



**Schola europaea**

Office of the Secretary-General

European Baccalaureate Unit

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## **QUALITY ASSURANCE OF THE 2017 BACCALAUREATE WRITTEN EXAMINATION PAPERS**

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**BOARD OF GOVERNORS**

Meeting on 4-5-6 April 2017 - Berlin

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**APPROVED BY THE BOARD OF INSPECTORS (SECONDARY)**

At its meeting on 7 February 2017 - Brussels

## QUALITY ASSURANCE OF THE WRITTEN EXAMS PAPERS

This document describes all the written exams of the subjects of the European Baccalaureate, both the contents criteria as well as the formal criteria. The Secondary Inspectors are responsible for the contents of the written exams and assure their quality, whereas the Baccalaureate Unit monitors the formal criteria.

The exams of some subjects have been harmonised, others have specific regulations.

### 1) Contents criteria

The contents of the written Baccalaureate exams are described in the syllabus of each subject and are assured by the inspector.

### 2) Harmonised formal criteria

The following harmonised formal criteria are monitored by the Baccalaureate Unit:

1. Each examination paper uses the template provided by the Baccalaureate Unit
2. The cover page includes information about
  - Subject/level
  - Date
  - Time allowed in hours and minutes
  - Material aids allowed
  - Instructions: notes necessary for understanding what is required of candidates.

## SUBJECTS

### 1) *Harmonised regulations*<sup>1</sup>

#### LANGUAGE 1, LANGUAGE 1 ADVANCED

The text set should have a title and give the author's name.

Between title and text there is the possibility of giving a short introduction.

Any explanations necessary for understanding of the text are contained in a maximum of 6 footnotes.

The number of words is given in brackets at the end of the text and exact bibliographical details follow.

The lines will be numbered in 5. A text comprises approximately 700 words, but the limit does not apply for lyrical texts such as poems or songs.

One to three tasks (questions) on each text (topic) may be set.

(Regulations for the written and oral examinations in L 1, 2000-D-25, Regulations for the written and oral examinations in Advanced L1, 2000-D-45).

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<sup>1</sup> LI examinations can already follow for the 2015 Baccalaureate session the indications contained in document 2014-06-D-5-en-3 "Proposal for the harmonisation of the L1 written examinations in the European Baccalaureate" instead

## **LANGUAGE 2, LANGUAGE 2 ADVANCED**

### Part I: Reading comprehension

The set text is literary or non-literary. It will be approximately 700 words although this does not apply to poetic texts.

The text set should have a title and give the author's name.

Between title and text there is the possibility of giving a short introduction. Any explanations necessary for understanding of the text are contained in a maximum of 6 footnotes.

The number of words is given in brackets at the end of the text and exact bibliographical details follow.

The lines will be numbered in 5.

A maximum of 4 questions may be subdivided. Their respective weight will be indicated.

### Part II: Guided writing

One question is set.

### Part III: Essay

One or two questions to be chosen.

(Regulations for the written and oral examinations in LII, L III and L IV in the European Baccalaurate, 2011-02-D-5)

*For EN LII Advanced:*

### *Part I: Reading comprehension*

*The set text is literary or non-literary. It will be approximately 700 words although this does not apply to poetic texts.*

*The text set should have a title and give the author's name.*

*Between title and text there is the possibility of giving a short introduction. Any explanations necessary for understanding of the text are contained in a maximum of 6 footnotes.*

*The number of words is given in brackets at the end of the text and exact bibliographical details follow.*

*The lines will be numbered in 5.*

*A maximum of 4 questions may be subdivided. Their respective weight will be indicated.*

### *Part II: Essay*

*One or two questions to be chosen.*

### **LANGUAGE 3**

#### Part I: Reading comprehension

2-3 non-fictional texts will have 600 words in total (+/- 10%). The texts set should have a title and give the author's name.

Between title and text there is the possibility of giving a short introduction.

