

FURTHER EDUCATION & TRAINING PHASE (FET)

COMPUTER APPLICATION TECHNOLOGY

SBA EXEMPLAR BOOKLET

GRADES 10-12



basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



FOREWORD



The Department of Basic Education has pleasure in releasing a subject exemplar booklet for School Based Assessment (SBA) to assist and guide teachers with the setting and development of standardised SBA tasks and assessment tools. The SBA booklets have been written by teams of subject specialists to assist teachers to adapt teaching and learning methods to improve learner performance and the quality and management of SBA.

The primary purpose of this SBA exemplar booklet is to improve the quality of teaching and assessment (both formal and informal) as well as the learner's process of learning and understanding of the subject content. Assessment of and for learning is an ongoing process that develops from the interaction of teaching, learning and assessment. To improve learner performance, assessment needs to support and drive focused, effective teaching.

School Based Assessment forms an integral part of teaching and learning, its value as a yardstick of effective quality learning and teaching is firmly recognised. Through assessment, the needs of the learner are not only diagnosed for remediation, but it also assists to improve the quality of teaching and learning. The information provided through quality assessment is therefore valuable for teacher planning as part of improving learning outcomes.

Assessment tasks should be designed with care to cover the prescribed content and skills of the subject as well as include the correct range of cognitive demand and levels of difficulty. For fair assessment practice, the teacher must ensure that the learner understands the content and has been exposed to extensive informal assessment opportunities before doing a formal assessment activity.

The exemplar tasks contained in this booklet, developed to the best standard in the subject, is aimed to illustrate best practices in terms of setting formal and informal assessment. Teachers are encouraged to use the exemplar tasks as models to set their own formal and informal assessment activities.



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DIRECTOR-GENERAL

DATE: 13/09/2012

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INTRODUCTION

Assessment is the process of evaluating a learner's attainment of knowledge, understanding and skills.

School-based assessment (SBA) is conducted by the teacher at the school level and is summative, i.e. it assesses performance against curriculum objectives.

There is no decision that teachers make that has a greater impact on learners' opportunities to learn and on their perceptions about what a subject is, than the selection or creation of tasks.

SBA may take place at different points of the learning process, as described through Section 4 in the Curriculum and Assessment Policy Statement (CAPS). Assessment results are recorded and count towards a learner's final promotion or certification.

However, assessment should always contribute to a learner's learning and progress. SBA, therefore, also provides information on a learner's attainment of knowledge, understanding and skills and is used to contribute to individual learning by reinforcing and complementing that learning.

AIMS AND OBJECTIVES

- Provide quality-assured examples of assessment tasks to capacitate teachers in the setting of SBA tasks.
- Provide guidance to teachers when setting SBA tasks.
- Deepen understanding of the cognitive demand of a task.

ASSESSMENT TASKS

The assessment tasks included are for Grades 10 -12 and make provision for the practical as well as the theory tests. These tests are a collection of assessment methods and questions that samples a domain of knowledge and/or skills.

In CAT, the practical component involves processes and procedures, which are regarded as process knowledge (the specific sequence of steps that a learner may learn or use to perform a task), and are tested through practical tests and examinations.

PROGRAMME OF ASSESSMENT (PoA)

CAT uses mostly tests and examinations (questioning) to assess knowledge and skills. Questions could include practical tasks and case studies (description of an event, usually in the form of a piece of text, a picture that concerns a realistic situation) where learners are prompted to analyse the situation, draw conclusions/make decisions/suggest courses of action, etc.

The PoA also includes a project, known as the PAT (Practical Assessment Task). The PAT

generates evidence through evaluation of the information management process and its product that includes research/investigation that includes defining the task, sourcing data and information, processing data and presenting a report.

The PAT further provides evidence for a range of knowledge, skills and understanding within and across more than one topic. It therefore benefits learning and helps to make the assessment process more meaningful for learners.

QUALITY ASSURANCE PROCESS

Quality assurance of SBA is the planned and systematic process of ensuring that SBA tasks are valid, reliable, fair, equitable and practicable, thus increasing public confidence in SBA. This would include the quality assuring of all the activities that take place before, during and after the actual assessment, therefore contributing to an improved quality of SBA.

This booklet focuses mainly on the process of setting quality SBA tasks.

Setting of tasks

Guidelines towards quality tasks:

- Know the curriculum and its requirements to identify the knowledge, understanding and skills, which are being assessed.
- Ensure that the assessment allows learners to show that they have the required knowledge, understanding and skills to meet the national standards.
- Ensure that the scenarios or contexts are open and comprehensible to all learners.
- Ensure that an appropriate reading level is used.
- Ensure that no part of the assessment has an adverse impact on specific groups of learners, e.g. disabled learners.
- Ensure that all illustrative material reflects an inclusive view of society and promotes equality.
- Consider time.

Construction features to consider when setting tests and examinations:

- The language used in the question paper should not be a barrier.
- The weighting given to a particular part of the question paper reflects its relative importance.
- Sampling is systematic but unpredictable to avoid question 'spotting'.
- The cognitive demand of the paper is appropriate, i.e. includes lower-order, middle-order and higher-order demands to the prescribed ratio.
- The level of difficulty of the individual questions is appropriate and the level of difficulty of the overall paper is appropriate to the level of the grade.
- The mark available for each question matches the demands of the task and the test specification.
- The memorandum allows for a range of valid answers, especially for open-ended questions.
- Different types of questions are used.

Quality assurance helps to support teachers and build expertise and capacity in the education system to deliver positive outcomes for learners. Through sharing, understanding and applying standards and expectations, quality assurance helps to raise standards, expectations and levels of consistency across teachers and schools.

To ensure that SBA tasks meet all the above, the head of department or specialist senior teacher at the school must moderate all SBA tasks prior to the administration of said assessment tasks.

Moderation of tasks

Moderation is the term used to describe approaches for arriving at a shared understanding of standards and expectations. Moderation helps to ensure that:

- there is an appropriate focus on outcomes for learners
- learning is at the appropriate level
- learners develop the skills for learning, including higher-order thinking skills.

The moderation of SBA tasks involves:

- the collaboration of teachers and other professionals (such as specialist senior teachers, heads of department, subject advisors),
- drawing on guidance and exemplification
- building on standards and expectations to check that SBA tasks provide learners with fair and valid opportunities to meet the standards and expectations **before** assessments are used.

Moderation of the assessment task should be done using the following evaluation criteria:

- the assessment tasks are aligned to the CAPS;
- assessments tasks and tools are valid, fair, and practicable;
- the instructions relating to the assessment tasks are clearly stated;
- the content must be in keeping with what the learner has been exposed to;
- the assessment task must be free of any bias;
- the language of the assessment task is in keeping with the language level of the learners that it is designed for; and
- the cognitive and difficulty levels at which the assessment tasks are pitched are consistent with the requirements as stipulated in the CAPS.

Teachers involved in developing their assessment approaches through participation in moderation activities is a highly effective form of professional development.

Further moderation activities will generally take place **after** the assessment task is administered.

