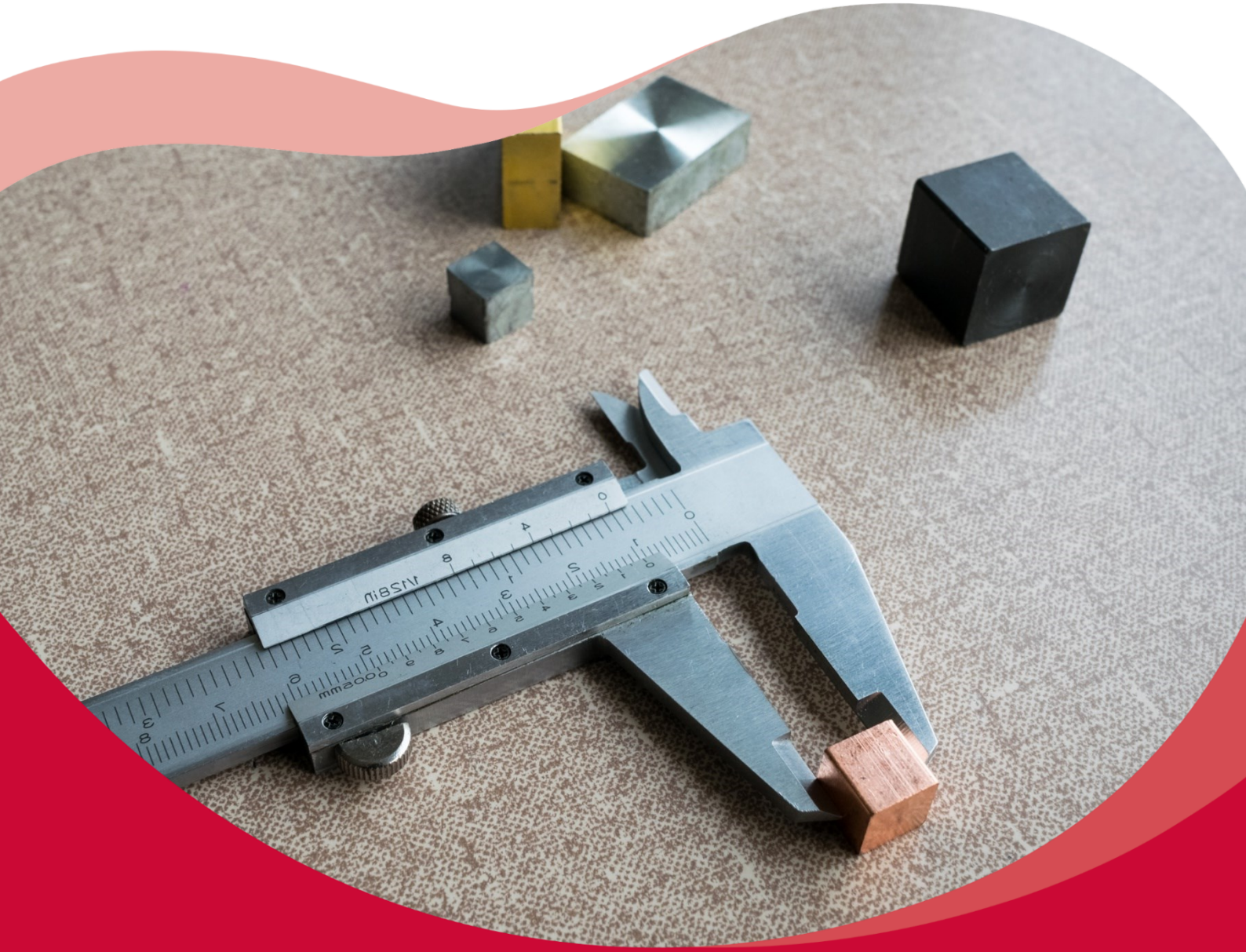
L-Università ta' Malta

MATSEC
Examinations Board



Paper Setting: Procedures and Good Practices

MATSEC

2024

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A. INTRODUCTION

A.01. Whether an examination measures what it claims to measure depends on the questions set. Questions and their marking must be able to discriminate between candidates based solely on mastery of content as stated in the respective subject syllabus.

A.02. The aim of this document is to encourage good practice in the preparation of examination scripts. It is acknowledged, however, that the appropriateness of some of the guidelines given may vary from subject to subject.

