National Form III Assessment -2015 Report

Prepared by Quality Assurance and Inspection Division

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INTRODUCTION

The lower secondary curriculum (Forms I-III), as laid out in the National Curriculum Framework provides the student with an incremental process of development with regard to knowledge, skills, values and attitudes.

As from 2013, the National Form III Assessment involves all state and private secondary schools in Mauritius and Rodrigues. Students are assessed in English Language, French Language, Mathematics, Computer Studies, Biology, Chemistry and Physics.

The National Form III Assessment provides schools, students and other stakeholders the opportunity to take cognizance of the progress in learning which has taken place at lower secondary level. Schools can thereby evaluate students’ performance and make adjustments in pedagogy accordingly.
GENERAL COMMENTS

Languages - English and French
The assessment in English Language and French Language focused on communicative competence with questions testing skills in reading comprehension, writing and knowledge of grammar in context. Students’ performance in exercises testing low order skills was better as opposed to questions requiring higher order skills. In general, syntax, verb tenses and vocabulary proved to be problematic. Little creativity and organization skills were observed in longer pieces of prose.

Mathematics
The competencies tested were knowledge and understanding of mathematical concepts and problem solving. Many students faced difficulties in dealing with Integers and Algebra. Recalling of Mathematical formulae remains a matter of concern. Many low order questions were not well answered by a large proportion of students.

Computer Studies
Overall, students performed well in low order questions such as Multiple Choice, True/False, Fill-in-the-blanks and Matching exercises. Students faced difficulty in answering questions requiring higher order thinking and application skills. Similarly, questions relating to practical work posed problems for some. The Question on program flowchart is still problematic.

Biology/Chemistry/Physics
Most students were able to tackle low order questions testing knowledge and understanding. In general, one-word and short answer questions were accessible to the majority of students. However, students had difficulty with analysis of data and questions requiring descriptive answers.
ENGLISH LANGUAGE

Performance Analysis

The pass rate in English for the National Form 3 Assessment 2015 was 77.2%. The mean mark was 54.2. Figure 1 below shows the distribution of marks within the different band marks.

![Percentage In Each Mark Band](image)

**Figure 1: Percentage of students in each mark band**

SECTION A - READING (40 MARKS)

**General comments**

Most students attempted all questions in both passages and responded neatly within the space given and within the guiding parameters of the question paper, although a few went beyond. The paper included questions which assessed students’ ability to both retrieve simple phrases or words from the passage as well as make appropriate inferences which demanded more careful reading and thinking. Inferential questions were not always well answered and students would benefit from regular practice in questions where meaning is implicit.

**Passage 1**

Item 1 (a) required students to say whether statements were true and false and justify their response by picking out the appropriate extract.
In item 1 (a)(i) most students were able to correctly say that the statement was false and provide the right supporting evidence about Edmund Hilary being from New Zealand.

Item 1 (a) (ii) was generally well answered by most students though the supporting evidence was not always right such as ‘Different expeditions had tried to climb the mountains but all had failed’ or ‘they stood on the summit of the Everest.’

**Item 1 (b) required students to indicate on which date the following events happened.**

This item proved to be very challenging for many students who failed to figure out the appropriate dates. Some students did not read the question carefully and instead of giving the date, they gave the year or time at which the events happened. More attention should be paid to rubric so as to provide relevant answers

**Item 1 (c) required students to select the appropriate title for the passage.**

While the majority of students ticked the right box ‘Reaching the Top of the World’, quite a few good students could not synthesise the gist of the passage as being about the struggle of various groups of mountain climbers in making it to the top of the highest mountain in the world.

**Item 1 (d) invited students to give a reason as to why attempts at climbing Everest stopped for a while.**

While a significant number of students succeeded in identifying the correct reason, many provided irrelevant answers such as “Many had tried to climb the mountain, but had failed’ or ‘they were unsuccessful six times.’

**Item 1 (e) required students to suggest a reason why they needed sherpas in the group.**

This was an inferential question. Answers had to emphasize the benefit of having sherpas in the group and how their knowledge of the mountain and local conditions made them good guides. Many students rightly referred to the ability of sherpas at being able to guide the expedition thanks to their knowledge of the place and their being used to the climatic conditions of the region. However, quite a few students simply repeated the obvious idea that ‘they lived in the mountains’, ‘they had to carry the equipment’ or ‘they had to establish a route to the mountain.’
Item 1 (f) required students to write about the aspect of the character of Evans and Bourdillons that was revealed when they described the route to the top to Hilary and Tenzing, despite their disappointment at being unable to achieve this themselves.

This was the inferential question with the least good answers. Only a minority of students succeeded in answering correctly by using appropriate adjectives such as ‘generous’, ‘selfless’ or ‘not selfish’ and phrases such as ‘their generosity as they were willing to share their knowledge’ or ‘their team spirit’

Many students failed at focusing on the words ‘aspect of their character’ in the question and instead described what Evans and Bourdillon did. This approach was not appropriate and did not provide relevant answers. Some students had shown an understanding of the question but poor expression such as ‘generate’ or ‘shareful’ resulted in the mark being withheld. Answers such as ‘courageous’, ‘strong’ and ‘brave’ were common but incorrect. Future students stand to gain from more practice in answering such questions.

Item 1 (g) required students to identify two difficulties that Hilary and Tenzing faced at the very beginning of their attempt to reach the summit of Everest.

This question was well answered by most students, except for a few who ignored the words ‘very beginning’ printed in bold in the question. Consequently, they did not give relevant answers and instead mentioned the difficulties Hilary and Tenzing faced later in their attempt. Here, a careful reading of the question would have enabled a greater number of students to score full marks.

Item 1 (h) required students to identify two improvements in the weather that made the ‘final push’ to the summit possible.

Most students answered this question correctly by rightly referring to the winds which ‘had eased’ and how ‘visibility had improved.’ However, many did not use the given space for writing the two improvements separately and, instead included both points in one limb. Students have to learn to present their answers clearly when given the space to do so on the question paper.

Item 1 (i) instructed students to write down which word from paragraph 6 showed that the situation of the climbers was unsafe.
This question was fairly well answered on the whole. However, it was quite alarming to note that a significant number of students failed to give **one word** as per the rubric and simply identified the sentence which contained the answer without highlighting the word. Providing more than one word entailed the loss of marks for a question where the answer was quite straightforward. Students who failed at giving the right answer might not have grasped the meaning of the word ‘precarious’ due to limited understanding of the language of the passage.

**Item 1(j) required students to provide a reason why Hilary was so concerned about running out of oxygen.**

This question necessitated an understanding of the inference conveyed by the word ‘concerned. Several students failed to make the right inference that they would die if there is no oxygen. Surprisingly even, able students merely repeated that ‘they were fast running out of oxygen.’

**Item (k) required a personal response supported by a valid justification for agreeing or disagreeing with the view that climbing the Everest is considered a major achievement for mankind.**

A relatively high number of students ignored the rubric and merely lifted sentences from the passage. Many answers focused on Mount Everest being the tallest mountain without the added challenges that climbing to the top entails. There were many ‘yes’ and ‘no’ answers without the accompanying valid justification for saying so and little credit can be given for such answers. As such, there is a need to train students in developing personal opinions and formulating these by using appropriate vocabulary.

Responses which agreed that climbing the Everest is a big achievement for mankind focused on the ‘high level of difficulty involved in such an undertaking that not everyone can do’, ‘how those who did it showed perseverance and determination and hence deserve our respect.’ Credit was also given to answers that highlighted the fact that such a feat demonstrates man’s determination to overcome the obstacles and achieve his objective against all odds. Answers which recognized how this success inspired man to believe in his capacity and taught him that nothing was impossible were also rewarded.
Students who answered in the negative commented on how climbing Mount Everest may have been an achievement for the climbers but not for the whole of mankind or that “it did not alleviate hunger, famine or poverty.” Such reasoning was also accepted.

PASSAGE 2 / Question 2 (20 Marks)

Question 2 required students to attempt 11 sub questions based on a comprehension passage adapted from ‘The Doctor’s Word’ by R.K. Narayan.

Item (a) required students to give two reasons why people consulted the doctor as a last resort.

A fair number of students succeeded in scoring both marks. The rest showed little initiative to think intelligently and simply took sentences haphazardly from the passage and inserted in the blank space – without any relevance, for example: “He often burst out.”

Item (b) required students to be precise in explaining why Dr. Raman wanted someone to tell him a lie.

The answer to this question not being obvious, students failed to identify it. Many did not refer to the seriousness of Gopal’s health condition. Some students simply copied a sentence or two from the passage without understanding the objective of the question. The term ‘Explain why’’ has not been understood by a few.

Item (c) required students to point out what was special about the friendship that bound Gopal and Dr. Raman.

Majority of students scored full mark here by providing accurate answers, for example ‘They had known each other for forty years’ or ‘They had known each other since their kindergarten days’. However, poor performers lost marks by giving vague answers which lacked focus and precision.

Item (d) required students to provide two pieces of evidence which indicated that Gopal was ill.

The answers were clearly present in the passage:

- ‘He was in a comatose state’
While many students were successful in retrieving the right answers, others did not understand the meaning of the word ‘How’ in the question. They also faced the inability to understand the meaning of the phrase ‘seriously ill’. Some sentences had just been lifted from text and inserted in the blank spaces without any relevance.

**Item (e) required students to give two reasons why Gopal’s family had not informed the Doctor of Gopal’s illness.**

This question did not require an inferential study as the two answers:

- ‘They thought he’d be busy’
- ‘They didn’t want to trouble him unnecessary.’
- ‘They were afraid of what he would say’

Nevertheless, some students assumed that the answer was ‘Because the Gopal family did not have enough money’ which was a wrong interpretation. Others gave irrelevant answers.

**Item (f) required students to provide two pieces of evidence which indicated that Gopal’s wife was very affected by her husband’s illness.**

Students lacked precision in pointing out the weakness in Mrs. Gopal. Vague answers were given which were not scoring for example: ‘She was unable to bear the sprain’. Many low performers skipped this question.

**Item (g) required students to identify two signs which showed that Gopal’s health was improving.**

Item (g) proved to be a tricky question. Reference was made to 4 aspects of Gopal’s behavior in paragraph 5, out of which only 2 were relevant, that is, ‘He smiled’ and ‘He was able to eat a little’. Students had to pick these two relevant ideas. They were confused and some were unable to make the right choice.

**Item (h) required students to give a reason as to why the doctor refused to give a clear answer to Gopal.**

This inferential question was not well attempted in general. A greater majority of students failed to provide acceptable answers. There was a lack of understanding of the passage at this
point as well as a lack of focus. Sentence structures were incorrect, thus showing students’ inability to convey the right/precise meaning.

**Item (i) required students to have an inferential approach in revealing what decision Dr. Raman took.**

Students would be awarded 1 mark for the correct answer: ‘He decided to lie/to tell Gopal that he would live’. Low performers failed to understand such implication and merely copied a sentence from the passage without it being of much relevance. Some students reciprocated the quotation in the question by another quotation from the passage – which was inappropriate here.

**Item (j) required students to understand what the doctor expected would have happened to Gopal when he rested on his bedside.**

Many students successfully attempted this high-order question though some had a wrong understanding of the question. Low performers failed to understand this question and the feelings of Dr. Raman.

**Item (k) required students to give the meaning of 5 words from a list of 7.**

Many students attempted this question successfully.