The number of words is given in brackets at the end of each text and exact bibliographical details follow.

The lines will be numbered in 5.

Different assessment questions are set: multiple-choice, true/false, short answer questions, etc.

#### Part II: Written production

- a) Two functional tasks must be set.
- b) Two creative tasks must be set.

#### Part III: Understanding literature:

Two tasks (one for each of the two set books) must be set.

(Syllabus for all L III languages, 2010-D-49-en-6)

### **LANGUAGE 4**

#### Part I: Reading comprehension.

The text will be approximately 400 - 500 words although this does not apply to poetic texts. The text set should have a title and give the author's name.

Between title and text there is the possibility of giving a short introduction. Any explanations necessary for understanding of the text are contained in a maximum of 6 footnotes.

The number of words is given in brackets at the end of the text and exact bibliographical details follow.

The lines will be numbered in 5.

8 to 10 questions will be set.

#### Part II: Personal response:

Alternative tasks will be offered.

(Regulations for the written and oral examinations in LII, L III and L IV in the European Baccalaurate, 2011-02-D-5)

## **ONL: written examination**

Part 1: (30 marks) Reading Comprehension

Unseen reading comprehension text of between 600 and 800 words, (unless a poetic text). Students will be asked to answer 6 – 8 questions.

Part 2: (30 marks) Creative Writing

Guided writing exercise of approximately 250 words. Students will choose one of two options.

Part 3: (40 marks) Literary Texts

Either one or two questions may be set, according to national requirements.

Students' knowledge and insight into the prescribed texts will be assessed. Students will be expected to write approximately 400 words. There will be a choice of questions.

For Maltese students, there will be an additional short set text (prose or poetry) and students will be asked 3-5 questions (total 10 marks) to assess their literary appreciation skills.

## **2) *Specific regulations***

### **PHILOSOPHY**

The philosophy syllabus is structured around four 'fields to be analysed':

1. Perception, knowledge, truth
2. Human beings, others, values
3. Society and the State, law and politics
4. Nature and technology

The syllabus foresees three types of written papers for the Baccalaureate:

- a text accompanied by questions;
- a quotation accompanied by questions;
- a main question with sub-questions.

In the examination each candidate will be expected to tackle a paper structured around three propositions.

Each proposition deals with a theme linked with one of the four 'fields to be analysed' foreseen by the syllabus. The three types foreseen by the syllabus are present, namely a text with questions, a quotation with questions and a main question with sub-questions.

The questions and sub-questions are worded in such a way as to guide candidates in their analysis and reflection and to support their personal reworking of the theme in their answers.

## LATIN

Cf. 2016-01-D-19-fr/en/de-1

Baccalauréat européen/ LATIN - Nouvelle structure de l'épreuve écrite - Complément au Programme de Latin S2 - S7 (2014-01-D-35)

European Baccalaureate/LATIN - New structure of the written test – In addition to the Latin Syllabus – S2 - S7 (2014-01-D-35)

Europäisches Abitur/LATEIN - Die neue Struktur des schriftlichen Abiturs – Ergänzung zum Latein Lehrplan – S2 - S7 (2014-01-D-35)

The examination consists of **three parts**.

The candidate can treat these three parts **independently**.

Each section is worth **40 points**.

The candidate may use a **bilingual dictionary** and the *conspectus grammaticalis*.

### **Part I: Reading Proficiency**

This first part evaluates the **understanding** of one or more documents; it consists of authentic texts in Latin.

The candidate should read the documents and establish the sense of each one.

**Two unseen texts** will be set to the candidates:

> A **non-literary text**: an inscription, a saying or proverb, for example;

> An **unseen literary text** in connection with the *pensum*.

→ a Latin text will be set with a partial parallel translation at the beginning, middle or end

→ the candidate will be asked to translate some of the text: this part will contain 50 words (+/- 10 %)

→ this text may be accompanied by a maximum of 6 explanatory notes.

