the appraisal model;

     3.3.   If the answer to an open-end question does not appear on the appraisal model, while said answer may be deemed correct or partially correct by virtue of demonstrable arguments with regard to subject matter content, scores must be awarded on the analogy or in the spirit of the appraisal model;

     3.4   If solely one example, reason, elaboration, quote or answer of a different nature is required, then only (and exclusively) the first-offered answer is evaluated;

     3.5   If more than one example, reason, elaboration, quote or answer of a different nature is required, then only (and exclusively) the first-offered answers are evaluated, up to a maximum of the number of answers asked for;

     3.6   If a required statement or explanation or derivation or calculation is missing or wrong in an answer, then a score of 0 is awarded, unless the appraisal model indicates otherwise;

     3.7   If various options separated by the symbol / appear in the appraisal model, then said options are valid as different phrasings of the same answer or part of the answer;

     3.8   If a portion of the answer is bracketed in the appraisal model, then said portion is not absolutely required in the candidate's answer.

4   The correct answer to a multiple-choice question is the capital letter that matches the correct choice. For a correct answer to a multiple- choice question, the number of points listed in the appraisal model is awarded. For each other answer, no points are awarded. If more than one answer is given, no points are awarded either.

5   An error in the elaboration of a question may be charged but once, unless said error simplifies the question significantly and/or unless the appraisal model states otherwise.

6   A same-like error in the response to different questions must be charged consistently for each individual case, unless the appraisal model states otherwise.

7   If the examiner or the external examiner is of the opinion that there is an error or discrepancy in an exam or in the appraisal model of said exam, then he evaluates the work as if the exam and its appraisal model were correct. He should, however, report the error or discrepancy to ETE. It is not allowed to deviate independently from the appraisal model. Such errors, if any, will be taken into account when the final marking of the exam is determined by ETE.

8   Points are awarded on the basis of answers given by the candidate to each question. No points shall be awarded in advance.

9   The grade for the national exam is arrived at in the following fashion: The first and second corrector determine the score of each candidate. Said score is conveyed to the principal.
The principal determines the grade of the national exam on the basis of standards with regard to converting score to grade. Said grade may be read from conversion tables that are made available by ETE after the final marking of the exam has been established.

3   Subject-specific rules

For this national written exam PSVE PBL Physics & Chemistry 1 first period 2025, a maximum of 56 points can be scored. The exam consists of 34 questions.

The following subject-specific rules have been established for this exam:

1. For each calculation error, 1 score point is deducted to the maximum of the number of score points that can be given for that part of that particular question.

2. If the candidate has made a notation error when answering a question and if it is evident that this has no further influence on the final answer, no score point will be deducted for this.

3. Per question, no more than 1 score point can be deducted for giving an incorrect unit or not mentioning the corresponding unit. In the entire exam, no more than 2 score points may be deducted in this respect.

4. The total number of score points that may be deducted in the entire exam for rounding off incorrectly, is no more than 2. That is to say, a maximum of 1 point if the candidate rounds up incorrectly once or several times and also a maximum of 1 point if the candidate rounds down incorrectly once or several times.

5. If there is no instruction with regard to the manner in which an answer must be rounded off, then all approaches to the answer that ensue from a correct calculation and that are also plausible, are outright correct. In the entire exam the following applies: unless the appraisal model explicitly awards points for rounding off, the instruction: "round off to ... decimals" serves only as an indication to the candidate how accurately he <u>may</u> round off and is never intended for examining the skill of *rounding off numbers*.

6. If, from the answer given, it appears that the candidate has simplified the formulation of the problem, it is not allowed to award the maximum score to the answer given.

4 Appraisal model

The correct answer to a multiple-choice question is awarded 1 point.

1 **maximum score 3**
Words to be underlined:
Sentence 1: kilogram   1
Sentence 2: kilometer   1
Sentence 3: km/hr.   1

2 **D**

3 **B**

4 **maximum score 2**
*A calculation from which the correct answer: "**Quincy switched off the radio at 8:06 o'clock"**, follows.*

Example:
65 minutes = 1 hour and 5 minutes.
7 hours + 1 hour = 8 hours, and 1 minute + 5 minutes = 6 minutes.