A.03. MATSEC examination papers are set by Paper Setter's Panels.

A.04. A Paper Setter's Panel consists of a Chairperson, a Reviewer, and Paper Setters.

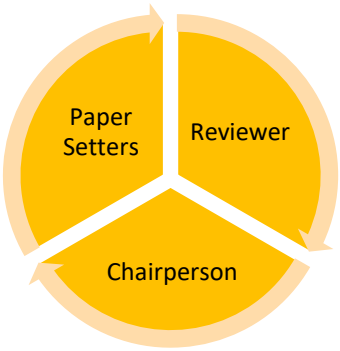


Figure 1: Members of a Paper Setter's Panel

B. CHAIRPERSON'S DUTIES

The Chairperson of the Paper Setters' Panel is responsible for completing and delivering the following to MATSEC's Administrative Director by the dates specified by MATSEC:

B.01. Examination Papers that:

a. are fair and valid to assess the candidates on the syllabus content according to the objectives of the syllabus of the appropriate session of examinations;

b. follow the assessment objectives set in the syllabus;

c. comply with the weightings stated in the syllabus;

d. are clear, unambiguous and error free;

e. are well-balanced in terms of timing and mark allocation.

B.02. Marking Schemes that:

a. set clear criteria for marking;

b. show any calculations required;

c. show clearly how the marks are allocated within each question.

B.03. A completed and signed checklist for each examination paper (retrievable from the MATSEC website: https://www.um.edu.mt/matsec/guidelines-policies/checklists/).

B.04. Specification grid/s for each paper.

B.05. A completed and signed reviewer's checklist for each examination paper (retrievable from the MATSEC website: https://www.um.edu.mt/matsec/guidelines-policies/checklists/).

C. REVIEWER'S DUTIES

A member of the Paper Setters' Panel will **not** set questions but will act as a Reviewer.

C.01. On reviewing the final copy of the examination papers, specification grid/s, and the marking schemes, the Reviewer must check that:

a. the general standard of the papers is satisfactory;

b. the questions are fair, reasonable, within the syllabus, and free of bias;

c. the weighting of each section is as specified in the syllabus;

d. a well-balanced distribution of the topics in the syllabus is presented in the paper;

e. rubrics are consistent with the syllabus specification.

C.02. The Reviewer should answer all the papers' questions with the aim of:

a. ensuring that syllabus content and objectives are covered;

b. checking that that all relevant information is given and that the paper content is correct;

c. checking any calculations;

d. assessing the time that a typical candidate would take to answer each question (see Section 11 of this document);

e. critically looking for any ambiguity and all forms of bias (see Section 9 of this document);

f. focusing on other difficulties with the working of each question, which may be caused by the use of difficult or unnecessary words, incomplete information, unclear diagrams or pictures, candidates not having a clear picture of what is intended by the question (see Section 6 of this document);

g. ensuring that optional questions are of the same difficulty level and take approximately the same time to complete;

h. checking that the allocation of marks is fair in terms of the importance of the topic and in terms of the answer expected of candidates.

C.03. The Reviewer should scrutinize the marking scheme (see Section 10 of this document) with the aim of checking that:

a. it is clear, unambiguous and can be followed easily by the markers;

b. the allocation of marks to each question is appropriate to its difficulty;

c. acceptable and unacceptable alternative answers are identified;

d. wherever possible, each mark is accounted for;

e. the marks of the paper add up to the total of marks allocated to that paper as indicated in the syllabus.

C.04. On adopting this procedure, the Reviewer should use the checklist provided by MATSEC (retrievable from the MATSEC website: https://www.um.edu.mt/matsec/guidelines-policies/checklists/). The checklist must be completed, signed and handed in with the examination papers by the Chairperson.

C.05. The Reviewer is responsible for liaising with the Chairperson to ensure the timely handing over of the examination papers and supporting documentation for the reviewing exercise.