COGNITIVE AND DIFFICULTY LEVELS IN CAT

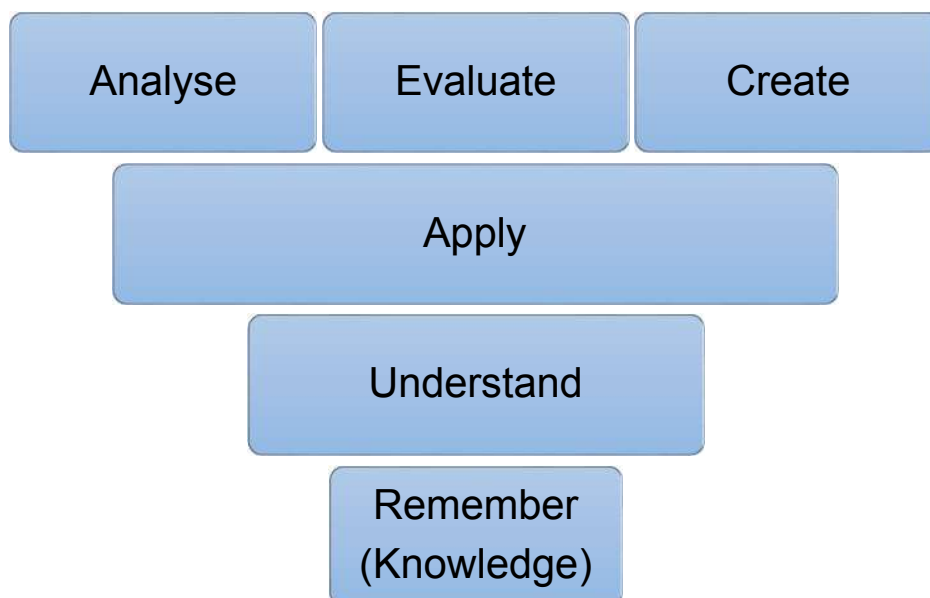
All questions are not created equal – different questions require different levels and kinds of learner thinking.

Cognitive Levels

The cognitive demand of a question is the type and level of thinking required of learners in order to successfully engage with and answer a question.

- High cognitive questions are those which demand that the learners manipulate bits of information previously learned to create and support an answer with logically reasoned evidence. This sort of question is generally interpretive, evaluative, inquiry-based, inferential, synthesis-based and open-ended.
- Lower cognitive questions are more basic. They ask learners to recall material previously presented and learned. These questions are generally direct, closed, recall-related and questions that measure knowledge only – factual and process.

Bloom's revised taxonomy illustrates the different cognitive levels:



Interpretation of cognitive levels in CAT

Cognitive Level	Comment	Context
C1 Knowledge Recall of factual/process knowledge in isolation , i.e. one step/set of steps/instruction/ process at a time.	Requires recalling or recognising only Practised or learned the isolatable bit, e.g. fact/skill/process/steps before.	Exactly the same context as a textbook example or a classroom-based exercise. Explicitly part of the teaching and learning material.
C2 Understanding Convert from one form of representation to another.	Requires knowledge and understanding of steps/process/ isolatable bits. Translating 'words', pictures, symbols, diagrams, etc. E.g. 'words' into spreadsheet formulas.	Familiar context Includes interpreting, exemplifying, classifying, summarising, inferring, comparing, and explaining.
C3 Application Combining known routines/ steps/processes in order to complete a task All of the information required is immediately available to the learner.	Requires knowledge, understanding and combining steps/routines/ processes/ isolatable bits. Application of appropriate abstraction without having to be prompted...and without having to be shown how to use it in a familiar context.	Familiar context but with new elements/ new circumstance. Learners working with the same or similar steps but different data or new circumstances.
C4 Analysis Understand how parts relate to a whole (pinpoint the core/main aspects) or interact with each other and use appropriate methods to complete task/solve problem	Requires reasoning/investigation/ developing a plan or determining a sequence of steps; has some complexity. Completing the task could have more than one possible approach. Organising component parts to achieve an overall objective.	New context Unseen, unfamiliar problems/tasks.
C5 Evaluation Judging or deciding according to some set of criteria, generally without real right or wrong answers.	Requires weighing possibilities, deciding on most appropriate. Testing to locate errors.	
C6 Create Putting elements together to form a coherent or functional whole; or re-organising elements into a new pattern or structure.	Requires familiarisation with the task by exploring different approaches, interpreting and analysing relevant approaches. Generalisation.	Novel situation The learner has no familiarity with completed functional whole.

In CAT, the above cognitive levels are collapsed providing for lower-order, middle-order and higher-order levels:

Lower Order C1	Middle Order C2	Higher Order C3
Recall (Knowledge)	Understand & Apply	Analyse, Evaluate & Create
30%	40%	30%

Difficulty Levels

The difficulty level of a question refers to the ease with which a learner is able to answer a question. It is described as easy, moderately difficult, difficult or very difficult.

What makes a question difficult?

One or more of the following influences the difficulty level of a content:

- Content (subject/concept/facts/principles/procedures), e.g.
 - Content that is learned in Grade 10 and that is repeated and practised in Grade 11 and 12 usually becomes easier by Grade 12.
 - Number of steps required or the length of the answer could influence difficulty.
- Stimulus (item/question)
 - Language, text or scenario used could influence difficulty.
 - Re-read required or limited time could influence difficulty.
- Task (process)
 - Short questions vs paragraph or essay – answers that require extended writing are generally more difficult.
 - Steps provided or scaffolding of questions – open-ended questions are generally more difficult than structured questions, i.e. questions that lead or guide learners.
- Expected Response
 - Mark scheme, memo, e.g. detail required in memo vs detail expected in question.
 - Allocation of marks.

Note: Within each cognitive level, there exists different difficulty levels.

EXEMPLAR SBA TASKS AND MEMOS

By determining the cognitive demands of tasks and being cognisant of the features of tasks that make them high-level or low-level tasks, one will be able to select or modify tasks that allow opportunities for all learners.

The level and kind of thinking in which learners engage determine what they will learn.


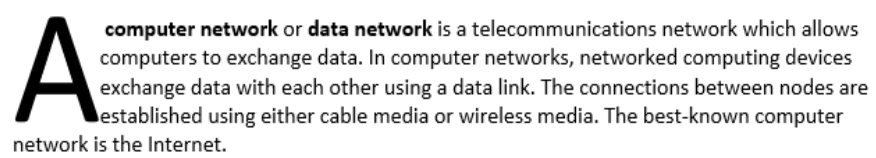
GRADE 10

Grade 10 Term 1 – Practical Test

Task Description	Comments
<p>This following task is a Grade 10 Practical test that covers the practical content and skills for term 1:</p> <ul style="list-style-type: none"> • Basic formatting (font, paragraph) • Editing • Page layout • Manipulating graphics (illustrations and text) • Spelling and grammar 	<p>At this stage, CAT is a new subject with new learners that have no foundation on which to build. This has an impact on how assessment in Term 1 is done.</p> <p>As this is the first practical test for Grade 10 CAT learners, it is difficult to achieve the correct 30:40:30 ratio between the cognitive levels.</p>


Grade 10 Term 1	Marks: [45]	Time: 60 minutes
Instructions: <ul style="list-style-type: none"> • This test consists of TWO questions. • Answer ALL the questions. Use the following files to answer the questions: <ul style="list-style-type: none"> ○ 1Networks.docx Word processing file ○ 2CoverPage.docx Word processing file ○ 2Network.png Image file • Save all your work regularly in the provided test folder. 		Scenario: <p>Your friend compiled a report on networks and you need to assist with the formatting.</p>