Others committed the following mistakes:

a) All 7 words were defined.
b) Wrong understanding of the words in the content.
c) Some definitions were too long.
d) Poor vocabulary.
e) Students left blank spaces without attempting to write an answer.
f) More than a single definition was provided.
g) Root words were used to define the words.

Some common mistakes were:

‘occasionally ’ was wrongly defined as ‘frequently’ or ‘often’ or ‘rarely’.

For the word ‘sound’, students considered the literal meaning of the word and wrongly defined it as ‘noise’ or ‘music’. 
Certain words were simply put in their plural forms for e.g. ‘puzzles’ without the student understanding what the objective of the question was. Other words were converted from adverbs to adjectives e.g. ‘faintly’ to faint. By just adding prefixes and suffixes to the words, students showed a complete misunderstanding of the task to be carried out.

Students faced inability to fit their definition in the passage with irrelevant definitions, e.g. ‘puzzle’ → game

Some students copied the same word and gave it as an answer without alteration, thus scoring zero.

SECTION B: GRAMMAR AND WRITING (60 MARKS)

Question 3
This question required students to rewrite two sentences making necessary changes in form, from singular to plural and in verb tense.

Many students could not get full marks since answers were distilled. Though it was clearly indicated in bold what the changes were about, from the pronoun ‘he’ to ‘they’ and the verb tense ‘opened’ to ‘open’, they could not sustain both on their own. The difference between ‘bought’ and ‘brought’ proved to be a catching point among various students.

Question 4
This exercise was to test students’ ability to apply effectively different forms of punctuation. Many students failed to score full marks since they did not identify the statement as direct speech. Closing inverted commas and the use of a capital letter for the proper noun ‘Jane’ appeared as recurrent problems among a number of students. Some students did not know where to close the inverted commas since they have not mastered the concept of reported speech.

Question 5A
Item 5A required students to correct mistakes that had already been underlined and in bold in the text. Students had to correct verb tenses, articles, personal pronouns and prepositions.
Since the mistakes were already identified for students, the latter managed fairly. However, many failed to score full marks since they lacked spelling skills, did not know when to use past participles, adverbs and infinitive verbs. Many students missed the use of article ‘an’ in front of a word starting with a vowel. The next difficulty was the preposition ‘in’, which students replaced by ‘along’.

**Question 5B**

Item 5B required students to identify and correct mistakes in the given text. The question required spelling skills, an appropriate use of the past participle, adverb and infinitive verb.

Many students failed to write the word ‘o’clock’ properly and missed the apostrophe. The word ‘disappointed’ was missed by many since mistakes were not underlined. Another wrong omission to be noted is the possessive adjective ‘their’ which should have been replaced by the adverb ‘there’. Some students could not identify the use of the past participle ‘to be found’ and the infinitive verb ‘did not see’.

**Question 6**

A text was given to students where they had to transform a conversation into indirect speech. Basic rules had to be applied in terms of transformations in verb tenses, punctuation marks and modals.

Most students failed to score full marks since they missed simple grammar rules like the removal of inverted commas in indirect speech.

1st sentence

Some students failed to use the infinitive verb and used the simple past tense instead.

2nd & 3rd sentences

Students could not identify the question form and thus missed the inversion.

4th sentence

Since some students failed to grasp the situation, they missed the introductory verb ‘replied’ and the change in tense from (simple present tense) ‘is’ to (simple past tense) ‘was’.
Apart from the recurrent omission in change in tenses, students failed in changing the adverb ‘here’ to ‘there’.

**Question 7**

This exercise required skills in word formation, namely nouns, superlative adjectives and adverbs.

Many students missed the noun ‘death’ and wrote ‘died’ instead. Confusion in making the distinction between a noun and a verb was to their detriment, just like for ‘analysis’ instead of ‘analysed’. Thus, answers within a context posed a major impediment to comprehension and getting the right word form. Superlative adjective ‘highest’ and adverb ‘globally’ could not be identified by many as the context itself was not grasped.

**SECTION B: WRITING**

**Question 8**

This question required students to write a guided essay of about 100 words. The exercise tested the students’ writing and organization skills and creativity.

The writing piece was assessed on the following:

- Relevance of ideas (3 marks)
- Language (4 marks)
- Creativity (3 marks)

Some students’ responses were so short that these fell well below the required word limit. A fair number of students from the low ability groups did not attempt the writing section at all. On the other hand, some students considered the question as a full-length essay and wrote much more than the required ‘about 100 words’, despite instructions to respect the word limit.

Faulty sentence structures and mistakes of various kinds were evidenced. The pieces of writing also displayed a lack of creativity.
The following example illustrates this:

“Today is the time when to go at my new school who find in Rose-Hill. I moved this new school because at old school. There have bad edudian they use bad language and they stole food of their friend and material…”

Many students wrote very simple sentence structures with limited vocabulary and various mistakes. An example to illustrate this would be:

“My new teachers are goods, they teach wells…”

Very few students could use a variety of sentence forms and vocabulary to organise ideas creatively and produce a convincing piece of work.

**Question 9**

This question comprised writing a composition of about 200-250 words. A choice of three titles, of which 2 narratives and one argumentative, was given. The essay was marked according to 4 main criteria:

- General impression (5 marks)
- Language (grammar, spelling and punctuation) (8 marks)
- Organisation (4 marks)
- Vocabulary (3 marks)

Some students did not attempt this question. Most students attempted the narrative essays. The majority of students demonstrated a lack of proficiency in language. Common weaknesses identified for this exercise were as follows:

- Inability to sustain verb tenses
- Inability to use complex and compound sentences
- Spelling mistakes
- Subject-verb agreement mistakes.
- Interference of mother tongue
The wrong use of verb tenses throughout students’ pieces of writing remained a major issue. This acted as a hindrance to the logical flow of ideas and coherence of the essay. Examples of mistakes made by students are given below:

*I was already wake up since 5.00a.m*
*Dad said if I past this year*
*They must continued their studies*
*They are interesting by smoking cigarettes*
*He maked the morning attendance*
*The tax have been reduced so that all people can afford the goods they needed.*
*My mother wish all the best.*
*They won’t gave me a bicycle*

Limited vocabulary, wrong spelling and inability to use complex and compound sentences were recurrent features in many essays. Some examples are given below:

*...we immediately seat properly in our regular place*
*Use dustbin to throw garbabbage not on road or river.*
*Export rare fruit or alcohol to another country to get money.*
*If there is no hard working in life, there is no success in life.*
*I gave a sight of relief*
*My heart was more beating very fast.*
*I passed with fixing colours*
*...must be inprison*

The interference of the mother tongue (Creole) and French remains a foremost issue. Translation from Creole and French was evident in the work of many students. The following examples illustrate this:

*On returning home we bought many food and clothes*
*Now I know that no need to be nervous*
*I made hostel for tourist to get foreign currency*
*If people neglected their environment they must pay a price for it.*
*In the bus to Rose-hill, it’s the last line.*
Finally arrived, but there some time left I still can go back home.

One of them came towards me and asked my what is my name and I told her

With regards to the higher ability students, they were able to write relevant essays, demonstrating their creative thinking ability and communication skills.
FRENCH

Analyse quantitative

Le taux de réussite au niveau national a été 68.5% en 2015. La note moyenne obtenue a été 49.3. Le tableau ci-dessous indique le pourcentage de réussite en français en 2015.

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<th>Réussite</th>
<th>Echec</th>
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<td>68.53</td>
<td>31.47</td>
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Analyse Qualitative

Compréhension 1

Les élèves devaient montrer leur compréhension d’un texte informatif qui retraçait l’histoire de la poste à l’Ile Maurice.

Pour ce passage, les questions étaient de deux niveaux: les questions directes et les questions d'inférence. Pour les questions directes, les élèves devaient relever les informations simples du texte.

Toutefois, pour les questions d'inférence, les élèves devaient démontrer un niveau supérieur de compréhension et d'analyse en arrivant à trier et hiérarchiser les informations du texte tout en les reliant.
Lire fait partie intégrante de notre vie. La compréhension de l'écrit est donc une compétence fondamentale pour nos élèves mais après l'analyse des réponses, il ressort qu'il y a encore de progrès à réaliser.

Les questions suivantes ont été bien répondues par les élèves: 1(a), 2, 3, 4, 8, 11

Les élèves ont été moins performants dans les questions suivantes: 1(b), 5, 6, 7, 9, 10

Analyse des questions qui ont été mal répondues par les élèves

1(b). Certains élèves n'ont pas compris le terme « moyen » utilisé dans la question et ont répondu « noir facteur ».

Les autres réponses les plus récurrentes étaient:

«Annonces, Affiches et Avis divers »

« Un service de courrier».

5. Comme le mot « valeur » était dans l'énoncé de la question, nombreux sont les élèves à avoir fait un repérage de ce mot dans le texte et reproduit la phrase où il se trouvait.

«Ils prendront de la valeur auprès des philatélistes et feront la renommée de l'île Maurice»

D'autres ont répondu: «des plus recherchés au monde».

6. Pour cette question, certains élèves ont compris qu'il fallait indiquer un lieu mais ont répondu de manière générale « Caudan Waterfront » ou «l'Ile Maurice» au lieu de la réponse précise attendue «le Blue Penny Museum».

7. Les réponses les plus récurrentes étaient:

«L'ancien Hôtel de la poste a été converti en musée»

«une rétrospective des événements marquants de l'histoire des services postaux»

9. De nombreux élèves n'ont pu répondre à cette question. Ils ont décrit le bâtiment au lieu de mentionner ce qu'on peut voir à l'intérieur du musée. Les réponses les plus récurrentes étaient:
«Cet impressionnant bâtiment en pierre avec une horloge en façade»

«un des plus beaux exemples d’architecture coloniale britannique»

«membres de l’Union postale universelle»

10. Cette question a permis de mettre en lumière la mauvaise compréhension par certains élèves des consignes écrites. Ceux-ci n'ont pas compris qu'il fallait retrouver dans le texte les mots dont la définition était donnée. Ainsi, certains ont tenté d'expliquer les mots en utilisant des paraphrases [une personne qui collectionne les timbres pour collectionneurs de timbres-poste]. D'autres ont formé le nom à partir du verbe donné [introduction pour introduisit]

11. En moyenne, les élèves ont pu classer chronologiquement les quatre premiers événements mais ont eu une interprétation erronée de l'ordre des deux derniers événements alors que les années respectives étaient mentionnées: 2003 pour l'inscription de l'ancien Hôtel de poste au patrimoine national et 2008 pour l'ouverture du Musée de la poste. Cela est dû au fait que, dans le texte, l'ouverture du Musée de la poste est placé avant l'inscription de ce bâtiment au patrimoine national.

**Compréhension 2**

Les élèves avaient à lire un texte relatant le vol d’un foulard par un petit garçon, dans un magasin et à répondre aux questions sur le texte.

Comme pour la compréhension 1, les questions étaient de deux niveaux: les questions directes et les questions d’inférence.

Les questions directes commençant par “où”, “pourquoi”, “comment”, “à quoi” demandaient une compréhension élémentaire d’un texte narratif. Le constat, après l’analyse des copies, est alarmant. En effet, hormis les bons élèves (une minorité), la plupart n’ont pas été capables de relever, ni même de reproduire les informations simples et directes du texte. Un constat qui devrait interpeller nos enseignants de français.

En ce qui concerne les questions d’inférence, les élèves devaient tirer des conclusions à partir des incidents précis du texte et donner un jugement personnel.