The **first exercise** (about a non-literary text) will be worth **10 points**; the **second** (about an unseen literary text) will be worth **30 points**.

### **Part II: Understanding a literary text**

The student should read and analyse a **text from the *pensum***. The length of the text will not exceed **200 words**.

**Four questions** will be set on the proposed text.

These questions will cover respectively:

a) **vocabulary** and/or **grammar**

b) **etymology/derivations**

c) **style/diction** of a part or the whole text

d) analysis of **one or more translations** of a short section of the set passage.

The distribution of the points will be specified according to the questions set.

### **Part III: Essay Writing**

The writing takes the form of **an essay**.

The questions will be **based on the *pensum***.

The objective is **to encourage students to reflect on the reception and influence of Latin** in history and in the contemporary world.

The student will **choose one of two questions**. Each of these two questions involves the same skills.

The essay title may consist of a **question**, a **quotation**, or **one or more images**.

Candidates should develop **a reasoned argument**, using **specific examples**, which **refer to the *pensum***.

### **ANCIENT GREEK**

The paper comprises two parts, each worth 50%.

Part 1: text in Ancient Greek, with which the students are familiar, with compulsory questions

Part 2: unseen literary text in Ancient Greek which students have to translate.

To help them with their translation, they can use a bilingual Ancient Greek-student's language of study dictionary.

## 4P HISTORY

The examinations will normally cover the year 7 syllabus, but will also test knowledge gained in previous years, especially year 6.

- **Baccalaureate written examination paper**

The Baccalaureate examination is based on the year 7 European Core Course 'Europe and the Europeans' (Europe 4, 5, 6, 7) and the year 7 Compulsory Theme Course (Themes 7.4A, 7.4B, 7.4C). The examination lasts 3 hours in total and is divided into two sections, 1 hour 30 minutes of which should be spent on each. The first part is an unseen source paper and the second part is a structured essay.

### **Part 1 - Source Paper**

Part 1 is compulsorily a source paper with four questions based on four to five unseen sources, which will change every year. The fourth question is a synoptic question based on one of the ten sub-questions from year 7 European Core Units (Europe 4, 5, 6, 7) which requires synthesis, evaluation of unseen sources and contextual knowledge.

There should be four to five sources, of which at least one, maximum two, should be non-written (such as a cartoon, photograph, statistics or map). There should be a mix of primary and secondary sources. The sources in total should be no more than approximately 1000 words.

### **Part 2 - Structured Essay**

This consists of three questions based on two or three of the compulsory year 7 themes (7.4A, 7.4B, 7.4C).

The first question is a description-based question requiring the skills of recall and selection of historical facts and knowledge. It requires knowledge of the key words in the syllabus and can be drawn from the key words box (see 7.4A, 7.4B, 7.4C). There can be up to two sub-questions if the questions are more definition-based.

The second question focuses on explanation.

The third question tests explanation and evaluation.

## 4p GEOGRAPHY

The written examination paper consists of four compulsory questions.

Each question can relate to any one of the four themes in the year 7 syllabus.

The questions are graduated in terms of difficulty:

- Type 1 question – Document interpretation. This question should be relatively basic to ease the student into the paper. It is worth 15 marks.

- Type 2 question – Focusing strongly on skill. Students are required to construct a graph or map, an annotated diagram, etc., and to interpret a document. They are expected to comment on / justify the technique used, describe and evaluate the trends / patterns shown and briefly project the likely future trends / changes. The question is worth 25 marks.

- Type 3 question – A more demanding question requiring greater analytical skills / understanding of the themes. The issue examined here might be centred on a key geographical theme. Students will be asked to give a brief description but the focus shifts strongly to analysis and explanations. Finally there should be a question focusing on some critical evaluation. The question is worth 30 marks.

Type 4 question – Essay. This is the question that allows student to communicate a deep(er) understanding of the European dimension and offer some personal insight. The essay should be of a minimum length of approximately 500 words and a maximum length of 1000 words. The question is worth 30 marks.