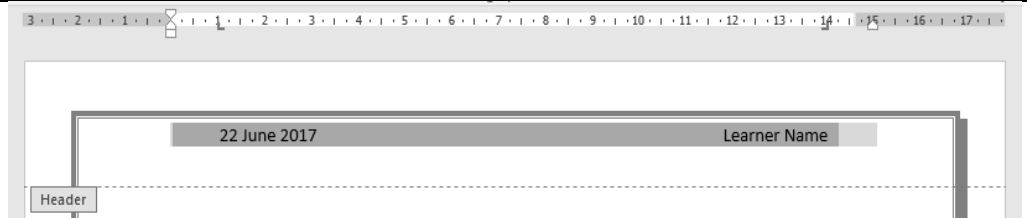
Question 1: Word Processing

Open the document 1Networks.docx and complete it as follows: <div>  1Networks.docx </div>			Cognitive Level/ Comments
1.1	Change the page orientation to portrait and all the page margins to 2 cm.	(2)	Knowledge
1.2	At the top of the first page, use WordArt to insert the heading 'Networks' with a 1 pt outline.	(2)	Knowledge
1.3	Use a feature of your word processor to change the first word 'A' of the first paragraph to appear as shown in the screenshot below. <div>  </div>	(2)	Applying
1.4	Add a light green paragraph shading to the first paragraph with a top and bottom border of 3 pt.	(4)	Knowledge
1.5	Format paragraphs 3 and 4 so that the font is the same as the rest of	(2)	Understanding

	the document.		
1.6	Locate the third paragraph starting with 'Computer networks differ ...'. Change the paragraph settings of this paragraph to a hanging indentation of 2 cm and a right indentation of 2 cm.	(2)	Knowledge
1.7	Change the headings 'Properties', 'Network packet' and 'Network topology' to appear in the Heading 2 style.	(2)	Knowledge
1.8	Change the highlighted paragraph under the heading 'Network topology' so that all the sentences appear in sentence case.	(1)	Knowledge
1.9	Convert the text starting with 'Local area networks (LANs) ... and ending with '... person's digital devices.' to appear in a SmartArt graphic as shown below. <div style="display: flex; justify-content: space-around;"> <div style="background-color: #2e7d32; color: white; padding: 5px; text-align: center;">Local area networks (LANs):</div> <div style="background-color: #2e7d32; color: white; padding: 5px; text-align: center;">Wide area networks (WANs):</div> <div style="background-color: #2e7d32; color: white; padding: 5px; text-align: center;">Personal area networks (PANs):</div> <div style="background-color: #2e7d32; color: white; padding: 5px; text-align: center;">Home area networks (HANs):</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="background-color: #e8f5e9; padding: 5px;"> <ul style="list-style-type: none"> The computers are geographically close together (that is, in the same building). </div> <div style="background-color: #e8f5e9; padding: 5px;"> <ul style="list-style-type: none"> The computers are farther apart and are connected by telephone lines or radio waves. </div> <div style="background-color: #e8f5e9; padding: 5px;"> <ul style="list-style-type: none"> The information technology devices are within a range of a person, typically within a range of 10 metres. </div> <div style="background-color: #e8f5e9; padding: 5px;"> <ul style="list-style-type: none"> A network contained within a user's home that connects a person's digital devices. </div> </div>	(3)	Analysis Have to plan and develop a solution
1.10	Correct the spelling errors found in the document.	(2)	Knowledge
1.11	Find the word 'Network' with an uppercase 'N' in the body of the document and change the font colour of all the occurrences of only this word to a green colour with a double underline.	(3)	Application
1.12	Justify all text in the document and change the line spacing of the whole document to 1.5 pt.	(2)	Knowledge
		[27]	

Question 2: Word Processing

Open the document 2CoverPage.docx and complete it as follows:  2CoverPage.docx			Cognitive Level/ Comments
2.1	Change the page colour to light green.	(1)	Knowledge
2.2	Add a 3 pt triple line shadow page border to the document.	(4)	Knowledge
2.3	Change the heading 'Networks' to appear in small caps with double underline green colour.	(3)	Knowledge

2.4	<p>Use the 2Network.png to create the image as shown below.</p>  <p>2Network.png</p> <p>Note the following:</p> <ul style="list-style-type: none"> The computer image appears in the middle of the page and is 7.8 cm high relative to its width. The shape outline has a 2¼ pt weighting. The final product should move as one object. 	(6)	<p>Analysis</p> <p>Develop a plan</p> <p>Time-consuming</p>
2.5	<p>Study the screenshot below, then use today's date and your own name to add a header to the document as shown below:</p> 	(4)	Application
TOTAL			[18]

Memorandum

Question 1 – Word Processing		File: 1Networks.docx	Max Mark	Mark Obtained
1.1	<ul style="list-style-type: none"> • Orientation: Portrait ✓ • Margins: 2 cm ✓ 		2	
1.2	<ul style="list-style-type: none"> • WordArt inserted ✓ (Any) • WordArt appears as 'Networks' ✓ 		2	
1.3	<ul style="list-style-type: none"> • Drop Cap inserted ✓ (Accept textbox) • Dropped over 4 lines ✓ 		2	
1.4	<ul style="list-style-type: none"> • Paragraph shading ✓ (Any colour) • Light Green ✓ • Border width 3 pt ✓ • Borders: Top and Bottom ✓ 		4	
1.5	<ul style="list-style-type: none"> • Font changed to Calibri ✓ • Applied to Paragraphs 3 & 4 ✓ 		2	
1.6	<ul style="list-style-type: none"> • Paragraph indentation: Hanging indent ✓ • Paragraph indentation: 2 cm right ✓ 		2	
1.7	<ul style="list-style-type: none"> • Heading 2 style ✓ (Applied to one or more of the given headings) • All 3 headings changed ✓ 		2	
1.8	<ul style="list-style-type: none"> • Sentence case applied to whole paragraph ✓ (3 sentences) 		1	
1.9	<ul style="list-style-type: none"> • Horizontal Bullet list SmartArt graphic inserted ✓ (4 shapes) • Headings moved into heading section of the shapes ✓ • Text moved into the appropriate space in the shapes ✓ 		3	
1.10	<ul style="list-style-type: none"> • Spelling errors corrected ✓ (One or more) • All 3, i.e. Interpersonal (par.5); Bandwidth (par.7); Forwards (par.10) ✓ 		2	
1.11	<ul style="list-style-type: none"> • Find and replace only word forms of 'Network' with a capital N ✓ • Font colour: Green ✓ (Applied to one or more) • Double underline applied ✓ (Applied to one or more) 		3	
1.12	<ul style="list-style-type: none"> • Text justified ✓ • Line spacing 1.5 ✓ 		2	
Total for Question 1			27	

Question 2 – Word Processing		File: 2CoverPage.docx	Max Mark	Mark Obtained
2.1	<ul style="list-style-type: none"> • Page colour – light green ✓ 		1	
2.2	<ul style="list-style-type: none"> • Page border ✓ • Triple line ✓ • 3 pt ✓ • Shadow ✓ 		4	
2.3	<ul style="list-style-type: none"> • Small caps ✓ • Double underline ✓ • Green underline colour ✓ 		3	

2.4	Image <ul style="list-style-type: none"> • Correct image ✓ • Image cropped ✓ • Thought bubble/cloud shape added ✓ • Text copied to shape ✓ • Texture fill Marble white ✓ • Shape outline: 2¼ pt ✓ • Images grouped ✓ 	6	
2.5	<ul style="list-style-type: none"> • Header: Date ✓ • Date left aligned at 1 cm ✓ • Header: Learner name ✓ • Learner name right aligned at 14 cm ✓ 	4	
Total for Question 2		18	

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	2			2	<p>This is a new subject for Grade 10 learners. This impacts on assessment in term 1.</p> <p>As this is the first practical test for Grade 10 CAT learners, it is difficult to achieve the correct 30:40:30 ratio between the cognitive levels.</p>
Q1.2	2			2	
Q1.3		2		2	
Q1.4	4			4	
Q1.5		2		2	
Q1.6	2			2	
Q1.7	2			2	
Q1.8	1			1	
Q1.9		3		3	
Q1.10	2			2	
Q1.11			3	3	
Q1.12	2			2	
Q2.1	1			1	
Q2.2	4			4	
Q2.3	3			3	
Q2.4			6	6	
Q2.5		4		4	
Total	25	11	9	45	
%	56%	24%	20%	100%	

Grade 10 Term 1 – Theory Test



Task Description	Comments
<p>This following task is a Grade 10 Theory Test that covers the theory content and skills for term 1:</p> <ul style="list-style-type: none"> • Introduction to computers • Introduction to hardware • Introduction to software • Introduction to file management • Overview of ICT systems • Knowledge and understanding that underlie word processing skills 	<p>At this stage, CAT is a new subject with new learners that have no foundation on which to build. This has an impact on how assessment in term 1 is done.</p> <p>As this is the first theory test for Grade 10 CAT learners, it is difficult to achieve the correct 30:40:30 ratio between the cognitive levels.</p>

Grade 10 Term 1	Marks: [60]	Time: 60 minutes
Instructions: <ul style="list-style-type: none"> • This test consists of TWO sections and SIX questions. • Answer ALL the questions. • In general, a mark is allocated per fact. A 2-mark question would therefore require TWO facts, etc. 		