De même que pour les questions directes, à l’exception des bons élèves (une minorité), les réponses ont été des plus extravagantes. Certains n’ont fait que reproduire des extraits non-pertinents du texte, d’autres n’ont simplement pas répondu aux questions.
Relevé des réponses les plus récurrentes:

Qu. 1

“Thomas s’arrête, passe la main entre les vagues soyeuses……….”

“A la plage “

“ Sur le marché”

“Achete des vetements”

“A la mer”

Les élèves qui ont répondu « A la plage » ou « A la mer » n’ont sans doute pas compris la métaphore « vagues soyeuses », associant « vagues » à « la mer » ou à « la plage ».

Qu. 2 i)

“ Sa mère”

“Un foulard”

“ Un gateau pour sa mère”

Qu. 2ii)

Bien que la plupart des élèves aient trouvé la réponse, ils /elles n’ont fait que reproduire la phrase du texte ‘C’est ça qui ferait plaisir à sa mère pour son anniversaire’, alors qu’une question commençant par “ pourquoi” exige une réponse commençant par “parce que”.

Qu. 3

“ Des dessins”

“ Une foule de gens”

“Très douce”

“ Passe la main entre les vagues soyeuses”

La grande majorité, surtout parmi les élèves faibles et moyens n’ont pas répondu à la question.

Qu. 4(i)

“ La famille de Thomas était au chômage”

“ Elle n’achète plus grand chose “
“Depuis que le chômage a frappé”

“Le problème”

“La situation de l’argent”

La plupart des élèves n’ont pas compris “situation financière”

**Qu. 4 (ii)**

“C’est qu’il n’a pas d’argent lui non plus”

“Pas un sou”

“Comme si le problème ne suffisait pas”

“Pas de cadeau pour son anniversaire”

Les élèves moyens et faibles n’ont pas répondu à la question.

**Qu.5**

“Il était très joli”

“Les yeux de sa mère”

“C’est très beau”

Ils sont peu nombreux à avoir répondu par la phrase complète “Les couleurs lui rappellent les yeux de sa mère”, démontrant encore une fois l’incapacité des élèves à comprendre l’élément de causalité qu’implique une question commençant par “pourquoi”.

**Qu.6 et Qu.7**

Comme les deux questions n’exigeaient qu’un seul mot comme réponse, la plupart des élèves ont bien répondu, sauf ceux et celles qui n’ont pas compris le récit, et qui se sont contentés de reproduire des bouts de phrases non-pertinentes du texte.

**Qu.8(i)**

“Thomas pense à sa mère”

“Il le fait disparaître sous son blouson”

Ils sont nombreux cependant à avoir trouvé la bonne réponse, même s’ils n’ont fait que reproduire la phrase du texte “a saisi le foulard avant qu’il n’ait décidé de le voler”, réponse qui serait pénalisée comme “lifting” en Forme 5. D’où la nécessité pour les enseignants de français d’apprendre aux élèves, dès les classes élémentaires, à ne pas reproduire des extraits entiers du texte dans leurs réponses.
Qu.8(ii)
“Pour voler”
“Il le fait disparaître”

Beaucoup ont reproduit la phrase : “Sa main a précédé sa pensée ……….”.

Qu.9
Si la plupart ont répondu “non”, ils n’ont pas pu cependant trouver la phrase qui le dit.

Qu.10, Qu.11, Qu. 12 et Qu. 13
Les réponses à ces quatre questions d’inférence ont été des plus farfelues, surtout parmi les élèves moyens et faibles, démontrant ainsi une absence d’imagination, de jugement personnel et de sens critique.

Qu.14
Cette question d’inférence a été bien répondue, même par le élèves moyens, bien que certains n’aient fait que reproduire du texte les termes “colère”, “tristesse” et “découragement”. A noter que beaucoup ont répondu par “enragé” ou “aragé”.

Comme pour les années précédentes, la performance de nombreux élèves montre qu’ils n’ont pas encore, à ce stade de leur scolarité, maîtrisé, une des compétences essentielles pour l’apprentissage de la langue française: lecture et compréhension – même quand il s’agit d’un texte narratif.

Qu. 3
Pour la question 3 (i) l’élève devait remplacer le sujet de la phrase, un groupe nominal au féminin pluriel par un groupe nominal au masculin singulier et faire les modifications conséquentes concernant les adjectifs, le verbe et le pronom.

A cet effet, les élèves devaient démontrer une connaissance des différentes classes grammaticales de la langue française de même que la maîtrise des règles grammaticales suivantes afin d’apporter les changements morpho-syntactiques qui s’imposaient :

(i) L’accord du verbe avec le sujet au singulier: intimidaient- intimidait
(ii) La conjugaison et l’accord du verbe à l’imparfait
(iii) L’accord de l’adjectif avec le nom : majestueuses- majestueux ; imposantes-imposant ; sombres-sombre
(iv) La transformation du pronom : les-le
L’analyse des copies corrigées a révélé les erreurs suivantes :

<table>
<thead>
<tr>
<th>Mots du texte</th>
<th>Substitutions requises</th>
<th>Erreurs commises par les élèves</th>
</tr>
</thead>
<tbody>
<tr>
<td>a majestueuses</td>
<td>majestueux</td>
<td>Majesteu, majestueus(e), majestieuse, majestieux, majestuer,</td>
</tr>
<tr>
<td>b imposantes</td>
<td>imposant</td>
<td>imposan, imposante(s), imposanter</td>
</tr>
<tr>
<td>c sombres</td>
<td>sombre</td>
<td>Sombr, sombres,</td>
</tr>
<tr>
<td>d intimidait</td>
<td>intimidait</td>
<td>intimident, intimidait</td>
</tr>
<tr>
<td>e les</td>
<td>le</td>
<td>la, des</td>
</tr>
</tbody>
</table>

Certains élèves ont procédé à des transformations absurdes des mots et dans la plupart des cas les mots étaient mal écrits, démontrant ainsi une mauvaise maîtrise de l’orthographe ainsi qu’une incapacité à appliquer les règles de transformation du féminin pluriel au masculin singulier.

3. (ii) Cette question consistait à évaluer les capacités à substituer un temps verbal à un autre en apportant les transformations nécessaires.

L’élève devait changer le passé simple de l’indicatif au passé composé de l’indicatif dans un texte narratif.

Les compétences requises étaient :

i) Une bonne connaissance de la conjugaison du passé composé  
ii) L’application des règles grammaticales.

<table>
<thead>
<tr>
<th>Verbes du texte</th>
<th>Transformations requises</th>
<th>Erreurs récurrentes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a montèrent</td>
<td>sont montées</td>
<td>montèrent, ont montéré</td>
</tr>
<tr>
<td>b inondèrent</td>
<td>ont inondé</td>
<td>inondèrent, inondèrent</td>
</tr>
<tr>
<td>c se mirent</td>
<td>se sont mises</td>
<td>se mirent, se sont misent, se mete, se métés</td>
</tr>
<tr>
<td>d descendit</td>
<td>a descendu</td>
<td>descendit, a descendité</td>
</tr>
<tr>
<td>e ne put</td>
<td>n’a pu/ n’a pas pu</td>
<td>put, peut</td>
</tr>
</tbody>
</table>

Les erreurs commises démontrent
- que certains n’ont pas compris la consigne car aucun changement n’a été apporté  
- qu’il y a un mauvais emploi de l’auxiliaire (ont monté, ont mis…)

24
- qu’il y a une mauvaise formation du participe passé (montéré, descendité, …)
- qu’ils ne maîtrisent pas les règles d’accord du participe passé.

**Qu. 4**

Pour cette question, les élèves devaient insérer deux virgules, la majuscule à deux noms propres et un point final au texte.

On a relevé une absence de la majuscule sur les noms propres et aussi l’absence de la virgule notamment la deuxième virgule qui signalait l’apposition du nom propre *Isabelle* au groupe nominal *une fille de son âge.*

**Qu. 5**

L’objectif de cette question d’un niveau de difficulté supérieur était d’évaluer les compétences des élèves à transformer les mots d’une classe grammaticale à une autre et à bien maîtriser l’orthographe de ces mots. La question consistait à vérifier la capacité de l’élève à faire la transformation des mots comme suit :

(i) d’un verbe à l’infinitif au substantif (harceler-harcèlement)
(ii) d’un verbe à l’infinitif à un adjectif ou à un participe passé (punir-punissables/punies)

Certains élèves ont conservé le radical (*harcele, intimid*) mais n’ont pas su faire la transformation du verbe au substantif.

D’autres ont compris qu’il fallait substantiver mais les mots étaient mal écrits (*traumatissme*)

Dans le cas de la transformation du verbe à l’adjectif ou au participe passé, on relève que les élèves ont substantivé le verbe (*punition, puniretion*). Dans d’autres cas la transformation au participe passé a été bien faite mais l’accord n’a pas été respecté.

**Qu. 6**

Cette question comprenait deux parties :

Dans la première partie, les élèves devaient corriger les erreurs d’orthographe d’ordre lexical et grammatical déjà soulignées.

Dans la deuxième partie, il fallait d’abord repérer les erreurs, les souligner et par la suite les corriger.
6 (i)  

<table>
<thead>
<tr>
<th>Erreur soulignée</th>
<th>Réponse attendue</th>
<th>Réponses des élèves</th>
<th>Commentaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celle-ci</td>
<td>Celui-ci</td>
<td>Pas de réponse, Ci-celle, ces-ci, il</td>
<td>Les élèves ne maîtrisent pas la morphologie du pronom démonstratif</td>
</tr>
<tr>
<td>précédent</td>
<td>précédente</td>
<td>précédant, précédent, précédée, précéder, précédent</td>
<td>Certains élèves ne peuvent transposer du masculin au féminin</td>
</tr>
<tr>
<td>dévalait</td>
<td>dévaler</td>
<td>dévalaition, dévalait, dévalé</td>
<td>Les élèves ne maîtrisent pas l’emploi de l’infinitif après une préposition</td>
</tr>
<tr>
<td>que</td>
<td>qui</td>
<td>quelle, te queoi</td>
<td>Les élèves ne maîtrisent pas l’utilisation des pronoms relatifs</td>
</tr>
<tr>
<td>mit</td>
<td>mise</td>
<td>met, mitter, mit(e), mis</td>
<td>Cet item de l’exercice révèle une ignorance de la formation et de l’accord du participe passé</td>
</tr>
</tbody>
</table>

6 (ii)  

Cet exercice comportait un degré de difficulté plus élevé dans la mesure où les élèves devaient faire preuve d’une connaissance discriminatoire de l’orthographe lexicale et grammaticale afin de relever dans un premier temps les erreurs et de pouvoir les corriger par la suite. Or, les élèves les moins performants n’ont pas pu repérer les erreurs et ceux qui ont pu les identifier n’ont pas su les corriger. Il a ainsi été noté que les élèves ne maîtrisent pas l’orthographe des homonymes (boue > bout, boute). On relève également l’absence de l’accord de l’adjectif indéfini tout avec le sujet elle de même qu’une méconnaissance de l’emploi et de la conjugaison de l’Imparfait (allait> allais, allés, est allé, aller…) ; le verbe est retranscrit phonétiquement. Le pronom se a également donné lieu à une retranscription phonétique et à une orthographe approximative (se> c’est, ces, cet). Le dernier item de cette question a mis en évidence l’ignorance de l’emploi de l’infinitif quand deux verbes se suivent (tirer > a tiré, tire).

Qu. 7  

L’objectif de la question 7 était d’évaluer la capacité des élèves à compléter des phrases en utilisant la syntaxe appropriée et à faire preuve d’un certain degré de créativité et d’imagination.