## **ARTISTIC EDUCATION**

The task of the examination has a clear reference to the year theme and may consist of a given text and/or visual images taken as a starting point for the student's personal, creative artwork carried out in class throughout year 7.

The Art examination is practical consisting of two parts:

- a. preparation
- b. final examination

A controlled preparation period of one week prior to the set examination date, during which the examination task is given. A selection of studies from this period must be presented in the final exam.

The final examination consists of a period of five hours when the student completes a final artwork and gives a written commentary.

The preparatory work accounts for 40%, the final work for 50% and the written explanation for 10% of the final mark.

The written part aims at adding to the understanding of the practical work by giving information on intentions, thought-processes and feelings, reactions and capacity for conceptual thought and decision-making and demonstrating a critical reflection on the making of the final work.

## **MUSIC**

The framework and rationale for the Music Baccalaureate programme and examination reflects and builds upon the principles of good practice contained in the curriculum for Years 1- 5. The programme provides a framework within which the experiential approach to music learning, where pupils act as performers, composers and discerning and critical listeners, can be sustained throughout Years 6-7.

The structure of the Baccalaureate consists of a part A, the pre-Baccalaureate Examination assessed by teachers (40%) and a both internally and externally assessed Part B (60%).

Part B consists of a listening and responding examination (3 hours) and a portfolio.

The listening examination consists of recognising musical styles and traditions (multiple choice and short answer questions) and analysing music in context (4 topic areas that change every two year, open questions). Model answers are provided for the examiners.

The portfolio provides evidence of a student's musical achievement and learning throughout the course. Half of the marks for Part B are allocated for the portfolio, the other half is for the listening test. Both parts are assessed by the teacher and an external examiner..

## **BIOLOGY**

The examinations will normally cover the year s7 syllabus, but will also assess the knowledge acquired in previous years, especially in year s6.

(As to the limits of the syllabus of s7: accompanying document and limits of the year 7 syllabus, 4-period course, Septembre 2016)

The questions cover physiology and cytology (P questions), genetics (G questions) and evolution (E questions).

The question paper set comprises 3 questions, namely:

1 P question

1 G question

1 E question.

The questions include parts requiring candidates merely to reproduce knowledge (e.g. annotation of a diagram) and parts requiring candidates to demonstrate understanding, the ability to transfer knowledge (e.g. to discuss the relationship between the structure and function of organelles) and biological problem-solving skills (e.g. analysis and interpretation of experimental data).

**During the examination the only calculator allowed is the TI-Nspire calculator put into Press-to-Test mode.**

## **CHEMISTRY**

**The programme of the written examination in Chemistry is unchanged compared to the previous years and is defined in the syllabus in place.**

The questions are based on the year 7 syllabus but knowledge of the year 6 may be required.

The examination papers are marked out of a total of 100 marks and consist of four questions, two questions A and two questions B. Each question accounts for 25/100 marks.

Candidates answer the 4 questions.

During the examination, the candidates can use the TI-Nspire calculator put into Press-to-test mode.

### **QUESTIONS A: GENERAL CHEMISTRY AND MINERAL CHEMISTRY**

**Question A1:** Acid-base and pH

**Question A2:** Electrochemistry

### **QUESTIONS B : ORGANIC CHEMISTRY**

**Question B1** : oxygenated compounds (including glucids and soaps)

**Question B2** : mainly aliphatic and aromatic nitrogen compounds (including amino acids).

NB. : polymers may be part of B1 or B2 questions.

## **ECONOMICS**

As from 2015, the Baccalaureate examination paper will comprise only three compulsory questions.

The Baccalaureate examination paper questions must:

- be based on real documents: statistics, graphs, texts, tables, etc.
- require the use by candidates of the documents accompanying each question: candidates must of course know the theory and it is legitimate to question them on it using the said documents as a starting point, but assessment must also allow an appraisal to be made of candidates' ability to understand and interpret an economic situation (on the basis of the attached documents) and to explain, comment, describe, analyse, summarise, argue, etc.
- include questions calling for an answer from which it can be ascertained with certainty that candidates are capable of applying their knowledge and skills to current events.