Section A

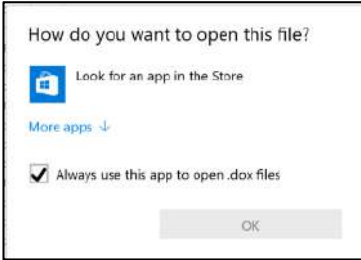

Question 1: Matching Columns			Cognitive Level/ Comments
Match column A with column B. Only write the question number and the alphabet letter, e.g. 1.1 M			
<u>COLUMN A</u>		<u>COLUMN B</u>	
1.1	A hardware component responsible for interpreting and executing commands between hardware and software.	A. Hard drive B. Server C. GIGO D. Storage E. RAM F. Dedicated G. CPU H. Tablet I. Data J. Supercomputer K. Information L. ROM	Knowledge
1.2	A computer used to process highly complicated calculations.		Knowledge
1.3	Most commonly used device to store information.		Knowledge
1.4	A microwave oven is an example of this type of computer.		Knowledge
1.5	Text; numbers; images and sounds.		Knowledge
1.6	Permanent record of our programs and data.		Knowledge
1.7	Information is only as good as the data inserted.		Knowledge
1.8	The temporary storage of a computer.		Knowledge
Total Question 1:		(1 x 8)	

Section B

Question 2:			Cognitive Level/ Comments
2.1	Explain the <i>information processing cycle</i> by means of a diagram. Give an example for each step.	(8)	Understanding
2.2	What is the difference between system software and application software?	(2)	Understanding
2.3	Name TWO types of application software AND give one example of each.	(4)	Knowledge & Understanding
2.4	Your friend is an enthusiastic photographer. He is invited to exhibit some of his work at the local art gallery. He needs a printer to print his photos. What type of printer should he buy? Motivate your answer.	(3)	Application
2.5	<p>The settings of a computer indicate the following:</p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 10px;">  Mouse, keyboard, & pen Designer Bluetooth Mouse Connected </div> <p>The settings of another computer show a mouse connected through a USB receiver.</p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 10px;">  USB Receiver </div> <p>2.5.1 Name ONE similarity between the two devices (mouses). 2.5.2 Explain one difference between the two devices.</p>	(2)	Understanding & Application
Total Question 2:		[19]	

Question 3: ICT systems are found in all walks of life.			
3.1	Explain the term 'ICT system'?	(2)	Knowledge
3.2	Explain how an ICT system functions by using an example of a supermarket point-of-sale.	(4)	Understanding
Total: Question 3		[6]	

Question 4:			
Social implications play a big role in our lives.			
4.1	Saving paper is important for our environment. List THREE ways in which we can save paper.	(3)	Knowledge
4.2	Why is it important to dispose of computers in a safe manner?	(1)	Knowledge
4.3	The use of ergonomically designed devices is recommended. What causes ergonomic risks?	(2)	Understanding
4.4	Name TWO health risks that you can prevent by using ergonomic devices.	(2)	Knowledge
Total for Question 4:		[8]	

Question 5: We need to be able to organise our documents so that it would be easy to retrieve.		Cognitive Level/ Comments
5.1	Draw a diagram to indicate the following folders and sub-folders in a structure (use these names to create folders and subfolders): <ul style="list-style-type: none"> You have files for school, extras, entertainment (movies, music), and personal. 	(4) Understanding
5.2	<p>You created a document in Word for your father and saved it as <i>Organogram</i>. When he wanted to open it, Windows displayed the following message (refer to the screenshot on the right):</p>  <p>When you examined the file, you found that it was saved as follows:  <u>Organogram.dox</u></p> <p>5.2.1 Explain the importance of file extensions by referring to the scenario above.</p> <p>5.2.2 Explain ONE way in which the problem can be solved.</p>	(2) Understanding (2) Evaluation
Total for Question 5:		[8]

Question 6			Cognitive Level/ Comments
Use your knowledge of word processing and provide answers/advice to the following questions.			
6.1	Provide TWO advantages for using quick styles when formatting headings and subheadings in a document.	(2)	Understanding
6.2	Someone typed an ingredients list shown below: Flour.....orange juice.....pepper.....Mustard..... Coca-Cola.....parsley.....cake.....Butter.....Relish..... mayonnaise.....oregano.....Canned tomatoes.....Potatoes..... milk.....lettuce.....Syrup¶ Hamburger.....hot dogs.....eggs.....Onions¶ tomato paste.....apples.....spaghetti.....Buns¶ Explain the most effective way the person could use to change the above list to appear as shown below (without retyping it): Flour orange juice pepper Mustard Coca Cola parsley cake Butter Relish mayonnaise oregano Canned tomatoes Potatoes milk lettuce Syrup Hamburger hot dogs eggs Onions tomato paste apples spaghetti Buns	(4)	Analysis & Evaluation

6.3	<p>Someone had to format text according to the following instructions:</p> <ul style="list-style-type: none"> • Paragraph spacing after each paragraph: 12 pt • First paragraph: Indent first line • Last paragraph: Double line spacing, right aligned • Ensure that dates are not split over two lines <p>The following shows how the text was formatted:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>The computer as we know it today had its beginning with a 19th-century English mathematics professor name Charles Babbage. He designed the Analytical Engine and it was this design that the basic framework of the computers of today are based on. On 1 January 1936, the first freely programmable computer was born.¶</p> <p>¶ Even though a computer does not use transistors, the invention of this device on 10 May 1947 influenced the development of computers. The invention of the integrated circuit happened on 16 March 1958 and on 29 May 1962 the first computer game saw the light. ¶</p> <p>¶ The first consumer computers were released in May 1974 on 31 May 1985 Microsoft invented Windows while the first e-mail virus struck on 29 April 1994 ¶</p> </div> <p>Explain what is wrong with the formatting.</p>	(5)	Analysis
Total for Question 6:			[11]

Memorandum

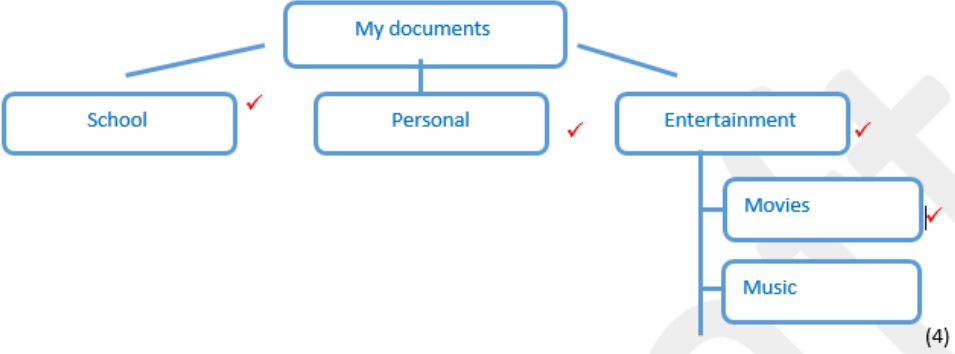
Question 1		
1	G✓	1
2	J✓	1
3	A✓	1
4	F✓	1
5	I✓	1
6	D✓	1
7	C✓	1
8	E✓	1
Total for Question 1		8