D. PAPER SETTING PROCEDURES

The Chairperson is required to adopt the following procedure:

D.01. assign sections of the syllabus to members of the Paper Setters' Panel on which to set questions and agree on the type of questions to be set;

D.02. call and chair meetings of the Panel during which:

a. examination questions prepared by members of the panel are reviewed,

b. mark allocations are agreed and suitably recorded in the examination papers;

D.03. ensure that the questions are within the syllabus and adequately cover the subject matter and the assessment objectives;

D.04. ensure that all questions are clear, precise and intelligible, keeping in mind that English is a second language for the majority of candidates;

D.05. check that technical terms and symbols conform to current usage;

D.06. ensure that standards are maintained and that questions are **not** repeated from one session to another;

D.07. act upon feedback from previous examinations including recommendations from relevant reports;

D.08. ascertain that, in sections with optional questions, alternative questions are of comparable difficulty;

D.09. ascertain that questions do **not** contain gender, religious or cultural bias and that any questions on political, religious, and culturally sensitive items are set and assessed in a clear and fair manner;

D.10. ascertain that papers can be worked out by the candidates in the time allowed;

D.11. check that there are no errors or omissions in the questions;

D.12. check the paper setters' marking scheme for the questions they have set, with special attention to solutions of numerical and mathematical questions;

D.13. check on the availability of all the requirements of questions in practical examinations and ensure that experiments and practical tasks are workable;

D.14. check that the rubrics are clear and reflect the requirements of the syllabus;

D.15. refer the examination papers to the Reviewer for scrutiny, consider his/her recommendations, and take appropriate action to improve the papers;

D.16. submit the examination papers to MATSEC for vetting and printing within the time indicated;

D.17. check and endorse the camera-ready version of the paper, keeping in mind that the Chairperson is fully responsible for the content and accuracy of the examination paper.

E. AURAL/ORAL COMPONENT

In language examinations with an oral/aural component, the Chairperson should follow this procedure:

E.01. The oral examination, in which candidates are assessed individually, must test the ability to communicate fluently and effectively in speech or as stated in the subject syllabus. Questions related to grammar and ones which might show bias must be avoided (refer to Section 9).

E.02. For the aural part of the examination (i.e. listening comprehension and dictation), the time factor must be taken into consideration. Selected passages must **not** be too long or too complex as these might require more than the allotted time to decipher. Furthermore, specific instructions must be given as regards the administration of this component including the reading speed of the examiner.

E.03. If pictures are to be included, please provide originals. They have to be very clear for reproduction. Please acknowledge sources whenever possible (refer to Section 12).

E.04. Define clearly what is intended for the examiners and what applies for the candidates.

F. LAYOUT AND FORMATTING

F.01. It is important that, as much as possible, MATSEC examination papers have the same format regardless of subject and level.

GENERAL

F.02. Verdana pt 10 is to be used throughout (except in special circumstances such as in the use of equations, java script, and IM/AM Mathematics).

F.03. Text and questions are to be justified.

F.04. The paper should be A4 with moderate margins (2.54 cm bottom and top; 1.91 cm left and right).

F.05. Numbers 1-10 are usually written as text while numbers greater than 10 are usually written as integers.

SPACING

F.06. 1.15-line spacing is used throughout. Double line spacing is used for blank lines (writing space).and fill-in-the-blank exercises.

F.07. There should be no spaces before any of the following signs unless the subject requires it: ? ! , . : ; ’ ”

F.08. There should be no spaces after any of the following signs: “ ‘

F.09. There should be a space between figures and units (e.g. 47.5 cm3).

F.10. Questions should, as much as possible, **not** start on one page and continue on another.

F.11. When a question or passage does not fit on one page and the page is odd-numbered[i], the text ‘Question / passage [as applicable] continues on next page’ should be written at the bottom of the page. This should be

Right aligned and in Italics and Bold

EMPHASIS

F.12. Important parts of sentences are to be emphasised as follows:

a. using CAPITAL LETTERS and **bold** to indicate the number of responses required (e.g. name **TWO** types of fruit);

b. using **bold** for words in the negative (e.g. do **not** use coloured pencils);

c. using CAPITAL LETTERS for emphasis in section titles/directions which are already formatted in bold (e.g. **Answer ALL questions**).

F.13. Double quotation marks are used to indicate words extracted from a passage. In the passage itself, these words can be marked using **bold**, if necessary. A second set of words in a passage can be marked using <u>underline</u>. Italics is reserved for foreign words. Numbering

F.14. Questions are to be numbered using Arabic numbers. Further subdivisions should be numbered using Latin letters. If further subdivisions are required, Roman numbers should be used.