Each question is divided into four sub-questions:

- The first two sub-questions, which are generally worth two marks each, are precise or even closed question, the aim being to assess candidates' knowledge and skills.

- The next two sub-questions are worth three marks each and are open-ended questions, which allow candidates not only to demonstrate their basic knowledge and skills but also to show their higher level skills, their ability to analyse issues and to draw on wider-ranging and more in-depth knowledge. These questions give the best students the opportunity to shine and the strength of their performance to be recognised in our assessments.

- be general and not require complicated technical calculations (maximum of one sub-question worth one mark out of the three questions set).
- relate to a recent economic situation, which must resonate with all candidates, and not to past events with which they are not necessarily familiar.

## MATHEMATICS

This chapter sets out the guidelines to be followed for the setting and structure of the Baccalaureate written papers for the 3 and 5 weekly periods mathematics courses examinations. It expands on the relevant provisions laid down in the Arrangements for implementing the Regulations for the European Baccalaureate and may not under any circumstances replace or override those provisions. Detailed consultation of that document, which is not included in this preamble as it is updated by the OSGES and sent to the schools for each Baccalaureate session, is therefore absolutely essential.

### General guidelines for the mathematics examinations

#### - Subject matter of the examinations

The written examinations in mathematics test the full range of the subject matter covered in year 7, as defined by the 3-period and 5-period syllabuses respectively, although they may also test concepts or techniques acquired in year 6.

Under no circumstances should the papers include questions offering a choice and they must cover all the themes defined by the syllabuses.

Details on that subject are given in paragraph 5.3, entitled 'Detailed structure of the mathematics papers in the Baccalaureate examinations'.

#### - Time allowed for the examinations

The total time allowed for the written papers in mathematics and the amount of time allotted to the part without the technological tool, called part A, and the part with the technological tool, called part B, is laid down in the table entitled 'The 'Pre-Bac' (part examinations) and the Baccalaureate' in paragraph 4.2.2.

On the day of the mathematics written papers, in both the 'Pre-Bac' and the Baccalaureate, the examinations will start at the following times:

- start of the examination with the technological tool, part B: 09.00;
- start of the examination without the technological tool, part A: 14.00.

For SEN students, the provisions in force remain unchanged and are fully applicable. The extra time breaks down proportionally to the amount of time allotted to each part of the examination.

#### - Marking scale for the examinations

The written examination papers in mathematics are marked out of a total of 100:

- in the 3 weekly periods course, the part without the technological tool, called part A, accounts for 40 marks, and the part with the technological tool, called part B, for 60 marks.
- in the 5 weekly periods course, the part without the technological tool, called part A, accounts for 30 marks, and the part with the technological tool, called part B, for 70 marks.

The final mark for the examinations does not make a distinction between the marks achieved in each of the two parts: this final mark out of 100 is the sum of the marks achieved separately in the part without and in the part with the technological tool. More detailed recommendations for setting the marking scale are given in paragraph 5.4, entitled 'Setting of Baccalaureate examination question papers and marking scale'.

## **- Equipment for examinations**

In accordance with the Arrangements for implementing the Regulations for the Baccalaureate, candidates may use only the official sheets of paper provided for that purpose. In that context, it should also be pointed out that scripts written in pencil are not accepted.

Apart from the technological tool determined by the group of experts to accompany the mathematics syllabuses, no other equipment or formularies are allowed during the written papers in mathematics. The models of technological tool and the versions of the software to be used with them are determined by the group of experts. The group of experts' decisions will be communicated to the schools before the end of the school year preceding the Baccalaureate year and will be indicated on the front page of the examination papers entitled 'Notice to Candidates'.

Use of the technological tool is allowed only in the part of the examination with the technological tool, also called part B.