Question 2		
2.1	<p>2.1</p> <pre> graph LR INPUT[INPUT Usually with keyboard of mouse] --> PROCESSING[PROCESSING The CPU processes the data] PROCESSING --> STORAGE[STORAGE Get to keep permanent record] STORAGE --> PROCESSING PROCESSING --> OUTPUT[OUTPUT To see the results that have been processed] </pre>	8
2.2	<p>System software: includes the operating system and other software that control, maintain and secure the operation of the computer. ✓</p> <p>Application software: applications that enable users to perform a variety of tasks. ✓</p>	2
2.3	<p>Entertainment ✓ = Windows media player ✓</p> <p>Communication ✓ = Skype ✓</p> <p>Accept any other valid responses, i.e. Photo editing software – Photoshop</p>	4
2.4	<p>Inkjet printer ✓ good quality for printing photographs ✓ no high-volume printing required ✓</p>	3
2.5	<p>2.5.1 Both are wireless mice ✓</p> <p>2.5.2 Bluetooth mouse generally connects to the computer through the built-in receiver available on the computer (must pair devices) and the radio frequency mouse requires a USB dongle to connect to the computer (no pairing required) ✓</p> <p>A Bluetooth mouse generally has a smaller range ✓</p> <p style="text-align: right;">✓ Any ONE</p>	2
Total for Question 2		19

Question 3		
3.2	<p>ICT is the field ✓ related to computer and telephone networks. ✓</p>	2
3.3	<p>The ICT system needs to receive (by inserting the product), ✓ store (in the database computer), ✓ retrieve (scanned at the cashier), ✓ manipulate and ✓ transmit data (shows the price).</p>	4
Total for Question 3		6

Question 4		
4.1	<p>By proof reading on the screen ✓</p> <p>Printing two pages on one ✓</p> <p>By sending information via e-mail ✓</p> <p>(any other accepted answer)</p>	3
4.2	<p>Computers contain toxic/hazardous materials ✓</p>	1
4.3	<p>Uncomfortable workstation position</p> <p>Poor body position</p> <p>Repetitive movement/manual handling</p> <p>Poor workplace/job/task design</p> <p style="text-align: right;">✓✓ Any TWO</p>	2
4.4	<p>eye problems ✓</p>	2

	back and neck ache ✓ RSI ✓	✓✓Any TWO
Total for Question 4		8

Question 5		
5.1		4
5.2	<p>5.2.1 The file extension indicates to the operating system what type of file it is and what program it must use to open the file. ✓ As the file was saved with a .dox extension instead of a .docx extension, Windows does not know that it should use Word to open the file ✓ and requests the user to provide the application it should use for opening the file.</p> <p>5.2.2 Rename the file extension ✓ to .docx ✓</p>	2 2
Total for Question 5		8

Question 6		
6.1	<p>It provides a professional look and feel to the document Quick and easy to change heading formatting if required Enables you to quickly and easily create a TOC Helps to ensure consistent formatting of headings and subheadings</p> <p>✓✓Any TWO</p>	2
6.2	<p>Remove the spaces ✓ using the find-and-replace option (find space, replace with nothing) ✓ Use the tab-key after each ingredient to align the ingredients ✓ Select ingredients list and change font type ✓</p>	4
6.3	<p>Paragraph spacing after each paragraph is not 12 ✓ – remove [Enter] and set paragraph spacing to 12 pt after ✓ Remove first line indent of second paragraph ✓ Some dates are split over two lines – Use hard spaces between day and month and month and year of dates ✓ Last paragraph is centred – right align ✓</p>	5
Total for Question 4		11

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	1			1	<p>This is a new subject for Grade 10 learners. This impacts on assessment in term 1.</p> <p>As this is the first theory test for Grade 10 CAT learners, it is difficult to achieve the correct 30:40:30 ratio between the cognitive levels.</p>
Q1.2	1			1	
Q1.3	1			1	
Q1.4	1			1	
Q1.5	1			1	
Q1.6	1			1	
Q1.7	1			1	
Q1.8	1			1	
Q2.1		8		8	
Q2.2		2		2	
Q2.3	2	2		4	
Q2.4		3		3	
Q2.5.1		1		1	
Q2.5.2		1		1	
Q3.1	2			2	
Q3.2		4		4	
Q4.1	3			3	
Q4.2	1			1	
Q4.3		2		2	
Q4.4	2			2	
Q5.1		4		4	
Q5.2.1			2	2	
Q5.2.2			2	2	
Q6.1		2		2	
Q6.2			4	4	
Q6.3			5	5	
Total	18	29	13	60	
%	30%	50%	20%	100%	

Grade 10 Term 2 – Theory Test

Task Description	Comments
<p>This following task is a Grade 10 Theory Test that covers the theory content and skills for terms 1 and 2:</p> <ul style="list-style-type: none"> • Systems Technologies • Network Technologies 	

Grade 10 Term 2	Marks: [56]	Time: 60 minutes
Instructions: <ul style="list-style-type: none"> • This test consists of THREE sections and SIX questions. • Answer ALL the questions. 		

Section A – Short questions

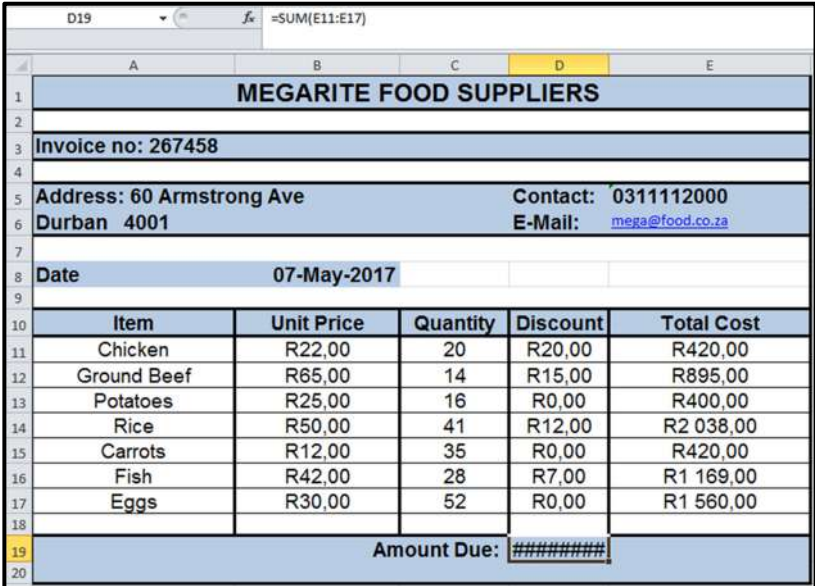
Question 1 – Matching items			Mark	Cognitive Level/ Comments
Choose a term/concept from COLUMN B that matches a description in COLUMN A. Write only the letter (A – S) next to the question number (1.1 – 1.5) in the ANSWER BOOK, for example 1.6 I.				
	Column A	Column B		
1.1	A collection of raw or unprocessed facts that have no meaning on their own.	A Licence agreement B Volatile C Information Processing Cycle D Data E Hot-swappable F Copyright G Plug and Play H ROM	(1)	Knowledge
1.2	A contract between the manufacturer and the user on the user's rights to use the software.		(1)	Knowledge
1.3	A device you can plug in and plug out while the computer is on.		(1)	Understanding
1.4	Memory that loses its contents when it has no power.		(1)	Knowledge
1.5	Input, processing, output, storage and communication.		(1)	Knowledge
	Total Question 1		[5]	