F.15. In all subjects having English instructions, headers and footers, lettering is to be carried out using letters in the English alphabet.

F.16. Sections are to be labelled using Latin letters unless otherwise stated in the syllabus (e.g. **SECTION A**).

F.17. Subsequent to the colon, each point should start with a small letter and end with a semicolon, with the exception of the last point which should end with a full stop, as shown below:

(a) On the graph, plot as accurately as possible, the value of the ionization energy of:
(i) the element with atomic number 10;
(ii) the element with atomic number 19.

MARKS

F.18. Marks should be clearly shown in a consistent style next to each question.

F.19. When blank lines are used in write-on papers, marks are to be indicated as follows:

a. the marks for each sub-question are to be written using Arabic numbers in curved brackets **without** the word 'mark/s' or 'point/s' at the end;

b. the total mark is to be indicated in **bold**, right aligned, and in curved brackets, as shown below:

_____

_____ (2)

(Total: 5 marks)

F.20. When word-processing, tab stops offer a very simple and fast way to standardise the spacing before marks (where applicable).

HEADERS, TITLES AND CAPTIONS

F.21. Section headers (where applicable) should be in **bold**, CAPITALISED and left aligned (e.g. **SECTION A: LANGUAGE**).

F.22. Titles, sub-titles, and instructions are to be in **bold**. When this indicates a set text, the title of the set text only should be in italics (as in 6.28).

F.23. Passage and table headers are to be in **bold** and centred.

F.24. General instructions related to the whole paper are to be formatted normally (Verdana, 10pt).

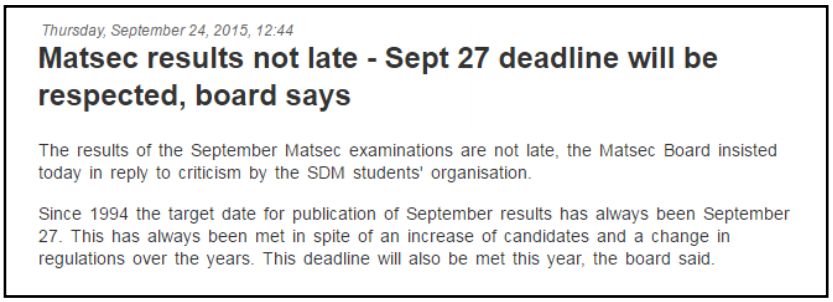
F.25. Table titles are to be centred above the table with a text size of 8pt (2pt smaller than the rest of the text).

F.26. Figure captions are to be centred under the figure with a text size of 8pt (2pt smaller than the rest of the text).

Table 1: Table Title

REFERENCES

F.27. For pictures and/or text copied/adapted from another source, the URL or name of author suffices. This can be placed under the piece in italics with a font size of 8pt (2pt smaller than the normal text).



Thursday, September 24, 2015, 12:44

Matsec results not late - Sept 27 deadline will be respected, board says

The results of the September Matsec examinations are not late, the Matsec Board insisted today in reply to criticism by the SDM students' organisation.

Since 1994 the target date for publication of September results has always been September 27. This has always been met in spite of an increase of candidates and a change in regulations over the years. This deadline will also be met this year, the board said.

Article taken from the Times of Malta (www.timesofmalta.com)

F.28. When referring to set texts/pieces of work, only the name of the piece should be in italics (e.g. F'*Qabel Tiftaħ l-Inkjesta* ta' Alfred Sant paġna 4; *Annunciation*, Simone Martini, 1333, Uffizi Gallery, Florence).

QUESTION CHOICE

F.29. The questions a candidate is required to answer should be clearly indicated in the:

a. rubric;

b. title/instructions.

F.30. If a choice between gobbets/long questions is required, this needs to be additionally indicated by '**OR**' between the questions. If the questions are on separate pages, '**OR**' should be at the bottom of the first page.

LONG QUOTATIONS

F.31. Long quotations are to be indented on both sides. Single line spacing is to be used.

MULTIPLE CHOICE EXERCISES[ii]

F.32. Multiple choice statements can have either of two formats:

a. The key and distractors are separated using / and are written within the stem in brackets (). The candidate is asked to choose the key by underlining.

b. The key and distractors are written under the stem with a space ( ) for the candidate to tick. The candidate is asked to choose the key by ticking with a horizontal line (–). Deleted responses, if any, should be marked with a vertical line (+).