Les erreurs récurrentes :

- Fautes grammaticales: “….Sam ne peut allé a l’école”  
  “Sarah et Paul part joue dans la pluie”  
  “les enfants voulait partir”  
- Mauvaise syntaxe: “Jane avait dit le vieille homme boit d’eau”  
  “Mes cousins sont découragés quand dês”
“Mon cousin a fait un accident si l’ambulance tarde à arriver”

- Les élèves n’ont pas maîtrisé la règle de “si” + présent suivi du futur simple.
- Mauvaise concordance de temps.
- Fautes d’orthographe
- Mauvais accords de verbe avec le sujet
- La plupart des élèves, surtout parmi les faibles et les moyens, n’ont pas pu trouver la proposition principale appropriée pour compléter la subordonnée “……dès qu’elle a vu le serpent”

Le constat c’est que la plupart des élèves n’ont aucune notion des phrases simples, des phrases complexes, des propositions principales ou des propositions subordonnées, des conjonctions de subordination ou des conjonctions de coordination.

**Qu. 8**

Cette question est un exercice de production écrite exigeant des compétences d’ordre supérieur à l’écrit. Elle fait appel à la créativité De l’élève qui puisse de ses propres ressources pour reproduire ses idées à l’écrit. Les élèves doivent aussi faire preuve d’une certaine autonomie de réflexion : trouver les arguments, les développer, préparer la synthèse et la presenter de manière cohérente.

Les élèves avaient à écrire une composition de 200 mots. Ils avaient à choisir entre une narration, une description et une argumentation. La majorité des élèves ont opté pour la composition narrative.

La correction était basée sur quatre critères, notamment : l’impression générale (5 points), le vocabulaire (3 points), l’organisation du texte (4 points) et le langage (grammaire, orthographe, ponctuation) (8 points).

**Les erreurs récurrentes**

(i) Impression générale

La majorité des élèves ont bien compris les thèmes proposés. Cependant ceux et celles se trouvant dans la bande de 0-49 n’ont pu développer les arguments et les idées avancées. Certains n’ont pas pu écrire les 200 mots requis. D’autres, surtout ceux dans la bande 0-39 n’ont pas terminé l’exercice. Plusieurs élèves dans la bande 0-49 n’ont pas répondu la question de rédaction.

Parmi ceux qui ont choisi la composition descriptive, la plupart n’ont fait que raconter une histoire. Certaines compositions étaient hors sujet, surtout pour les élèves faibles et moyens. D’autres ont littéralement recopié la question en guise d’introduction et ont répété les mêmes idées dans chaque paragraphe.
(ii) Vocabulaire

Un bon niveau de vocabulaire a été noté parmi les élèves dans la bande 70-100. Mais les élèves les plus faibles manquaient de vocabulaire approprié pour le thème choisi. On a noté de nombreux créolismes et d’anglicismes. Certaines expressions employées par les élèves se trouvant dans la bande 0-19 étaient simplement incompréhensibles.

(iii) Organisation du texte

En ce qui concerne l’organisation du texte, on a noté un manque de cohérence, surtout parmi les élèves faibles et moyens. Les idées étaient mal agencées, mal structurées. On a aussi noté une absence de paragraphes, d’introduction et de conclusion. Certains n’ont fait que répéter une même idée au cours de la rédaction.

Ceux et celles qui ont choisi la composition argumentative n’ont pas su structurer leurs idées en paragraphes. Bien que le sujet leur soit familier (le téléphone portable), la plupart des élèves n’ont pas pu exprimer leurs opinions d’une façon cohérente, logique et mature. Il semblerait donc que la grande majorité des élèves ne sont encore prêts pour ce type de rédaction.

(iv) Langage

a) La grammaire

Les fautes de grammaire les plus récurrentes concernaient la syntaxe : des phrases incompréhensibles, des temps de verbes inappropriés, des fautes d’accord du participe passé, confusion entre l’usage de l’infinitif ou du participe passé; exemple :- « pour allé l’acheté… », « c’est un bon joue pou troue les monde … », « in idés de achetée.. » « ons n’avais planifieurs dans quelle magasin…. » « Je vue tan merrent un plu belle… »

On a constaté aussi une méconnaissance de la conjugaison et de l’emploi des verbes ; par exemple : « on à coiffer, j’a un petit frère, les enfants dormait, j’ai l’ai prit..»

Les élèves n’ont pas pu faire l’accord des adjectifs et des déterminants : « des transport communes…. 

On a noté une confusion au niveau du genre et du nombre : « tous les monde, ... des petit perles, la vie modernes… », entre « à et où », « leur et leurs ».

b) L’orthographe

On a relevé de nombreuses fautes d’orthographe concernant :

- La grammaire ou la phonétique, par exemple: « vremment, zafaire, contant, foto, jencepas, j’ai rentrés, pour allé, il y avaient beaucoup de, un garçon de six ans a été volé mon portefeuille… »
• L’usage ou l’interférence de l’anglais/ créole : « mo sac, repoze toi imper, pauve, mo portfeille, cash, distract, marriage, problem, search…. »
• L’omission/ l’ajout d’une consonne/ voyelle : «voiyage, vetmen, trise, vraiment finalment/ finalement aport… »
• La confusion entre la terminaison « s ou t » : « surprit au lieu de surpris, … »
• L’omission de la dernière lettre pour les mots terminant par « s,t » par exemple « alor, temp, moin, plusieur… »
• La confusion entre « ça- sa, ce- ses, c’est, si-si, car et quand… »
• L’addition ou l’omission d’une apostrophe : je s’avait, quil , il y’avait… »
• L’accord avec le déterminant - nom « les réseau »
• L’accord du sujet-verbe : « on donnent…. »
• La concordance de temps dans la narration: « Elle m’a dit qu’elle…… ce fut en vain. »
• La mauvaise orthographe: «contante, ils coues, foto, seremoni, laboutide, toup, brer iffít… »
MATHEMATICS

Performance Analysis

The pass rate was 41.5%. The estimated mean mark was 38.1. Figure 1 below provides a summary of the performance in Mathematics with the percentage of students for each mark band.

General Comments

It was noted, with concern, that many questions which required low order thinking skills were not well answered by a large number of students.

As in previous years, one of the major causes of loss of marks was students’ inability to deal with negative integers. In this paper also many students demonstrated poor skills in algebraic manipulation. Inability to recall mathematical formulae is still a major weakness for a large number of students.

Qu.1(a), Qu.3(a)(b), Qu.5(a)(i), Qu.17(a)(i), Qu.17(b)(i) and Qu.17(b)(ii) were accessible to less able students. In general, abler students encountered difficulties in Qu.5(b)(ii),(iii), Qu.7(a), Qu.9(b), Qu.12(ii), Qu.14(b) and Qu.18.
COMMENTS ON SPECIFIC QUESTIONS

Question 1

Part (a) was well answered.

In part (b), some students did not reduce \( \frac{25}{100} \) to its lowest terms. Some students simplified \( \frac{25}{100} \) as 4 instead of \( \frac{1}{4} \).

In part (c), the wrong answer 6938.9 was seen in many scripts. As in previous years, rounding a figure to a specified number of decimal places remains problematic for many students even some of those who scored highly in this paper.

Answers: (a) 85% (b) \( \frac{1}{4} \) (c) 693.9

Question 2

This question was not well answered.

In part (a), many students added 6 and 4 first to obtain 10 and then multiplied it by 2 which was obtained from \((4 - 2)\). Hence, the wrong answer 20 was very common. Even some abler students committed this mistake. Some students obtained the correct answer by using expansion.

Many students gave 23% as their answer to part (b).

Answers: (a) 14 (b) 0.023

Question 3

It was surprising to note that a significant number of students were unable to find H.C.F. and L.C.M. in part (a) and part (b) respectively. After correctly expressing the given numbers as a product of prime factors, some students performed the calculation \( 5 \times 5 \) to obtain the H.C.F. as 25 and some students worked out \( 2 \times 5 \) to give the L.C.M. as 10.

In part (c), the majority of the students were unable to recognise that each subdivision on the number line represents 0.2. Instead, it was taken as 0.1 by
many students. Hence, the wrong answer 1.3 was given by many students, including some high ability students.

**Answers:** (a) 5  (b) 60  (c) 1.6

**Question 4**

Surprisingly, a large number of students were unable to score in part (a)(i) and/or part (a)(ii). Some students gave 2 or 0 as the answer to part (a)(i). In part (a)(ii), a common error was to add the two powers, as in the case of multiplication law of indices, to simplify $3^2 + 3^1$ as $3^3$. Some students added the bases as well as the powers to obtain $6^3$. Some students multiplied the bases and added the powers to obtain $9^3$.

Part (b) was also wrongly answered in general. The answer $\frac{2}{b^2}$, obtained due to the wrong evaluation of $\frac{3}{6}$ as 2 instead of $\frac{1}{2}$, was very common. Another common wrong answer was $2b^2$. In some scripts, the answer was written as $\frac{1}{2}b^2$ which might be misinterpreted as $\frac{1}{2}b^2$ instead of $\frac{1}{2b^2}$.

The majority of the students performed badly in part (c). This part was left unattempted in a non-negligible number of scripts. In part (c)(i), some students evaluated $32^2$ thus obtaining 1024. In part (c)(ii), many students solved $x + 1 = \frac{32}{2}$. Some students simply equated $x + 1$ to 32 and went on to solve it.

**Answers:** (a)(i) 1  (a)(ii) 12  (b) $\frac{1}{2b^2}$  (c)(i) $2^5$  (c)(ii) 4

**Question 5**

The majority of the students did well in part (a).

The remaining parts were generally wrongly answered. In a large number of scripts the parts (b)(ii) and (b)(iii) were not attempted.

In part (b)(i), a common error was to consider 1 as a prime number, thus obtaining $\{1,2,3,5,7\}$ as the elements of the set A. Some students did not consider 2 as a prime number.

Many students were unable to find the elements of the set B in part (b)(ii) due to misinterpretation of the information $2 \leq x \leq 5$. Some students took the
elements as \{3,4\}, thus excluding 2 and 5. Some students, who succeeded in listing the elements of both sets, missed the elements outside the sets A and B in the Venn diagram.

**Answers:** (a)(i) 15 (a)(ii) 125 (b)(i) \{2,3,5,7\} (b)(iii) \{1,6,8\}

**Question 6**

The parts (a) and (c) were not well answered. Many low ability students did not attempt these two parts.

In part (a), many students were unable to recognise \(x^2 - 16\) as a difference of two squares. Common wrong answers for this part were \(x(x - 16), (x - 4)(x - 4), (x - 2)(x + 8)\) and \((x + 2)(x - 8)\).

In part (c), as usual, the most common error was not to reverse the inequality symbol when dividing by \(-2\). Sign errors also were very frequent, for example, \(2x > 5 - 1\) instead of \(-2x > 5 - 1\) and \(-2x > 5 + 1\) instead of \(-2x > 5 - 1\).

**Answers:** (a) \((x + 4)(x - 4)\) (b) 2 (c) \(x < -2\)

**Question 7**

The whole question was not well answered.

In part (a), even some abler students were unable to score. In a large number of scripts this part was not attempted. Many students could not identify the connection between \((a + b)^2, a^2 + b^2\) and \(ab\). Some students simply added 34 and 15 or subtracted 15 from 34. Some students obtained the correct answer simply by guessing the value of \(a\) and \(b\) as 3 and 5, or vice versa, from the information \(ab = 15\).