## **Detailed structure of the mathematics papers in the Baccalaureate examinations**

### **- Structure of the 3-period mathematics course examination paper**

The 3 weekly periods mathematics course examination paper must comply with the framework and the provisions set out in the following table.

### **3-PERIOD MATHEMATICS COURSE EXAMINATION PAPER**

#### **EXAMINATION WITHOUT TECHNOLOGICAL TOOL**

##### **PART A**

**TIME ALLOWED: 60 MINUTES**

**MARKING SCALE: 40 MARKS**

- This part comprises 8 questions, each worth 5 marks.
- These questions are designed strictly to test the basic knowledge and skills laid down in the first 2 columns of the syllabus for this course.
- The questions are confined to testing a well-defined skill or competence and may not, therefore, contain sub-questions.
- The 8 questions cover all the topics set by the syllabus and break down as follows:
  - ✓ 5 analysis questions;
  - ✓ 2 questions on probabilities;
  - ✓ 1 question on statistics.

#### **EXAMINATION WITH TECHNOLOGICAL TOOL**

##### **PART B**

**TIME ALLOWED: 120 MINUTES**

**MARKING SCALE: 60 MARKS**

- This part comprises 3 parts.
- The 3 parts refer to the 3 columns of the syllabus for this course.

- The 3 parts cover all the topics set by the syllabus and break down as follows:
  - ✓ analysis: 25 marks;
  - ✓ probabilities: 15 marks;
  - ✓ statistics: 20 marks.
- The part on analysis takes the form of one exercise worth 10 marks and one exercise worth 15 marks.
- The part on probabilities takes the form of one exercise worth 15 marks.
- The part on statistics takes one of the following two forms:
  - ✓ 2 exercises each worth 10 marks;
  - ✓ 1 exercise only, worth 20 marks.
- An exercise worth 10 marks must consist of exactly 3 subquestions.
- An exercise worth 15 marks must consist of a minimum of 4 and a maximum of 5 subquestions.
- An exercise worth 20 marks must consist of a minimum of 5 and a maximum of 6 subquestions.
- The number of marks which a sub-question is worth may not be greater than 5.

### **- Structure of the 5-period mathematics course examination paper**

The 5 weekly periods mathematics course examination paper must comply with the framework and the provisions set out in the following table.

## **5-PERIOD MATHEMATICS COURSE EXAMINATION PAPER**

### **EXAMINATION WITHOUT TECHNOLOGICAL TOOL**

#### **PART A**

**TIME ALLOWED: 60 MINUTES**

**MARKING SCALE: 30 MARKS**

- This part comprises 7 questions, worth a minimum of 2 and a maximum of 6 marks, so that the sum total of 30 marks allotted to this part is respected.
- These questions are designed strictly to test the basic knowledge and skills laid down in the first 2 columns of the syllabus for this course.
- The questions are confined to testing a well-defined skill or competence and may not, therefore, contain sub-questions.
- The 7 questions cover all the topics set by the syllabus and break down as follows:
  - ✓ 1 analysis question;
  - ✓ 1 geometry question;
  - ✓ 1 probabilities question;
  - ✓ 1 question on sequences;
  - ✓ 1 question on complex numbers;

- ✓ the sixth and seventh questions concern two separate topics chosen from amongst analysis, spatial geometry and probabilities.

## **EXAMINATION WITH TECHNOLOGICAL TOOL**

### **PART B**

**TIME ALLOWED: 180 MINUTES**

**MARKING SCALE: 70 MARKS**

- This part comprises 4 parts: 3 parts worth 20 marks and one part worth 10 marks.
- The 4 parts refer to the 3 columns of the syllabus for this course.
- The 4 parts cover all the topics set by the syllabus and break down as follows:
  - ✓ analysis: 20 marks;
  - ✓ geometry: 20 marks;
  - ✓ probabilities: 20 marks;
  - ✓ sequences and/or complex numbers: 10 marks.
- The different parts take the following form:
  - ✓ analysis, geometry and probabilities: a single exercise each worth 20 marks;
  - ✓ the part on sequences can consist of a single exercise, worth 10 marks, on series only or on complex numbers only, or of two exercises, worth 5 marks each, one on sequences, the other on complex numbers.
- An exercise worth 20 marks must consist of a minimum of 4 and a maximum of 8 sub-questions.
- The number of marks which a sub-question is worth may not be greater than 5.