F.33. Multiple choice exercises should:

a. Have at least two distractors;

b. Minimise reading by placing as much of the item as possible in the stem;

c. Avoid negative stems. If these cannot be avoided, the negative is to be emphasised using **bold** and options must not be negative;

d. Have options which are grammatically consistent with the stem, written in a similar style, and correctly punctuated;

e. Vary the position of the key;

f. Ensure the key does not stand out among the distractors due to length, wording, or other frivolous quality;

g. Not include partially correct distractors;

h. Not confuse candidates through ambiguity, lack of clarity, or poor language;

i. Not have distractors which overlap in meaning;

F.34. Have distractors which, though definitely incorrect, are reasonable. Implausible options reduce the number of real options, making the item easier to certain candidates.

F.35. OTHER QUESTION TYPES

F.36. Items seeking a definition of a term need not mark the term in any way. E.g. Define the term globalisation.

F.37. Word banks can be used for certain exercises.

F.38. The word bank itself is to have a border.

F.39. The text in the word bank is to be formatted normally.

F.40. It should be indicated to candidates if words can be used once, more than once, or not at all.

long	tall	short
dirt	composite	brief

F.41. In true or false questions the candidate is to mark as instructed in the paper.

a. There is no need to emphasis the words true or false.

b. It is recommended that for items/assessments pegged at MQF 3 or higher such questions expect the candidate to justify his/her answers.

G. LANGUAGE USE[iii]

G.01. The readability of questions depends on two factors:

a. language;

b. layout.

G.02. Sentences should be short and concise as much as possible, especially for complex information.

G.03. A simple sentence consists of only one clause. Disturbing the Subject-Verb-Object order by subordinate clauses is taxing for candidates under examination conditions.

Table 2: Examples of simple, compound and complex sentences

Simple Sentences	Compound Sentences	Complex Sentences
Write your answer in the space provided.	Write your answer in the space provided and underline any key terms.	Write your answer, which is to be in blue ink, in the space provided.
Tom wants to refurbish the workshop.	Tom wants to refurbish the workshop by buying new tools and furniture.	Tom, who is the company manager, wants to refurbish the workshop.
decreased readability for most candidates		

G.04. A question should ask for one thing. If multiple things are requested, these should be listed or asked for using separate simple sentences.

G.05. Events in questions should be presented in the sequence in which they occur.

G.06. Command words (define, explain, outline, identify) should be used consistently and not changed for the sake of variety. For learning outcomes syllabi, the verb used should, as much as possible, be that stated in the relevant assessment criterion. Refer to the glossary of terms available on the MATSEC website[iv].

G.07. Negative ('not') and partly negative ('only') expressions should be avoided. Where used, the negative should be emphasised using **bold.**

G.08. The information required for a task should be provided before the task in separate sentence/s.

G.09. Candidates tend to find the use of the passive voice, words with multiple meanings, abstract words and metaphorical language as barriers to their achievement.

G.10. Questions are best written in an impersonal form. Avoid questions which ask what the candidate would do.

Table 3: Examples of incorrect and suggested language use for assessment

Incorrect language use	Suggested language use	Reason
How would you test for the presence of water?	Describe a test for the presence of water.	The question asks how the candidate would test for water, not how this should be done.
You are an electrician wiring a three-pin plug.	John is an electrician. He is wiring a three-pin plug.	The scenario may be considered untrue and impossible by some candidates, especially those with some learning difficulties.
Define, with the help of an example, the term corrosion.	Define corrosion. Provide one example.	Complex sentences become easier to understand when divided into simple sentences. Question asks for two things.
The workshop was opened by Mr Psaila.	Mr Psaila opened the workshop.	Past passive voice is taxing on candidates' readability.
Do not write in coloured ink.	Write in blue ink (only).	Avoid the use of negatives wherever possible.

H. QUESTION DIFFICULTY

H.01. The difficulty of examination questions should be within the candidate's reach. Specimen and past examination papers should be referred to as standard setters.

H.02. An examination paper should have questions of varying difficulty, starting from simple questions and moving towards more demanding questions.

H.03. For SEC examinations, Paper IIB should comprise less demanding questions than Paper I, while Paper IIA should consist of more demanding questions than Paper I[v].