In part (b)(i), many students gave the answer 440°, obtained from adding 95°, 115°, 115° and 115°.

In part (b)(ii), some students simply took \(x\) as 115 believing that the four angles \(\widehat{Q}, \widehat{R}, \widehat{S} \text{ and } \widehat{T}\) are equal. A considerable number of students equated the sum of the five interior angles to 360° instead of 540°.

**Answers:** (a) 64 (b)(i) 540° (ii) 100°
Question 8

Quite a large number of students could not score full marks in this question.

Many low ability students left this question unattempted. However, it was pleasing to note that some of the less able students managed to score full marks.

Loss of marks was mainly due to different numerical mistakes. Many errors in addition and subtraction of integers were seen, for example, $26 - 48$ resulting into 22. A fair number of students, while attempting to equalise the coefficients of one of the two variables by multiplication, either forgot to multiply the term in the right hand side of the equations or simply made a numerical mistake in the multiplication, for example, $16 \times 5$ resulting into 85.

In some scripts, the wrong operation was used by students while trying to eliminate one of the two variables.

Some students eliminated a particular variable without making an attempt to equalise coefficients and by simply trying to subtract the two given equations and omitting one variable, for example,

\[
\begin{align*}
2x + 3y &= 13 \\
5x + 2y &= 16 \\
-3x &= -3
\end{align*}
\]

Only a minority of the students used the substitution method.

Answers: $x = 2$ and $y = 3$

Question 9

This question was not well answered in general.

In part (a), many students simply converted $2\frac{1}{4}$ into the improper fraction $\frac{9}{4}$ and then gave the same as answer. Some students obtained $\sqrt{\frac{9}{4}}$ but then either stopped there or gave the answer as $\sqrt{\frac{3}{2}}$. 
In some scripts, the misconception $\sqrt{\frac{1}{4}} = \sqrt{2} + \sqrt{\frac{1}{4}}$ was seen.

Part (b) was among the least well answered questions in which even many high ability students could not score. A large number of students did not even attempt this part.

The following wrong workings were frequently seen:

(i) $\sqrt{17.75 \times 1000} = 4.213 \times 10$
(ii) $\sqrt{17.75 \times 100} = 4.213 \times 10$
(iii) $\sqrt{17.75 \times 1000} = 4.213 \times 1000$
(iv) $\sqrt{17.75 \times 100} = 4.213 \times 100$

Answers: (a) $\frac{3}{2}$ (b) 133.2

Question 10

This question was not well answered by the majority.

In part (a)(i), many students swapped the $x$–component and the $y$–component in the vector $\vec{AB}$ to obtain $\left(\frac{4}{-3}\right)$ instead of simply changing the signs of both components.

In part (a)(ii), $(-3)^2$ was often wrongly evaluated as $-9$. Some students correctly obtained $\sqrt{25}$ but then gave their answer as $\sqrt{5}$ instead of 5.

In part (b), many numerical errors were seen, such as $-1 - (-3)$ being evaluated as 4 or $2 - 4$ resulting into 2. Many students wrongly solved $3 = 8 + c$ as $c = 8 - 3$ to obtain $c = 5$. Some students used $\frac{\text{difference in } x}{\text{difference in } y}$ to calculate the gradient of the line. A large number of students calculated the gradient correctly and stopped there. Some students who correctly calculated the gradient gave the answer $y = 2x + c$ without evaluating $c$. A fair number of students calculated the gradient and the $y$-intercept correctly but then did not give the equation of the line.

Answers: (a)(i) $\left(\frac{3}{-4}\right)$ (ii) 5 (b) $y = 2x - 5$
Question 11

With the exception of part (a)(i), the other parts were not well answered by the majority.

In part (a)(i), some students gave $\frac{0}{8}$ or $\frac{0}{15}$ as their answer.

In part (a)(ii), a significant number of students calculated $\frac{1}{5} + \frac{1}{3}$ to obtain $\frac{8}{15}$ but then did not subtract $\frac{8}{15}$ from 1. Some students gave the answer $\frac{2}{15}$ obtained from $\frac{1}{3} - \frac{1}{5}$.

In part (b), the wrong answer 63 was commonly seen. This was obtained by calculating $\frac{5}{2} \times 18$, which is equal to 45, and then adding 18 to 45. Many students overlooked the emboldened word ‘more’ in the information ‘18 more girls’, and, therefore, took the number of girls in the class as 18.

Answers: (a)(i) 0     (ii) $\frac{7}{15}$     (b) 42

Question 12

This was a wrongly answered question. In most of the cases, loss of marks was due to the use of wrong formulae in each part.

In part (i), wrong formulae such as $\frac{\theta}{360} \times 2\pi r$, $\frac{\theta}{360} \times \pi r^2$, $\pi r^2 h$ or $2\pi r^2$ were used for area of sector.

In part (ii), wrong formulae such as $\frac{\theta}{360} \times \pi r^2$, $\frac{\theta}{360} \times \pi r$, $\frac{\theta}{360} \times 2\pi r^2$, $2\pi r$, $2\pi rh$ or $2\pi r^2$ were used for length of arc. A fair number of students, including some high ability ones, correctly calculated the length of the arc but did proceed further to calculate the perimeter of the sector.

Answers: (i) 924     (ii) 128

Question 13

This question was not well answered.
Many students simply swapped $I$ and $T$ in the given formula to obtain $T = \frac{PRI}{100}$ in part (a)(i). A significant number of students, after obtaining $100I = PRT$, divided $PR$ by $100I$ instead of $100I$ by $PR$ thus obtaining $T = \frac{PR}{100I}$. The wrong answer $T = \frac{PR}{100}$ was also quite common.

In part (a)(ii), a fair number of students calculated the interest for one year and stopped there.

In part (b), a common error was to take the profit as 20% of the selling price. Therefore, many students calculated 20% of 240 000, which is equal to 48 000, and then subtracted 48 000 from 240 000. In some scripts, $\frac{240 000 \times 120}{100}$ or $\frac{240 000 \times 100}{20}$ was seen instead of $\frac{240 000 \times 100}{120}$.

**Answers: (a)(i) $T = \frac{100I}{PR}$ (ii) 2 (b) 200 000**

**Question 14**

This was another wrongly answered question. Numerical mistakes in addition and subtraction of integers were frequently seen in the first 3 parts of this question.

In part (a)(i), many students calculated $-2B$ and then subtracted it from $A$ instead of adding it with $A$. This means that, in doing so, $A - -2B$ was calculated instead of $A - 2B$.

In part (a)(ii), a common error was to simply square each element of the matrix $A$, thus obtaining $\begin{pmatrix} 16 & 9 \\ 4 & 1 \end{pmatrix}$. Even some abler students committed this mistake.

The most common mistake in part (b) was to expand $-7(8x - 6y)$ as $-56x - 42y$ instead of $-56x + 42y$. This wrong expansion was even seen in the scripts of some high ability students.

In part (c), wrong factorisation, such as $(x + 3)(x + 5), (x - 3)(x + 5)$ and $(x + 3)(x - 5)$, was seen in several scripts. Some students who obtained $(x - 3)(x - 5) = 0$ gave their answers as $-3$ and $-5$. 
Answers: (a)(i) \begin{pmatrix} 2 & -3 \\ -4 & -11 \end{pmatrix} (ii) \begin{pmatrix} 10 & -15 \\ 10 & -5 \end{pmatrix} (b) -41x + 37y (c) 3 and 5

Question 15

Quite a large number of students could not score in part (i). In some scripts it was difficult to distinguish between the hour-hand and the minute-hand.

The wrong answers 22 15 and 08 15 (the next day) were very common in part (i) and part (ii) respectively. These were obtained as a result of the misinterpretation of the information ‘the time in Hong Kong is 4 hours ahead of that in Mauritius’. It was interpreted in the reverse way. Therefore, many students added 4 hours to 18 15 to obtain the answer 22 15 in part (i) and then used this answer in part (ii) to obtain 08 15 (the next day) after adding the duration of the flight.

Answers: (ii) 14 15 (iii) 00 15

Question 16

This question was not well answered by the majority.

In part (a), numerical mistakes were frequent. In some scripts, $7 \times 0.5$ was evaluated as 0.35 or 10.5. The use of wrong trigonometric ratios and the incorrect identification of the opposite and adjacent sides were other common mistakes in this part.

A large number of students were unable to show an understanding of the different angle properties related to the parts (b)(i) and (b)(ii).

Answers: (a) 3.5 (b)(i) 44° (ii) 44° (iii) 83°

Question 17

Correct answers to parts (a)(i), (b)(i) and (b)(ii) were obtained by the majority. Part (b)(i) was the most successfully answered question of this paper.

In part (a)(ii), some students just wrote the formula $\frac{1}{2} (n + 1)^{th}$. In some scripts, the mean was calculated instead of the median.

In part (a)(iii), many students lost marks due to mistake in addition of the 11 values.
Answers: (a)(i) 5  (ii) 8  (iii) 10  (b)(i) 12  (iii) 60°

Question 18

This was the least well answered question of the paper.

In part (a), a common mistake was to include the area of the topmost surface of the water in the calculation. Some students calculated the volume of water.

In part (b), a fair number of students calculated the total volume of the 6 cubes and then did not proceed further. Only a few of those students who obtained full marks in this part realized that the rise in the volume of water is equal to the total volume of the 6 cubes, and hence, used a shorter method. Most of those students calculated the new volume, then the new height and then the rise in the water level.

Answer: (a) 1175  (b) 2
COMPUTER STUDIES

Performance Analysis

The pass rate in Computer studies for the National Assessment 2015 was 73.4 %. The mean mark was 52.4. Figure 1 gives the percentage of students in each mark band.

![Percentage of marks in each band](image)

Figure 1: Percentage of students in each mark band

The level of the paper was similar to that of 2014 but there has been a drop of 6.8% in the pass rate. It was observed that a significant number of students obtained high marks for this paper as they were able to apply their knowledge to the questions. However, 26.6 % scored below 40 marks.

Suggested answers are given for all sections but the list is not exhaustive.
Section A was well attempted by a majority of students.

However, students’ responses to open-ended questions were too general. The quality of written communication was another major area of concern leading students to score poorly.

Questions 6, 7 and 8 were poorly answered.

Section B was generally badly answered.

Word processing

Students did not score well in this question and many experienced great difficulty to identify routine formatting tasks. Defining common concepts used in word processing caused much problems. Describing procedures or method for common word processing task was beyond many.

Spreadsheet

In general, students performed fairly well in the Multiple-Choice section.

A large majority of students had major difficulty in writing formula in part 1(b)(i).

In part 1b(ii) and 1b(iv) students provided generalised statements without relating to the specificities of the questions.

Database

Students did not score well in the database question. Even basic terms like Record, field, data type, key field were not fully mastered by students.

Many students were not able to give reasons for using the three basic operations add/edit/delete.

Only the best students were able to write an appropriate query structure while others experienced difficulty in expressing the correct field with the relational operator and data.

Program Flowchart
The Flow chart question was still the least popular option in section B as in previous years and only high fliers did very well and many weak students did not proceed beyond parts (a), (b) and (c).

The three basic constructs sequence, selection and iteration were largely unknown.

Only the high ability students provided a clear logical diagram to represent the decision control structure.

**QUESTIONS 1-10 Multiple Choice questions (10 marks)**

In general, students performed fairly well in the Multiple-Choice section.