Question 2 – Modified True/False items		Mark	Cognitive Level/ Comments						
Indicate whether the following statements are TRUE or FALSE. Choose the answer and write 'true' or 'false' next to the question number (2.1 – 2.5) in the ANSWER BOOK. Correct the statement if it is FALSE. Change the underlined word(s) to make the statements TRUE. (You may not simply use the word 'NOT' to change the statement.) Examples: <table><tr><th>Question</th><th>Answer</th></tr><tr><td><u>Dot pitch</u> refers to the distance between the pixels on a screen</td><td>True</td></tr><tr><td>A <u>switch</u> is a communication device that connects one computer network to another computer network.</td><td>False – <u>router</u></td></tr></table>		Question	Answer	<u>Dot pitch</u> refers to the distance between the pixels on a screen	True	A <u>switch</u> is a communication device that connects one computer network to another computer network.	False – <u>router</u>		
Question	Answer								
<u>Dot pitch</u> refers to the distance between the pixels on a screen	True								
A <u>switch</u> is a communication device that connects one computer network to another computer network.	False – <u>router</u>								
2.1	<u>Worksheets</u> are the pages in a workbook.	(1)	Knowledge						
2.2	An <u>error value</u> sets the cells to automatically fill the cell's contents.	(1)	Understanding						
2.3	A <u>page break</u> forces the text immediately after it to start on a new page.	(1)	Knowledge						
2.4	A <u>trackball</u> is a computer input device that uses light technology to select objects on a display screen.	(1)	Evaluation						
2.5	<u>Intellectual property</u> is a term that refers to original, creative works of the mind, such as ideas and discoveries.	(1)	Knowledge						
	Total Question 2	[5]							

Section B

Question 3 – Systems Technologies			Cognitive Level/ Comments
3.1	<p>Your friend is not sure what the difference between an operating system and application software is.</p> <p>Explain the difference between the TWO types of software.</p>	(4)	Understanding
3.2	<p>Your friend told you he bought a software suite.</p> <p>3.2.1 Explain what a software suite is.</p> <p>3.2.2 Name TWO advantages of buying a software suite.</p>	(2) (2)	Knowledge Understanding
3.3	Briefly explain what biometric security is.	(2)	Understanding
3.4	List TWO human features that could be used for identification of security.	(2)	Knowledge
Total Question 3		[12]	

Question 4 – Network Technologies			Cognitive Level/ Comments
4.1	Explain what a network is.	(2)	Knowledge
4.2	List TWO benefits of installing a network in a school.	(2)	Understanding
4.3	The school is benefiting from the installation of the network. List TWO threats that staff may face if they were to use these networked computers.	(2)	Analysis
Total Question 4		[6]	

Question 5 – Solution Development		Mark	Cognitive Level/ Comments
Study the screenshot of a spreadsheet below and answer the questions that follow.			
			
5.1	What formatting technique was used to ensure that the supplier's name appears across columns A to E ?	(1)	Analysis
5.2	Give ONE reason why the # sign is displayed in cell D19 .	(1)	Analysis
5.3	What term is used to refer to a series of cells?	(1)	Knowledge
5.4	Write down the formula that was used to calculate the total cost found in cell E11 .	(3)	Analysis
5.5	Explain why the contact number in cell E5 was formatted as text.	(1)	Understanding
5.6	What cell format feature was used to display the amounts in columns B, D and E ?	(1)	Knowledge
Total Question 5		[8]	

Section C – Integrated Scenario

Scenario		Mark	Cognitive Level/ Comments																								
Thabo, Lerato's father, wants to buy a computer as advertised in a newspaper. He is asking you and Lerato to answer a few questions to be considered when buying a computer.																											
Specifications of the following two computers were advertised:																											
<table><tr><th>COMPUTER A</th><th>COMPUTER B</th></tr><tr><td>Intel I3 2.8 GHz</td><td>Intel I5 4570T 3.6 GHz</td></tr><tr><td>500 GB HDD</td><td>1TB HDD</td></tr><tr><td>2 GB RAM</td><td>4 GB RAM</td></tr><tr><td>21" LCD colour monitor</td><td>24" Monitor, 1920 × 1080 Resolution</td></tr><tr><td>DVD/CD Writer combo-Drive</td><td>Blue Ray Combo Drive</td></tr><tr><td>MS Windows 8.1 Home Basic</td><td>MS Windows 10 Home</td></tr><tr><td>Optical Mouse</td><td>Wireless Mouse and Keyboard</td></tr><tr><td>Free Zeon Ink-jet printer</td><td>Free: Multifunctional Laser Printer,</td></tr><tr><td>Free Flatbed Scanner</td><td>20 MP digital Camera,</td></tr><tr><td>Ergonomically designed QWERTY Keyboard</td><td>5 in 1 card reader</td></tr><tr><td>Free Digital Camera</td><td>With USB Hub include</td></tr></table>		COMPUTER A	COMPUTER B	Intel I3 2.8 GHz	Intel I5 4570T 3.6 GHz	500 GB HDD	1TB HDD	2 GB RAM	4 GB RAM	21" LCD colour monitor	24" Monitor, 1920 × 1080 Resolution	DVD/CD Writer combo-Drive	Blue Ray Combo Drive	MS Windows 8.1 Home Basic	MS Windows 10 Home	Optical Mouse	Wireless Mouse and Keyboard	Free Zeon Ink-jet printer	Free: Multifunctional Laser Printer,	Free Flatbed Scanner	20 MP digital Camera,	Ergonomically designed QWERTY Keyboard	5 in 1 card reader	Free Digital Camera	With USB Hub include		
COMPUTER A	COMPUTER B																										
Intel I3 2.8 GHz	Intel I5 4570T 3.6 GHz																										
500 GB HDD	1TB HDD																										
2 GB RAM	4 GB RAM																										
21" LCD colour monitor	24" Monitor, 1920 × 1080 Resolution																										
DVD/CD Writer combo-Drive	Blue Ray Combo Drive																										
MS Windows 8.1 Home Basic	MS Windows 10 Home																										
Optical Mouse	Wireless Mouse and Keyboard																										
Free Zeon Ink-jet printer	Free: Multifunctional Laser Printer,																										
Free Flatbed Scanner	20 MP digital Camera,																										
Ergonomically designed QWERTY Keyboard	5 in 1 card reader																										
Free Digital Camera	With USB Hub include																										
6.1	Explain how a monitor is measured in terms of screen size?	(2)	Knowledge																								
6.2	What is the speed of the CPU given in the specifications of Computer B?	(1)	Understanding																								
6.3	What is the main function of the hard drive?	(1)	Knowledge																								
6.4	Give TWO reasons why LCD screens are considered environmentally friendly.	(2)	Understanding																								
6.5	Explain why, in Computer B, the storage specification has to be bigger than the memory specification.	(2)	Analyse/ Evaluate																								
6.6	Thabo needs to print a high volume of documents and was advised to choose a multifunction laser printer over an inkjet printer. Give TWO reasons why?	(2)	Understanding/ Application																								
6.7	The father is trying to make use of the printer and the printer does not want to print. Give TWO possible reasons why the printer does not print.	(2)	Analyse/ Evaluate																								
6.8	They were advised to buy a scanner together with the computer. Two types of scanners are available; a flatbed and a sheet fed scanner. They want to know more about the scanner. 6.8.1 What is a scanner? 6.8.2 Explain the difference between a flatbed scanner and a sheet fed scanner.	(2) (4)	Knowledge Understanding																								
6.9	Lerato wanted to save the that which she already created, using a word processor. Give TWO reasons or situations where you use the Save As option	(2)	Understand																								