H.04. A taxonomy such as Bloom's taxonomy can be used to classify learning outcomes. Bloom's taxonomy of learning outcomes is widely used in education because it is (i) widely recognised by and familiar to many academics, (ii) generic and applicable across a wide range of subjects, (iii) easy to apply to a range of question types owing to its simple structure[vi].

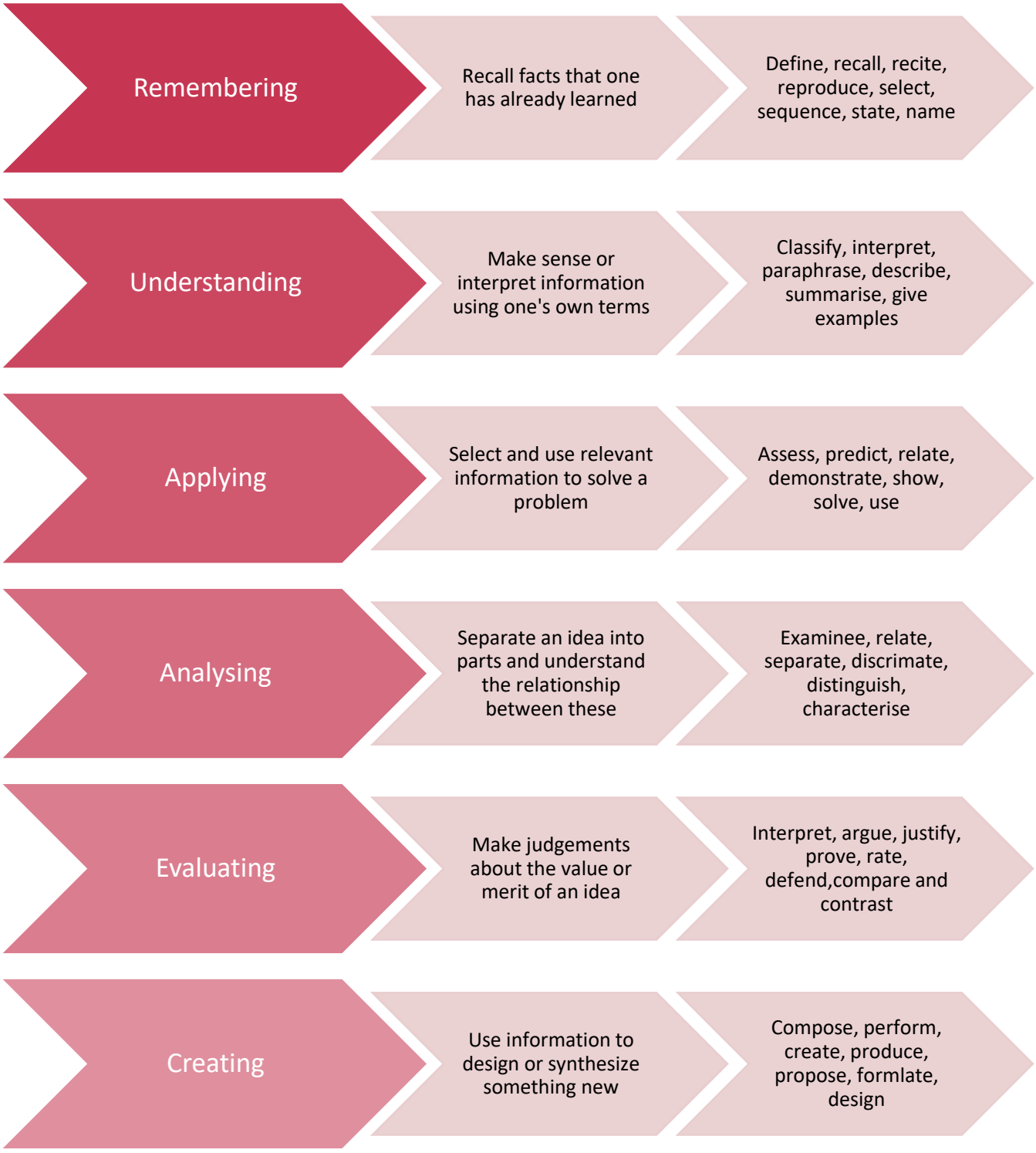


Figure 2: Bloom's Taxonomy of the Cognitive Domain

I. DISCRIMINATION AND BIAS

I.01. A fair assessment tool should be able to discriminate between candidates based solely on ability as described in the relevant subject syllabus. Poor discrimination is achieved through questions that:

a. have completely right or wrong answers (full marks or no marks at all);

b. most candidates answer in/correctly.