<table>
<thead>
<tr>
<th>Question 1</th>
<th>Correct Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Many students are not familiar with the term ‘operating’ system.</td>
<td>B</td>
</tr>
<tr>
<td>(ii) The term ‘backup’ was not well understood.</td>
<td>C</td>
</tr>
<tr>
<td>(iii) This question was generally well answered with the majority understanding the use of a password.</td>
<td>B</td>
</tr>
<tr>
<td>(iv) This question was generally well answered.</td>
<td>C</td>
</tr>
<tr>
<td>(v) Most students knew that RAM store data that are being processed by a computer.</td>
<td>A</td>
</tr>
<tr>
<td>(vi) Most students were not able to recognise that a field holds a single piece of data.</td>
<td>C</td>
</tr>
<tr>
<td>(vii) The majority of students were unaware that that the fill handle is used to duplicate information from cell to cell in a spreadsheet.</td>
<td>B</td>
</tr>
<tr>
<td>(viii) A significant number of students gave Gigabyte or megabyte as the largest memory capacity.</td>
<td>B</td>
</tr>
</tbody>
</table>
Students have a good idea of teleworking. B

Many students were able to identify the main components of the CPU. C

Question 2

This question was well answered by the majority of students except for the part where a large number of students were not able to state one use of a monitor.

Typical good responses:

<table>
<thead>
<tr>
<th>Device</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>To select/click options/text to drag/drop.</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Entering text/data, commands.</td>
</tr>
<tr>
<td>Monitor</td>
<td>View/display results of actions.</td>
</tr>
<tr>
<td>Printer</td>
<td>To print a document/file, produce hard copy/pages.</td>
</tr>
<tr>
<td>Hard disk drive</td>
<td>Storage/storing files.</td>
</tr>
<tr>
<td>Joystick</td>
<td>Playing games/Navigating games.</td>
</tr>
<tr>
<td></td>
<td>Selecting options.</td>
</tr>
</tbody>
</table>

Question 3

The majority of students did well in this low order question.

Common problems:

Some students were confused about what is an input, output and storage devices. The greatest confusion was with barcode, Webcam and Microphone.
Correct responses:

<table>
<thead>
<tr>
<th>Device</th>
<th>Input</th>
<th>Output</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB flash memory drive</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Speaker</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Headphones</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Microphone</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD-ROM</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Webcam</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barcode reader</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Question 4

This question was particularly well answered by students. They responded well to the matching answer question with only one area of concern, that of recognising an email address.

Correct responses:

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN</td>
<td>A code that user must key in to get access to his/her account in order to withdraw cash from an ATM.</td>
</tr>
<tr>
<td>Search engine</td>
<td>A tool to find information on the internet.</td>
</tr>
<tr>
<td>Program</td>
<td>A set of instructions that directs a computer how to solve a problem.</td>
</tr>
<tr>
<td>ISP</td>
<td>A company which provides the user with a connection to the internet.</td>
</tr>
<tr>
<td>Website</td>
<td>Is a collection of one or more web pages.</td>
</tr>
</tbody>
</table>
Scanner → A device used to capture data by passing light over the image.

xyz@govmu.org → An email address.

Question 5
This low order question was fairly well answered by the majority of students.

Common Problems:
(i) A significant number of students took “all information on the Internet has been checked for accuracy” as True, which is definitely not the case.
(ii) Many students wrongly believed that item price is a piece of information provided by the barcode.

Correct responses:

<table>
<thead>
<tr>
<th></th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) All information on the internet has been checked for accuracy.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>(ii) Goods sold in a supermarket have a barcode. The piece of information provided by the barcode is the item price.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>(iii) A DVD is an example of an optical disk.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>(iv) A browser is used to display web pages.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>(v) E-commerce is the buying and selling of goods and services via the internet.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>(vi) ROM is used to start a computer.</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Question 6
This question was answered either very well or very poorly.

Common problems:
Low ability students were not familiar with the term video conferencing.
Students had lot of difficulty to express themselves.
General comments

(a) Many students were able to describe what is video conferencing.

Typical responses:

(a) Video conferencing

- Communicating across a network using sound and images.
- Face to face conference across a network using sound and images.
- A technology that allows users in different locations to hold face to face meetings by using a network to transmit audio and video messages.

(b) Most students who answered part (a) correctly were able to give at least one advantage of using video conferencing.

Typical responses:

Any two from

- Face to face.
- Pupils will be able to see/question the poet directly.
- No need to travel/No expenses.
- Meeting can be set up when it suits the poet.
- Immediate response.

(c) Most students were able to successfully identify at least 1 piece of hardware that is required for video conferencing.

Common problems: Many students did not relate their answer to the question but rather named a hardware in the hope of earning one mark

Typical responses:

Two hardware from

- Webcam/digital camera/Video camera (Do not accept camera.)
- Speakers.
- Microphone.
- Screen/TV/Monitor.
- Fast internet connection/Modem/ISDN/ADSL/Broadband connection.
**Question 7**

This question was **poorly** attempted by the majority of students despite the fact that this was a frequently asked question in the previous years.

(a) Many students were not able to explain the difference between the **Internet** and the **WWW**.

**Correct response:**

The **WWW** is the hardware used to link into the **WAN**.
The **WWW** is the web pages/data/applications which travels on the internet.

(b) Few students were able to list 2 advantages of a **LAN**.

**Common good responses:**

Sharing of expensive peripheral devices.

Software can be shared

Data can be shared.

Virus protection.

Better security.

Files can be backed centrally.

Exchange of information across the network.

(d) A significant number of students fail to list 2 differences between a **LAN** and a **WAN**.

**Common errors:**

Most students just wrote **LAN** is Local Area Network and **WAN** is Wide Area Network thus did not earn any credit mark because the acronyms **LAN** and **WAN** were clearly given in the question paper.

**Typical good response:**

**LAN** refers to a setting in a small geographical area (example a school, hospital) and the communication link is mainly via cables.
**WAN** refers to a setting in a large geographical area (a central bank) and the communication link is mainly through telephone lines and fibre optic.

**(e)** Most students were able to name one security measure to ensure security of data on the LAN.

**Typical good responses:**

Passwords/ User IDs

**Question 8**

a (i) The term “Virus’ was defined quite well by a majority of students.

**Typical good response:**

A virus is a program/software that can harm the data/programs stored in the hard disk of a computer.

A virus is a program/software which is designed to damage a computer system/corrupt files/attack the system/damage files

a (ii) Many were not able to give 2 ways to prevent viruses from infecting a computer. Common answers were “using antivirus” and “firewalls”.

**Typical responses:**

Use /install antivirus and update regularly.

Use firewalls.

Not downloading files from the internet.

Buy genuine software.

(b) Many students gave 2 solutions for each of the problem which arises when working with a computer system over a long time.
Typical responses:

Use ergonomic furniture or equipment.

Adopt correct posture.

Foot/neck/back rests and Wrist rests and hand or finger exercise.

SECTION B

Option1 - Word Processing

Question 1(a)

Simple tasks on text formatting like **bold**, *underlined*, *italic*, Underline and Bold and paragraph formatting like *Left aligned*, *center aligned* *right aligned* and *justified* were partially identified. Part (iii) and (iv) proved be difficult for a large number of students.

<table>
<thead>
<tr>
<th>Question 1(a)</th>
<th>Correct Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) A large number of students recognised the required font style.</td>
<td>B</td>
</tr>
<tr>
<td>(ii) This question was generally well answered.</td>
<td>B</td>
</tr>
<tr>
<td>(iii) The majority of students was not able to identify the correct formatting for the main text in the letter.</td>
<td>C</td>
</tr>
<tr>
<td>(iv) The use of tab to align text was not well understood.</td>
<td>A</td>
</tr>
<tr>
<td>(v) Formatting text for the headings of the columns was not well understood.</td>
<td>B</td>
</tr>
<tr>
<td>(vi) Most students recognised the logo at the top of the letter as an image file.</td>
<td>B</td>
</tr>
<tr>
<td>(vii) This question was fairly well answered.</td>
<td>A</td>
</tr>
</tbody>
</table>
Question 1(b)

This part also proved to be difficult for the majority of students. Students responses varied greatly in this part. Though students may be good at practical work, yet they could not express themselves clearly in such types of questions. Many students did not attempt some of the questions at all.

(i) Students were not able to state clearly the difference between a header and a footer.  

**Typical good response :**

A header is text or graphics that is usually inserted at the top of every page of a document.

A footer is text or graphics that is usually inserted at the bottom of every page of a document.

(ii) Students were not able to explain how to create a header or a footer. Only students who attempted part(i) successfully was able to answer this part.  

**Typical good response :**

Click on the INSERT tab.

Choose the Header & Footer option

Click/Choose Header or Footer.

Type the required data/insert required graphics

(iii) Students were not familiar with the term “Portrait page orientation/Landscape orientation”.

**Typical correct response :**

Click **PAGE LAYOUT** tab.

Click/choose the Orientation option.

Choose Landscape.

(iv) A minority of students were able to write down the steps in order to insert a graphic in a document.
Typical correct response:
Click on INSERT tab.
Choose Pictures option.
Browse for picture.
Click insert.
OR Copy paste.

Option 2: Spreadsheets

In general, the students performed fairly well in this question with the same level of difficulty as last year. However, greater care needs to be taken when using formula especially by the average students. Although almost all students attempted part (a), yet a significant number of students did not attempt part (b). To answer this question successfully, students must have had extensive practical experience in the construction of spreadsheets. Those with practical experience scored well. Many, however, were unable to complete this section successfully, thus indicating a lack of practical experience.

Question 1 (a) Students performed fairly well in this Multiple-Choice section

<table>
<thead>
<tr>
<th>Comments</th>
<th>Correct response</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) The use of bold to lay emphasis on data was understood.</td>
<td>D</td>
</tr>
<tr>
<td>(ii) The majority of students identified the correct formula.</td>
<td>B</td>
</tr>
<tr>
<td>(iii) The majority of students identified the correct cell</td>
<td>D</td>
</tr>
<tr>
<td>(iv) This part was cancelled due to an error</td>
<td></td>
</tr>
<tr>
<td>(v) Students had difficulty to identify the correct range.</td>
<td>C</td>
</tr>
<tr>
<td>(vi) The term sorting was well understood.</td>
<td>B</td>
</tr>
<tr>
<td>(vii) Recognising the correct function proved to be difficult.</td>
<td>B</td>
</tr>
</tbody>
</table>

Question 1 (b)

(i) Writing formula is still a major problem. Students need to be aware that formulae in general need to contain an equal sign, function name and cell range enclosed in brackets.

Typical good responses:

= SUM(F2:F10)
= (F2+F3+F4+F5+F6+F7+F8+F9+F10)

(ii) Many students were unable to recall how to merge cells.

Typical good response:

SELECT cells (A11:E11)

Choose Format cells

Alignment

Merge cells

(iii) Only a minority scored full marks. Few students were able to state 2 advantages of using formulae.

Correct responses:

Formulae can be copied/replicated to other cells

Formulae can be used to perform complex calculations/can be used to analyse data

(iv) The majority of students failed to explain clearly how to insert a fully labelled column in the right position in the spreadsheet. Description given was too general.

Typical responses:

Click on column B, Click on HOME TAB, Click INSERT, Choose Insert Sheet Column, Name the column header.

OR

Right click on column B, choose insert, Label the column header.

Option 3: Database

This question required students to have a good understanding of the concept of a database. Students’ responses varied greatly. Once more students with practical experience scored well.