	(as opposed to the 'normal' Save command), <u>besides</u> renaming the file.		
Total Question 6		[20]	

Memorandum

Question 1 – Multiple choice items		Max Mark	Comment
1.1	D ✓	1	
1.2	A ✓	1	
1.3	E ✓	1	
1.4	B ✓	1	
1.5	C ✓	1	
Total for Question 1		5	

Question 2 – Modified true and false items		Max Mark	Comment
2.1	True ✓	1	
2.2	False – Auto Fill ✓	1	
2.3	True ✓	1	
2.4	False – Light Pen ✓	1	
2.5	True ✓	1	
Total for Question 2		5	

Question 3 – Systems Technologies		Max Mark	Comment
3.1	<p>System software – Programs that manage and control all parts of the computer ✓, and form a link between the hardware and the application software. ✓</p> <p>Application software – Programs designed for end-users ✓ having a specific function that enable the user to complete tasks, such as creating documents, spreadsheets, databases, publications, play games, etc. ✓</p> <p>(Application software is specific to the task it is designed for and can be as simple as a calculator application.)</p>	4	
3.2	<p>3.2.1 Software suite</p> <ul style="list-style-type: none"> A software suite/application suite is a collection of separate application/computer programs ✓ The applications share common user interface features and themes, and provide related and often integrated functionality that helps users perform or automate related tasks. ✓ <p>(Do not accept example as part of the answer, i.e. Microsoft Office. Q asked for an explanation!)</p>	2	

	3.2.2 TWO advantages of buying a software suite <ul style="list-style-type: none"> • The interface is the same for all packages • Different types of files can be opened at the same time • You can move from one application to another application • Can transfer data from one application to another application ✓✓ (Any two)	2	
3.3	Biometrics security uses computerised security by identifying a person's personal/physical/human characteristics/features ✓ which are stored in a computer's database ✓	2	
3.4	TWO features used for biometric security <ul style="list-style-type: none"> • Fingerprints/hand patterns/hand geometry • Voice • Eye texture/iris or retina pattern ✓✓ (Any two)	2	
Total for Question 3		12	

Question 4 – Internet and Network Technologies		Max Mark	Comment
4.1	A computer network is a group of two or more computers and devices linked together over a shared network medium ✓ so that they can communicate and share resources. ✓	2	
4.2	<ul style="list-style-type: none"> • Centralised data • Communication is made easier • Increased data security ✓✓ (Any TWO)	2	
4.3	<ul style="list-style-type: none"> • A virus may infect all computers in a network. • Risk of data corruption – there is an increased risk that data will become corrupt. • Privacy issues – if network security is not properly set up, there is a danger that personal information may fall into the wrong hands. ✓✓ (Any TWO)	2	
Total for Question 4		6	

Question 5 – Solution Development		Max Mark	Comment
5.1	Merge ✓	1	
5.2	Content is too lengthy for the cell ✓	1	
5.3	Range ✓	1	
5.4	=(B11✓*C11) ✓-D11✓	3	
5.5	For the zero (0) to be displayed as the first digit ✓	1	
5.6	Formatted to SA currency with two decimal places ✓	1	
Total for Question 5		8	

Question 6 – Integrated Scenario		Max Mark	Comment
6.1	Diagonally ✓, from the top left to the bottom right or vice versa. ✓	2	
6.2	3.6 GHz ✓	1	
6.3	To store data and programmes ✓	1	
6.4	<ul style="list-style-type: none"> Flicker-free Saves energy Save space ✓✓Any TWO	2	
6.5	Storage holds all the programs and data (files) on the computer, even when the computer is switched off (non-volatile) ✓ Memory (RAM) holds only the programs and data that the computer is currently using / working with (volatile) ✓	2	
6.6	Cheaper to run ✓ Produces monochrome version or colour ✓	2	
6.7	<ul style="list-style-type: none"> Printer cable to the computer is not connected. Ink cartridge is empty. No printing connection available. Wrong printer was selected. ✓✓Any TWO 	2	
6.8	6.8.1 A scanner is an input device ✓ that scans images into a computer, e.g. printed text or graphics. ✓	2	
	6.8.2 A flatbed scanner is slightly larger ✓ than A4 and is used to scan photos, ✓ magazines and printed documents while sheet-fed is smaller ✓ and allows a sheet of paper to be scanned rather than books or thick objects. ✓	4	
6.9	Saving in a different location (folder or drive) Adding a password Saving as a different type of file TWO ✓✓Any	2	
Total for Question 6		20	

Cognitive analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	1			1	
Q1.2	1			1	
Q1.3		1		1	
Q1.4	1			1	
Q1.5	1			1	
Q2.1	1			1	
Q2.2		1		1	
Q2.3	1			1	
Q2.4			1	1	
Q2.5	1			1	
Q3.1		4		4	
Q3.2.1	2			2	
Q3.2.2		2		2	
Q3.3		2		2	
Q3.4	2			2	
Q4.1	2			2	
Q4.2		2		2	
Q4.3			2	2	
Q5.1			1	1	
Q5.2			1	1	
Q5.3	1			1	
Q5.4			3	3	
Q5.5		1		1	
Q5.6	1			1	
Q6.1	2			2	
Q6.2		1		1	
Q6.3	1			1	
Q6.4		2		2	
Q6.5			2	2	
Q6.6		2		2	
Q6.7			2	2	
Q6.8.1	2			2	
Q6.8.2		4		4	
Q6.9		2		2	
Total	20	24	12	56	
%	35,7%	42,8%	22,5%	100%	

Grade 10 Term 3 – Practical Test

Task Description	Comments
This following task is a Grade 10 Practical Test that covers the practical content and skills for terms 1 – 3:	

Grade 10 Term 3	Marks:	[60]	Time:	60 minutes
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Instructions:



- This test consists of THREE questions. Answer ALL the questions.
- Ensure that you save each document using the file name given in the question paper. Save your work at regular intervals as a precaution against possible power failures.
- Read through each question before answering or solving the problem. Do NOT do more than is required by the question.
- During the test you may consult the help functions of the programs that you are using. You may NOT use any other resource material.
- Unless instructed otherwise, use formulae and/or functions for ALL calculations in questions involving spreadsheets. Use absolute cell references only where necessary to ensure that formulae are correct when you copy them to other cells in a spreadsheet.
- All formulae and/or functions should be inserted in such a manner that the correct results will still be obtained even if changes are made to the existing data
- Use the following files to answer the questions:
 - 1VMA.docx Word processing file
 - 2Awards.xlsx Spreadsheet file
 - 3iHeart PowerPoint file


Save all your work regularly in the provided test folder.

Scenario:



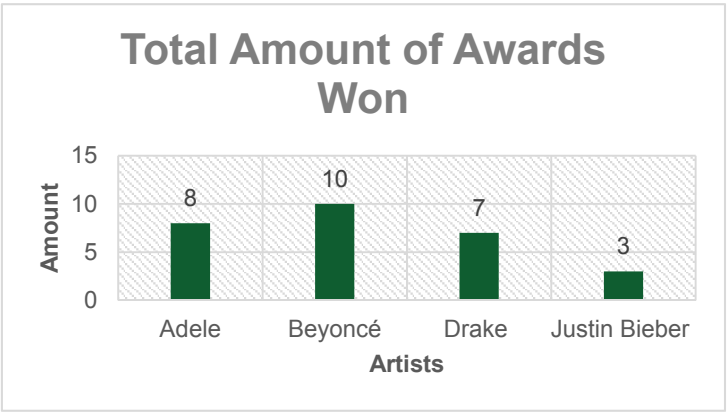
The Video Music Awards premiered on the 28th of August on MTV and the iHeart Radio Awards on the 4th of August. Some data have been collected that will help you to write an article.