I.02. Questions seeking unrelated information about, for example, one's gender, sexual orientation, religion, race, school attended, favourite football team/village festa, and location should **not** be asked.

I.03. Internationally, test achievement differences between members of different gender, racial and socio-economic groups have been noted in that order[vii]. There are disagreements whether these differences are real or caused by test bias, but either way, bias in test content and context is to be avoided.

a. Bias in **test content** is when the assessment tool depicts members of one group in a more prestigious role[viii] (e.g. black people as helpers and white people as supervisors).

b. Student interests are linked to their results[ix]. Bias in **test context** is when questions are set in experiences more familiar to one group (e.g. machines, aeroplanes and bombs are traditionally male interests while helping others, cooking and dresses are traditionally female interests[x]). Questions should avoid making assumptions about one's 'general knowledge'.

I.04. Content on tests should, however, be guided by the syllabus and how educationally important it is, and **not** by what differences it produces[xi].

I.05. Information provided in questions is to be factually correct.

J. MARKING SCHEMES

J.01. Following an examination, a candidate is awarded a mark based solely on his/her evidence of performance. In order for the grade to be valid and reliable, two conditions must be met[xii]:

a. The examination must elicit evidence of the trait/s in compliance with the subject syllabus;

b. The evidence must be properly evaluated by means of a properly constructed marking scheme.

J.02. The Chairperson is required to ensure that the panel adopts the following procedures for devising the marking schemes:

a. ensure that questions and marking schemes are written concurrently[xiii];

b. ensure that marks are given for attainment, allowing credit to be allocated for what the candidates know, understand and can do;

c. ensure that marks allocated are commensurate with the demands of the question.

J.03. A good marking scheme:

a. includes expected answers, indicates whether these are right or wrong and shows clearly how marks are to be allocated to each question and part question;

b. is clear and designed to be easily and consistently used;

c. is **not** a model answer sheet to the examination papers; model answers provide little help in marking since these do not necessarily reflect the candidates' expected ability[xiv];

d. does **not** include assumptions like 'any suitable answer/drawing' or 'one mark for each correct labelling'. These phrases are of very little help in the absence of a list of expected answers;

e. indicates what constitutes partially correct answers and the marks allotted in such cases;

f. indicates when no partially correct answer is to be accepted (e.g. award no marks for partially correct answers);

g. shows the working of any calculations required.

MARKING SCHEMES FOR ESSAY TYPE QUESTIONS[xv]

J.04. Candidates should **not** be penalised or rewarded for aspects of communication when these skills are not being assessed.

J.05. Moderation is more important in essay-type questions. This can be done by:

a. setting works as exemplars to which marks can be compared;

b. having different markers review the same essay.

J.06. If some answers go beyond the marking scheme's expectations, other candidates' work should **not** be deprived from gaining full marks if they fulfil the requirements of the marking scheme.

J.07. Essay type questions can be hard to mark. There are two main models for marking schemes:

a. **Part marking** allocates marks for each quality expected in an answer. It is useful when an examination aims to verify that candidates have mastered each of a prescribed set of skills or content. Such marking scheme:

* states the aspects required for a satisfactory answer and the marks allocated;

* establishes descriptors for these aspects in which distinctive qualities of a competent answer are described and marks stated.

An example of a part marking scheme is shown in the adjacent page.

Question	**Compare transition with s-block metal elements. Make use of examples.**	**10**
Aspect 1	Describes transition metal elements	***4***
	Incompletely filled d-orbitals	*1*
	Two physical properties (colour, hardness, density, etc.)	*2*
	Two chemical properties (multiple valency, catalysis, etc.)	*2*
	Gives two examples of transition metals (do not accept Zinc	*1*
Aspect 2	Describes s-block elements	***4***
	Etc.…	

Figure 3: A Part Marking Scheme for an Essay Type Question

b. **Holistic marking** allocates all marks in one operation by considering all qualities together against broad criteria. It is useful when assessing candidates' grasp of complex concepts or their ability to integrate or apply aspects. In such marking scheme:

- categories are set with a mark range;
- descriptors for each category are set.