For each incorrect answer, deduct 1 point.

5 **maximum score 2**
$45 + 65 + 60 = 170 \text{ dm}^3$.   1
$170 \text{ dm}^3 = 170$ (liters).   1

6 **A**

7 **maximum score 2**
Calculate the force: Force = 80 × 10 = 800 newtons   1
Calculate the pressure: Pressure = 800 ÷ 6.13 = 130.505….   1
Calculated answer correctly rounded plus correct unit: $\approx 130.5 \text{ N/cm}^2$ 1

8 **maximum score 2**
Read the melting point correctly from the graph.
Melting point is: **52** degrees.   1
Find the correct name **Paraffin** for the substance based on
the melting point.   1

Question	Answer	Scores

9 **maximum score 2**

substance property	*wise*	*not wise*
odor (smell with caution)	x	
color		x
taste		x
boiling point	x	

Three rows correct, 2 points.
Two rows correct, 1 point.
Less than two rows correct, 0 points.

10 **A**

11 **B**

12 **C**

13 **maximum score 3**

Calculate the driving time in seconds.	1
Calculate the distance in meters.	1
Calculate the average speed.	1

8.5 minutes = 8 × 60 + 30 = 510 (seconds).
2.9 km = 2.9 × 1,000 = 2,900 (meters).
Average speed = 2,900 ÷ 510 = 5.68… ≈ 5.7 (m/s).

Subject-specific rules 2 and 3 apply.

14 **maximum score 2**

Understand that the stopping distance is 3 m.	1
Calculate the reaction distance. Reaction distance 3 – 2.1= 0.9 m.	1

15 **maximum score 2**
Examples of a sound source for 1 and/or 2 according to Binas are:

- loudest human voice   - chain saw
- car horn 1 m away   - ambulance siren
- aircraft taking off 70 m away   - cheering in a soccer stadium

Example 1 correct.	1
Example 2 correct.	1

The correctness of any other examples of sound sources mentioned is at the discretion of the examiner and the external examiner.

Question	Answer	Scores

16   **A**

17   **maximum score 1**
1.5 meters.

18   **maximum score 3**
Using the speed of sound in air (flight)= 343 m/s or 340 m/s.   1
Use of the formula s = v × t.   1
Calculating the distance: 1
distance = 343 × 1.5 = 514.5 (m).

19   **B**

20   **D**

21   **B**

22   **C**

23   **D**

24   **A**

25   **maximum score 3**
Applying the correct formula E = P × t   1
Writing the calculation correctly:
Energy = 400 × 6.5 = 2,600 kWh.   1
Costs = 2,600 × 0.35 = (ANG) 910.-.   1

26   **maximum score 2**

statement	true	false
Strobe light 1 costs more than strobe light 2, so strobe light 1 gives more light than strobe light 2.		x
Strobe light 1 is 1400 watts, strobe light 2 is 1500 watts, *so* strobe light 2 consumes more energy than strobe light 1.	x	
Both strobe light 1 and strobe light 2 operate on 60 hertz, *so* both strobe lights have a lifespan of 60 years.		x

Three rows correct, 2 points.
Two rows correct, 1 point.
Less than 2 rows correct, 0 points.

Question	Answer	Scores

27 **maximum score 2**
(1). radiation / solar / light   1
(2). electrical   1

28 **maximum score 2**
At (1), (2) and (3) *muscle strength, gravity* and *elasticity* must be mentioned;
in any random order.

Three correct, 2 points.
Two correct, 1 point.
Less than two correct, 0 points.

29 **C**

30 **maximum score 2**
At (1) and at (2) *air resistance* and *rolling friction* must be mentioned; in any
random order.

For each correct answer: 1 point.

31 **maximum score 2**
Understand that: engine power – frictional force = net force,
so $F_1 - F_2$ = Fn and convert to: F_1 - Fn = F_2 1
For writing the calculation: F_2 = 15,000 – 12,500 = 2,500 newtons.   1

32 **maximum score 2**
(1). less   1
(2). 25   1

33 **D**

34 **C**