### **Setting of Baccalaureate examination question papers and marking scale**

Guidelines for the setting of Baccalaureate written examination paper questions:

- the wording of the questions should allow candidates clearly to identify the form in which they are supposed to present their answer (simple result, a method, the stages in a calculation, a line of reasoning, etc.);
- sub-questions composed of a series of further sub-questions are not allowed;
- in setting questions for the parts with the technological tool, the following recommendations should also be followed:
  - ✓ the initial questions should enable candidates to become familiar with the topic to be dealt with;
  - ✓ the most open-ended or the most difficult parts of the question should be at the end of the exercise;
  - ✓ the wording should make clear to candidates whether the answer to a sub-question can be found only by using the technological tool;
- the marking scale must clearly indicate the number of marks which each of the sub-questions is worth;

- the number of marks which a sub-question is worth is dependent on the skills and techniques which candidates have to deploy in order to find the solution. However, this number of marks should in no way be a yardstick of the degree of difficulty alone of the sub-question.

Finally, the number of marks which a sub-question is worth may not be greater than 5;

- the model answers accompanying the examination papers give a possible solution and not the solution which candidates are supposed to produce. It is up to markers, and it is their responsibility, to mark with discernment and to judge the mathematical validity of any approach or solution which might differ from the model answers within the framework set above.

### **Practical organization of Baccalaureate mathematics examinations**

In all the European Schools the mathematics written examinations will be organized in accordance with the guidelines below. In order to take account of the particularities and constraints of the different European Schools, details of the arrangements which need to be made to implement these guidelines will be determined in each school.

#### **- Mathematics examination without the technological tool: Part A**

- The part of the examination without the technological tool must be conducted without any technological devices. It is a 'pen and paper' examination, without any mathematics formulary. Candidates have only the official examination sheets (final script and rough work) foreseen for the different examination papers.
- During this part of the examination, candidates may not have at their disposal the technological tools or devices foreseen by the syllabuses.

#### **- Mathematics examination with the technological tool: Part B**

- The schools must guarantee that for the part with the technological tool, candidates' calculators have the unbiased examination mode ('press-to-test' functionality) enabled. The group of experts is responsible for making available to the schools an information memo and update on this 'press-to-test' functionality of the technological tool. This memo will be included in the Arrangements for implementing the Regulations for the Baccalaureate.
- Candidates who hand in their scripts more than ten minutes before the scheduled end of the examination must give them to an invigilator, who must ensure that each such candidate leaves the examination room with his or her technological tool.
- Collection of the scripts during the last ten minutes of the examination must proceed in accordance with the provisions in force.
- For the examinations, the schools must plan in advance to ensure that there is a sufficient number of technological tools with the 'press-to-test' functionality enabled and of suitable replacement batteries.

## PHYSICS

**Structure of the PHYSICS written examination paper:**

**Four compulsory** questions covering the subject as a whole:

Q1: **Field physics** (gravitation + electric fields + magnetic fields): **30 marks**

Q2: **Wave physics** (material waves + optics): **30 marks**

Q3: **Atomic physics** (**including** the photoelectric effect): **20 marks**

Q4: **Nuclear physics**: **20 marks**

**OPINION**

The Board of Inspectors (secondary cycle) approved the present document for implementation on the 2017 Baccalaureate session.

The Joint Teaching Committee took note of the document for its information.

**OPINION**

The Board of Governors took note of the present document for implementation on the 2017 Baccalaureate session.