Many students did not attempt parts (c) to (f). There was a definite decline in students’ responses to this question compared to previous years.

a) Many students answered this question satisfactorily and they gave the correct the number of records in the database. It was noted that some students gave the number of fields instead of number of records.

Correct response:
b) This question was answered satisfactorily and gave the correct number of fields which were 8. Again here some students gave as answer the number of records instead of the number of fields in the database. An occasional 88 were also seen.

Correct response:
8 fields

c) Many students had difficulty to give a good reason for adding a record to a database. Students need to be aware that a database is not static and there will always be operations (add/delete/edit, etc…) that will be performed on the database.

Typical good responses:
When a new worker joins the company or to recruit a new worker.

d) Here also many students could not provide a valid reason for editing/modifying a record in a database.

Typical good responses:
To make changes to the database (e.g. if the job description of a staff changes) information in the database is not accurate or up to date and needs to be modified

e) Many students had difficulty to give a valid reason why a record would be deleted from a database.

A typical good response:
If a worker leaves the company

f) To state what is a key field proved to be very difficult for students to answer. They have not understood that a key field is used to uniquely identify a record. Any field was taken at random and given as the key field.

Correct response:
Payroll No.

g) To state what is a key field proved to be very difficult for students to answer. They have not understood that a key field is used to uniquely identify a record.

A typical good response:
A key field is used to identify a record uniquely.

h) The concept of coding data is not a familiar concept. Many students had difficulty to answer this question. Most mentioned only 1 advantage.

Correct responses:
Quick data entry,
saves memory space
i) This question was poorly answered. Students did not understand the term data types.

Correct responses:
text, date, Boolean, Numeric

j) This question was poorly answered.

Common problems:
Many students did not list all the Surnames or only part of the answer was given.

Correct responses:
David, Rosette

k) Only a few correct answers were recorded. Writing search criteria using comparison
and logical operators proved to be difficult for most students and defeated even the
high fliers.

Common problems:
The correct field names are not used, as written in the table, to write the search
condition. It has also been noted that quotes were not used.

A typical good response:
(DOB<=’31/12/1975’) AND (Full / Part time = ‘ F’)

Option 4: Program Flowchart

As in previous years, this option was attempted by only a few students. High-fliers performed
particular well. Weaker students managed to score in part (a) only and seldom pursued their
effort to answer the remaining parts.

Question 1(a) The majority of the high fliers gave the correct score.

Correct responses:

(i) 345 score 0
(ii) 444 score 12
(iii) 112 score 0
(iv) 565 score 4

Question 1(b) This part was not well attempted even by the majority of highfliers.
Correct responses

<table>
<thead>
<tr>
<th>Score in any order (only 1 per row)</th>
<th>Expected output</th>
</tr>
</thead>
<tbody>
<tr>
<td>113, 311, 131</td>
<td>-1</td>
</tr>
<tr>
<td>114, 141, 411</td>
<td>-2</td>
</tr>
<tr>
<td>115, 151, 511</td>
<td>-3</td>
</tr>
<tr>
<td>116, 161, 611</td>
<td>-4</td>
</tr>
<tr>
<td>225, 252, 522</td>
<td>-1</td>
</tr>
<tr>
<td>226, 262, 622</td>
<td>-2</td>
</tr>
</tbody>
</table>

**Question1(c)** Once more, the highfliers did very well.

**Correct response:**

Maximum score: 18

Minimum score: -4

**Question1(d)**

High fliers successfully identified the correct responses.

**Correct response:** This was the easiest section for the majority of high fliers.

(i) Sequence (ii) Iteration (iii) Selection

**Question1(e)**

This question was very well attempted by the highfliers.

**Correct response:**

Is distance less 25 Km?

- **NO**: Tariff B
- **YES**: Tariff A
BIOLOGY

Performance Analysis

The pass rate in Biology was 50.3%. The national mean mark was 20.3 out of 50.

Figure 1 below shows the distribution of marks within the different band marks.

![Percentage of students in each mark band](image)

Figure 1: Percentage of students in each mark band

As shown in Figure 1, the percentage success is asymmetrically distributed. In fact, it is skewed to the left showing that the large majority of students are found in the bands below 30 marks.

Analysis of scripts revealed that in general students had difficulty in tackling questions from the chapters ‘Gas exchange system’, ‘Reproduction’, ‘Biodiversity’ and ‘Respiration’. It was also noted that one-word and short answer questions were easily answered by most students. However, they had difficulty in tackling questions requiring analysis of data and descriptive answers. In certain cases the latter were left unanswered with no effort demonstrated. Another noteworthy fact was that students did not read the questions thoroughly and carefully.
Qualitative analysis

Question 1

Question 1 comprised of 5 Multiple Choice questions on different chapters.

Items 1(a), 1(c) and 1(e)

Question 1(a), 1(c) and 1(e) were answered correctly by the majority of students.

Some students had difficulty with question 1(a). This may be explained by the fact that the term ‘hereditary material’ was not well understood. However, most students within the band of 40-50 scored the one mark easily.

Most students were able to associate the function of the blood vessel with transport of materials and waste products for item 1(c). However, a few students did not focus on the boldly stated word ‘direct consequence’.

Question 1(e) was the most successfully answered question as most students had used their knowledge and understanding of the chapter “Reproduction in Humans”.

Item 1(b) and 1(d)

Question 1(b) proved to be particularly challenging for the students. It was a question on structure adapted to the function of red blood cell. The most popular wrong answer was option A instead of C as they could not link the word ‘characteristic’ with the word structure.

Similarly, question 1(d) proved to be very confusing for the students as the majority of them were misled by the term ‘calm breeze’ with still air and thus chose option B instead of A.

Question 2

Question 2 consisted of 3 items assessing students on Respiration.

Item 2(a)

Students produced vague answers as they defined ‘breathing and respiration’ instead of differentiating the 2 processes.
Students who did not score full credit for this question gave incomplete answers and failed to mention the release of energy for respiration.

**Item 2(b)**

The majority of the students performed poorly in this question as they were unable to give all the elements for word equation of aerobic respiration.

**Item 2(c)**

This question was well answered whereby students were able to relate the need for energy and biological processes. Yet, a few vague answers were noted such as ‘energy is needed for survival’.

Most students in the higher band mark earned the one mark allocated for the question easily.

**Question 3**

Question 3 comprised 2 items testing students’ scientific inquiry and problem solving skills on the chapter “Transport in plant”.

**Item 3(a)**

The majority of the students were unable to identify xylem as the vascular tissue which transports the red coloured solution throughout the Balsam plant. Some students could not relate the fact that transport of water up xylem vessels was being tested by the movement of the coloured solution. Other students’ confused xylem with phloem, as the diagram represented complex morphological structure.

Consequently, incomplete answers were noted for part 3(a)(ii), question which was carried forward. Although many students correctly mentioned the absorption of the dye, they were unable to mention its movement up the plant.

**Item 3(b)**

Most of the students were able to sketch the curve on rate of transpiration, except for a few who missed the point on the y-axis. However, the majority of them were unable to read the rate of transpiration at 26 °C.
For the item 3(b)(i), students in the higher band mark tackled the question easily and earned full mark.

For the item 3(b)(iii), the students were required to describe the trend of the graph which proved to be very challenging. Very few students were able to quote data with units in their answers.

**Question 4**

Question comprised 3 items on transmission of infectious disease namely HIV/AIDS and Ebola.

**Item 4(a)**

This item required students to suggest 2 ways by which HIV virus is spread. A few students gave only 1 suggestion instead of 2 as required in the question. The remaining students could not provide relevant mode of transmission of HIV/AIDS.

**Item 4(b)**

This item tested awareness of students on prevention and control of HIV/AIDS. To score full credit, many students, especially those within the higher mark bands, were able to mention ‘increased public awareness through sensitisation programmes’, ‘availability of better healthcare’ and the ‘importance of education for youngsters’. Moreover, since the use of condoms was the most popular answer for this part, students were not able to earn full mark.

**Item 4(c)**

Students tried to explain the need to wear protective suits by people in contact with Ebola patients. However, it was noticed that Ebola was unfamiliar to the students. Most of the students were unaware of its mode of transmission and causative agent of this infectious disease. Consequently, they were unable to score full credit for part 4(c) (ii). Those who earned 1 mark, gave vague answers whereby the objective term ‘suggest’ was not well understood by students. The majority of students were not able to link the context of the West African region to the disease Ebola.
Question 5

Question 5 consisted of 4 items assessing learners on two different types of ecosystems namely the terrestrial and the marine ecosystems. Students were expected to read the 2 different contexts carefully.

Item 5 (a) (i)

Learners were required to suggest a reason for the decline of an endangered species in a given context. A majority of students were able to respond correctly earning full credits. The remaining very few were able to obtain 1 mark for an incomplete answer.

For those who were unable to score any mark, it was observed that they had difficulty to relate the specific statement and the diagram provided to deforestation, overhunting or Global warming.

Item 5 (a)(ii)

For this item, students were expected to explain the importance of a named endangered species. The majority of the students were unable to earn any mark as they were unable to contextualise the concept. Few students were able to apply correctly the information given and their understanding to explain interactions which exist in an ecosystem. A few students tried to explain the intrinsic value of a species to explain its preservation.

Item 5 (a) (iii)

Many students were able to correctly suggest conservative measures to protect the species. A few students provided incomplete answers and thus did not score full mark. This could be explained by the fact that student had difficulty with the objective term ‘suggest’.

Students in the higher band mark tackled this question easily and earned full mark

Item 5 (b)

A large number of students were unable to earn any mark. The remaining students were able to explain that the alien species of fish can out-compete the other organisms in the ecosystem or disrupt the balance in the ecosystem or even convey diseases to earn full credit. Some students provided vague and incomplete answers and some re-stated the question in their answers.
Question 6

Question 6 comprised 4 items, assessing learners’ understanding on the female reproductive system and the sexually transmitted disease syphilis on the topic ‘Reproduction’.

Although this question required a direct recall of knowledge, it proved to be the second least scoring question which was not within the reach of many students.

Item 6(a)

A majority of students was unable to score any marks. Some answers from the students contained the idea that a zygote is formed from one cell coming from mother and one from father but reference to chromosomes or DNA was missing. A fair minority was able to formulate a complete answer to earn full credit.

Item 6 (b) (i)

Students were expected to identify the different stages in the development of the embryo, for the different stages labelled. The majority of students did not score full marks. It has been noted that the specific stage C, ‘implantation’, in the item 6(b) (i) proved to be particularly challenging. This could be explained by the fact that students did not understand the diagram clearly. The ball of cells was not fully implanted in the uterine lining and later stages were not shown.

Some scripts revealed a high level of confusion between ‘stages’ and ‘structures’ of the female reproductive system.

Item 6 (b) (ii)

Learners who had difficulty to identify the different stages in the item 6 (b)(i) faced the challenge to describe the processes which were carried forward with an added difficulty to include the menstrual cycle. A large number of students were unable to gain full credit and very few were able to earn full mark.

In some scripts, irrelevant answers were evidenced whereby students were describing only the menstrual cycle without referring to the diagram.

Item 6 (c)

Most of the students were able to provide the correct answer on the ways to prevent the spread of the disease syphilis which was a straight recall of information. Yet, full credit was
not earned by many due to incomplete answer. The most popular answer was the use of ‘condom’.

Question 7

Question 7 consisted of 4 items assessing students on the human respiratory system. According to the statistics, question 7 had the highest percentage of students who did not score any mark.