An example of a holistic marking scheme is shown below.

Describe the cruise passenger ship on which John was found in the book 'No Title' **10 marks**		
Range	**General criteria**	**Other notes**
10-8	• comprehensive coverage and detailed knowledge; • describes external appearance (size, colour, etc.); • describes internal layout with reference to some of the rooms/cabins; • good use of adjectives; • cohesive writing; • a maximum of two grammatical errors.	
7-5	Etc. …	

Figure 4: A Holistic Marking Scheme for an Essay Type Question

J.08. Better marking reliability is obtained in holistic marking schemes by:

a. having equal/even bands;

b. placing the highest attaining band at the bottom;

c. using no emphasis;

d. writing descriptions as prose rather than bullets;

e. fitting all levels on the same page;

f. applying the same criteria across different years, areas, etc;

g. assessing criteria separately;

h. including instructions to markers;

i. not adding further conditions to those in the marking scheme

K. USE OF GRAPHICS[xvi]

K.01. In this section, graphics refers to pictures, diagrams, photos, cartoons, depictions, sketches, graphs or illustrations.

K.02. Graphics should, as much as possible, provide only the minimum information required for the item in which it is being used.

K.03. Unnecessary graphics should be avoided as these distract candidates.

K.04. Graphic material should be of high quality and the required information should not be lost when the graphic is presented in grayscale.

K.05. Questions should, as much as possible, not refer to details of shading and colour in the graphic. This detail might be lost or difficult to note when the graphic is printed in grayscale on examination papers.

L. TIMING

L.01. The examination should be designed such that candidates of the desired ability complete it in time.

L.02. As a general rule of thumb, allow candidates triple the time it takes a paper setter to complete the examination.

M. PLAGIARISM

M.01. Questions should **not** be copied from textbooks, the internet, class notes, past examination papers or any other document.

M.02. In the case of text, pictures or diagrams which are adapted/copied from elsewhere, a short note indicating this must be included (e.g. 'Adapted from ScienceNews www.sciencenews.org').

N. SECURITY AND CONFIDENTIALITY

The Chairperson, Paper Setters and Reviewers are to ensure confidentiality and security of examination questions and papers.

N.01. Persons outside MATSEC should **not** know the identity of members of the Paper Setting Panels. Members have the duty of maintaining anonymity.

N.02. Members of MATSEC panels shall disclose **no** comments on behalf of MATSEC related to MATSEC procedures, syllabi, examination papers, or other materials.

N.03. Members of the Paper Setting Panel are to make a full declaration of interest before commencing their work. MATSEC is to be informed in cases where members:

a. have been teaching, including through private tuition, candidates sitting for the examination being prepared or of a closely related subject in the twelve months before the examination date;

b. are related by consanguinity or affinity to the third degree inclusive to a candidate;

c. are related to the first degree to someone who teaches candidates taking the subject at that level;

d. is in a relationship with a candidate or someone closely related to a candidate who is sitting for an examination in which they are involved[xvii];

e. are setting or have set questions for other examination boards;

f. have published textbooks(s) or other publication(s) in the subject.

N.04. All waste materials generated during the work must be properly disposed of through shredding.

N.05. Understandably, many examiners use computers to prepare their questions; however, it is important to be aware that ICT (Information and Computer Technology) could present a threat to the security of examinations. The panel is therefore advised to:

a. save questions on portable media (USB, CD, etc.) rather than hard drives on computers, especially those connected to the internet or other networks;

b. **not** send a compiled examination paper to each other or to any MATSEC representative by e-mail;

c. **not** involve other persons who are not part of the panel in any part of the preparation of the examination papers unless otherwise instructed by MATSEC;

d. avoid working on examination papers on shared computers;

e. have a secure back-up of their work;

f. immediately report possible breaches of security to MATSEC[xviii].

[i] In the case of even numbered pages, the next page will be adjacent.

[ii] Anderson, P. & Morgan, G. (2008). *National Assessments of Educational Achievement: Volume 2. Developing Tests and Questionnaires for a National Assessment of Educational Achievement*. The International Bank for Reconstruction and Development/The World Bank: Washington

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