Item 7(a)

Most of the students could not properly relate the word ‘events’ to the breathing mechanisms that occur during expiration. Subsequently, most of them failed to give correct description of the intercostal muscles, ribs, diaphragm, volume and pressure of the chest cavity.

It was noticed that some students were unable to differentiate between inspiration and expiration.

Items 7(b), 7(c) and 7(d)

The majority of students were unable to identify the alveolus. As a result, they could neither name a disease affecting alveolus nor its causes and its effects on the person’s health.

Some students did not differentiate between the diseases that only affect the alveolus and that affecting the respiratory system as a whole. Common answers provided by students were bronchitis and asthma.

Item 7(d) on effects was well answered by students found in the range of 40-50.
CHEMISTRY

Performance Analysis

The percentage pass in Chemistry was 50.3%. The paper was set on 50 marks and the mean score was 20.1. Figure 1 below gives the percentage pass in Chemistry in different mark bands.

![Percentage Pass in Chemistry in different mark bands](image)

The paper tested students’ ability to recall their understanding and a variety of skills ranging from observation, interpretation and application. The paper included a variety of questions ranging from multiple choice questions, fill in the blanks and short answer questions.

Question 1

Question 1 comprised of 6 multiple choice questions on different chapters and tested recall, understanding and application of knowledge.

Item 1(a) required students to be familiar with ‘physical and chemical changes’. It was correctly answered by many students. The main distractor was answer A, where students associated dissolving with chemical change.
Items 1(b) and 1(c) tested students’ knowledge on ‘separation of mixtures’ and application of this knowledge. Both parts were generally well answered.

The majority of students could correctly identify the correct air pollutant in item 1(d).

Item 1(e) required students to apply their knowledge of the reactivity series. Very few students could correctly answer this part.

Item 1(f) required recall of test of gases. It was correctly answered by the majority of students.

**Question 2**

The question consisted of 2 main parts:

In part (a), students were required to interpret a table having items, which tested students’ ability to name and write formulae of compounds.

Part (b), having 3 items, tested recall ability of students using the table in part (a).

For part (a), the majority of students successfully named the compounds. However, a large number of students were unable to write the correct formulae. It was noted that a minority of students could give the correct formula of Aluminum Oxide.

Most students found part (b) challenging. Very few students could correctly state that ammonium chloride was the compound which sublime on gentle heating in item b(i). The majority of students did not know that calcium carbonate is the compound present in coral for b(ii).

**Question 3**

This question consisted of 3 parts which tested students’ ability to recall, observational skill, and their ability to apply knowledge on the topics: reactivity of metals and the water cycle.

Very few students could give the proper observation for the reaction of acid with magnesium ribbon in item a(i) and a vast majority of students could not explain why reaction stopped in item a (ii). It appeared that students did not read the question properly.
For item b(i), the majority of students were not able to correctly describe the appearance of iron before being placed in water. However, many students correctly described the appearance of iron after rusting [item b(ii)] and also correctly explained that rusting has taken place in the presence of air and water [item b(iii)].

In items c(i), students were required to analyse a flow chart representing part of the water cycle and name the processes. This was correctly done by the majority of students. Item c(ii) was a high order question, which tested analytical skill as well as recall ability. This part was wrongly answered by many students.

**Question 4**

Question 4 was a higher order question which the majority of students found very challenging.

In item 4(a), the majority of students correctly identified copper as an element.

Items 4(b) and 4(c) were wrongly answered by most students. They could not state the colours of copper (II) oxide and copper (II) sulfate nor could they identify copper (II) oxide as being insoluble in water.

Item 4(d) (i) & (ii) were correctly answered by very few students. They were not able to state that sulfuric acid is used to prepare copper (II) sulfate nor were they familiar with the term neutralisation.

Item 4(e) was wrongly answered by the majority of students. They did not know that heating is required for dehydration.

Item 4f (i) was either left unanswered or wrongly answered by the majority of students. Very few mentioned anhydrous copper (II) sulfate is used to test for the presence of water. It was noted for item 4f (ii) that although students had to choose only between hydrated copper (II) sulfate and anhydrous copper (II) sulfate, several other compounds were also mentioned among the wrong answers given by students. This once more points out that students do not read questions properly.

Very few students were able to correctly state that the colour change was from white to blue for item 4f (ii)
**Question 5**

This question tested students’ knowledge on separation techniques and solubility of salts. The majority of students found this question quite challenging.

Very few students could give the correct observation for Item 5(a) though it was quite visible from the diagram.

The majority of students correctly labelled P as filter paper, however labelling of F, as funnel proved to be difficult in item 5(b).

Items 5c (i) & (ii), which tested students’ knowledge on solubility of lead compounds, were wrongly answered by the majority of students. Surprisingly, very few students knew that lead (II) nitrate is soluble in water.

Students found item 5 (d) very challenging. Very few students were able to give the two correct processes involved in separation of solid in figure 2. The answer filtration was rarely seen.

Items 5e(i) & (ii), which tested students’ understanding of different techniques of separation, were poorly answered by the majority of students.

**Question 6**

Students’ understanding on the chapter Air was tested in this question.

The majority of students correctly named at least one of the two gases produced during combustion of fossil fuel [item 6a(i)]. However, very few students were able to correctly state that carbon monoxide is the gas produced during burning of fuel in the absence sufficient oxygen or give its formula in item 6a (ii). It seemed that students did not understand that incomplete combustion of fuel occurs in the absence of sufficient amount of oxygen.

Item 6b (i) was wrongly answered by the majority of students. It was surprising to note that oxygen was the most common wrong answer though the question asked for the main gas present in air. However, 6b (ii) was correctly answered by the majority of students.

Item 6 (c) tested students’ knowledge of the carbon cycle. Item 6c(i) was correctly answered by the majority of students while for item 6c(ii) either only one of the two processes were described or this part was left unanswered by many students.
PHYSICS

Performance Analysis

The pass rate was Physics for the National Assessment 2015 was 32.6 %. The mean mark was 15.7 out of 50. The figure below gives the percentage of students in each mark band.

![Percentage of students in each mark band](image)

**Analysis**

The question paper included a variety of questions comprising multiple choice questions and short answer questions which required effective handling of information and problem solving. Questions 2, 6 parts (a) and (b) and 7 parts (b) and (c) posed a high level of difficulty.

**Question 1**

Question 1 consisted of 5 Multiple Choice questions. Only few students scored a maximum of 5 marks allocated to this question and almost the same number scored no mark. In question 1a, a large number of students made a direct association of light with a candle by choosing option A, which was a wrong answer. Many students could understand that the question was about energy stored in a candle and thus gave the right option D.

Question 1b, dealing with vector quantities, was very well answered by most students.
They were required to record the volume of a liquid in a measuring cylinder in question 1c. Quite a good number of students gave the correct answer by taking the scale reading at the bottom of the meniscus as compared to considerable percentage who chose the reading at the top of the meniscus and were wrong.

On the other hand, question 1d on the laws of reflection was correctly answered by most of the students. Question 1e, which deals with the concept of electric potential difference, proved to be difficult and only some of the students chose the correct answer.

**Question 2**

Question 2 deals with the physical quantities and the instruments required to measure the average speed of a toy car. Many of the students scored the 4 marks available for this question. However, a great number did not score any mark. A high number of the students showed a lack of understanding of the term “quantities” required in question 2.1. Similarly, in question 2.2, the students were required to associate an instrument to the physical quantity. A considerable number of students scored the maximum marks available whereas a similar number did not score any. Hence, this question proved to be non-scoring.

**Question 3**

Students were required to concentrate on ‘reflection of light by a plane mirror’ in question 3 for 3 marks. A few of them scored full marks. Part 3(a) was based on the image of a word as seen in a plane mirror. This part was very well answered by most of the students. Part 3(b) required the students to state one specific characteristic of the image formed in the picture. Few scored the one mark available for this part. On the other hand, very few students were able to find an application for the specific characteristic of the image formed as required in question part 3(c).

This question did not prove to be scoring for many students. A high number of students did not score any mark and similar number of students scored only 1 mark for the question.

**Question 4**

Question 4 dealt with an electric circuit. This question carried 9 marks. Few students scored full marks and a similar number did not score any.
Part 4(a) required the students to give the name of the components in an electric circuit. This part was correctly attempted by many and scored the 4 marks.

Part 4(b) was more accessible and required the students to calculate the combined resistance of 2 lamps connected in series. A high number answered correctly.

Part 4(c) proved to be more demanding whereby students were required to calculate the combined resistance of two lamps connected in parallel. Few students secured the 3 marks available for the question while majority did not score any. It is noted that many students did not use the appropriate formula for the calculations.

**Question 5**

Question 5 was on measurement of diameter and students could score up to a maximum of 8 marks. Very few scored full marks and many other students did not score any mark.

Part 5(a) (i) required them to find the average diameter of a steel ball using three identical balls placed along a graduated ruler. Many less able students did not find the difference between the scale readings before averaging. This part was correctly attempted by quite a good number of students. The majority, however, scored no mark for this sub-section.

In part 5(a) (ii) students had to suggest a reason for using wooden blocks in the measurement. Contrary to part (i), this part was generally well attempted.

Part 5(b) (i) required the students to use a ‘vernier caliper’ to measure the diameter of a rubber ball. This proved to be a difficult question as most of the students did not score any mark. Very few scored all the 3 marks available.

In part 5(b) (ii) the students had to state two precautions to be taken in the measurement of the diameter of the rubber ball. A significant number of students gave only one valid answer. This question did not prove to be a scoring one.

**Question 6**

Question 6, based on motion and a speed-time graph, proved difficult to a high number of students. Only a few of the students could score full marks. Majority of them did not score any mark.

Part 6(a) was based on the calculation of the final speed of a uniformly accelerating train. This part proved to be very difficult for the majority of the students as they failed to use the appropriate equation resulting in very high number of students scoring no mark.
In part 6(b) the students had to draw a speed-time graph for the motion of the train. A very high number of students did not score any mark. The common mistake made by students was to start the graph at other points than at (0,20).

**Question 7**

Question 7 proved to be very difficult to most students. Based on energy and energy conversion related to a child moving down a water slide, only a small number of the students managed to score the 9 marks allotted to this question.

Part 7(a) required the students to calculate the gravitational potential energy of a child at a point. Many could not recall the appropriate equation and many did not use the value of ‘g’ given on the first page of the question paper. Only few students scored all the marks allotted for this part.

Part 7(b) (i) proved to be difficult as nearly all students failed to apply the law of conservation of energy to calculate the kinetic energy at a lower point. Moreover, part 7(b) (ii) required them to give a reasoning for their answer in part 7(b)(i) and that proved to be a difficult task by most of the students.

In part 7(c) the students had to calculate the rate of gravitational potential energy loss and the majority of the students found this part extremely difficult and did not score any mark.

**Question 8**

Question 8 was an application question testing the students’ understanding of refraction of light and its consequence while fishing using a spear. Very few students were able to score full marks and many did not score any.

Part 8(a) (i) required the students to state the 1fisherman (of the 2) who is more likely to hit a fish. A high number did not score the mark available, showing a lack of understanding of refraction of light.

In part 8(a) (ii) the students were required to explain their answer in part 8(a) (i). Most of them failed to apply the concept of refraction to real life situation. Only few scored all the marks available.

In part 8(b) they were required to draw a ray diagram to indicate the real and apparent positions of the fish. Many drew random and irrelevant ray diagrams. Very few students scored full marks.