Question 1: Word Processing



 1_VMA.docx		[25]	Cognitive Level/ Comments
Open the 1_VMA document and do the following:			
1.1	Insert your name and surname right aligned in the header of the document.	(2)	Knowledge
1.2	Change the <u>header</u> margin to 1 cm.	(1)	Knowledge
1.3	Insert automatic page numbering at the bottom of the page as follows: <ul style="list-style-type: none"> • Use 'Accent Bar 1' as the page numbering type. • Centre the page numbering at the bottom of the page. 	(4)	Knowledge (Recall of a process in isolation.)
1.4	Insert a text watermark in the document to appear as follows: <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> NOTE: The font type is Arial Bl </div> </div>	(5)	Application (This question is not in isolated parts, therefore the cognitive levels cannot be divided.)

1.5	Adjust the settings of the text 'MIV VMA Award Winners' to ensure that it is completely visible. DO NOT change the font size.	(2)	Evaluation (Evaluation is necessary to determine which setting to refer to. To force learners not to merely change the font, an additional note was added. In an open-ended question like this, there might be other possible answers.)
1.6	Insert a hyperlink on the text 'Beyoncé' in the paragraph numbered 2, that will link to the 1_Beyonce picture.  1_Beyonce.jpg	(2)	Knowledge
1.7	Find the table below the heading 'Ratings' and do the following: <ul style="list-style-type: none"> • Merge the cells in the first row and move the heading 'Ratings' to the merged cell. • Adjust the width of all the cells to fit the contents. • Apply the 'Grid Table 4' table style to the table. • Insert a formula in the last row of the table to determine the 2016 household rating as a percentage of the average household ratings. 	(8)	Knowledge (3) Bullets 1 and 3 Understanding (1) Bullet 2 (The wording suggests that the learner needs to understand which setting will allow the cells to fit the contents.) C3 Analysis (4) Bullet 4 (Data should be evaluated to be able to calculate what is necessary) Because the bullets are isolated, the cognitive levels can be separated.
1.8	Insert the comment 'or Twitter' on the text 'Snapchat' on the last line of the document.	(1)	Knowledge
	Save and close the 1_VMA document.	[25]	

Question 2: Spreadsheet

<p>Open the 2_Awards spreadsheet that contains statistical data about the VMA Awards and do the following.</p>  <p>2_Awards.xlsx</p> <p>Work in the Rewards sheet.</p>		[21]	Cognitive Level/ Comments
2.1	Rename the worksheet to 'Awards'.	(1)	Knowledge
2.2	Align the heading in the merged cell A1 vertically.	(1)	Knowledge
2.3	Remove the comment that appears in the spreadsheet.	(1)	Application (transfer of skills)
2.4	<p>Insert the picture 2_Man in cell G1 and change only the picture height to 3 cm.</p>  <p>2_Man.jpg</p>	(3)	Understanding
2.5	Use a function in cell G20 to determine the total awards received by 'Beyoncé'.	(2)	Understanding (If learner was told to use the SUM function, it would have been C1.)
2.6	<p>The number of times a song gets nominated appears in column D.</p> <p>Use a function in cell C32 to determine the number of songs that have been nominated more than once.</p>	(3)	Application
2.7	Use a combination of functions in cell C33 to display the highest value between the average of the nominations in column D and the average of the awards in column F .	(6)	Analysis (The data needs to be analysed to be able to identify which functions to use and also to be able to use them to obtain the answer required.)
2.8	<p>Work in the Graph worksheet. Change the graph/chart to appear as follows:</p>  <p>NOTE: Choose the correct graph/chart style to display similar to the one displayed above.</p>	(4)	Application (The learner needs to check what was given and apply the knowledge to be able to change the chart to appear the same.)
Save and close 2_Awards spreadsheet.		[21]	

Question 3: Presentation

 3_iHeart.pptx		[14]	Cognitive Level/ Comments
Open the iHeart presentation and do the following:			
3.1	Insert the text 'iHeart' as the title and a subtitle 'Radio Awards'.	(2)	Knowledge
3.2	Apply the 'Integral' design theme to all the slides.	(1)	Knowledge
3.3	Consider the structure of the text. Change the layout of the second slide so that the text is logically displayed in two columns.	(3)	Analysis
3.4	Apply a transition so that the second slide appears with a 'curtain' transition.	(2)	Understanding
3.5	Apply animation as follows to the fourth slide: <ul style="list-style-type: none"> The first bullet should <i>wipe</i> <u>immediately</u> when the slide shows. The next bullet should appear one second after the first bullet. 	(4)	Application
3.6	Insert the 3Graph.xlsx on the last slide.  3_Graph.xlsx Ensure that this graph is inserted as a link and updates automatically.	(2)	Understanding
Save and close the iHeart presentation.		[14]	
		[60]	

Memorandum

Question 1

1_VMA

Total Marks: 25

No	Criteria	Max Mark	Candidate Mark
1.1	Document header: <ul style="list-style-type: none"> Name and surname inserted in header ✓ Right-aligned ✓ 	2	
1.2	<ul style="list-style-type: none"> Header margin: Header margin set to 1 cm ✓ 	1	
1.3	Page numbering: <ul style="list-style-type: none"> Automatic page numbering inserted ✓ in the footer ✓ 'Accent Bar 1' used ✓ Centered ✓ 	4	
1.4	Watermark: <ul style="list-style-type: none"> Text watermark inserted ✓ Text: 'VMA' ✓ Font type: Arial Black ✓ Layout: Horizontal ✓ Semi-transparent unchecked ✓ 	5	
1.5	Line spacing: <ul style="list-style-type: none"> Line spacing adjusted ✓ (anything besides Exactly 10 pt) To 'Single' OR 'Exactly 16 pt' ✓ (accept any size more than 16 pt) 	2	
1.6	Hyperlink: <ul style="list-style-type: none"> Hyperlink inserted 'Beyoncé' ✓ Hyperlink moves to document ✓ 	2	
1.7	Table: <ul style="list-style-type: none"> First row merged ✓ Text 'Ratings' moved (not copied) to merged cell ✓ Width set to 'Autofit contents' ✓ 'Grid Table 4' style applied ✓ Formula in last row: <ul style="list-style-type: none"> E11 ✓ / ✓ AVERAGE(ABOVE) ✓ Number format changed to percentage ✓ 	8	
1.8	Comment: <ul style="list-style-type: none"> Comment 'or Twitter' inserted on text 'Snapchat' ✓ 	1	
Total		25	

Question 2

2_Awards

Total Marks: 21

No	Criteria	Max Mark	Candidate Mark
2.1	Worksheet name: <ul style="list-style-type: none"> Worksheet name changed to 'Awards' ✓ 	1	
2.2	Alignment cell C1: <ul style="list-style-type: none"> Heading in cell A1 aligned vertically ✓ 	1	
2.3	Comment: <ul style="list-style-type: none"> Comment removed from cell F2 ✓ 	1	
2.4	Picture cell G1:	3	

	<ul style="list-style-type: none"> 2_Man picture inserted in cell G1 ✓ Picture height changed to 3 cm ✓ Width remains 1.9 cm ✓ 		
2.5	Cell G20: =SUM(F11:F20) <ul style="list-style-type: none"> SUM function ✓ Range: F11:F20 ✓ 	2	
2.6	Cell C32: =COUNTIF(D3:D30,">=2") <ul style="list-style-type: none"> COUNTIF function ✓ Range: D3:D30 ✓ Criteria: >=2 ✓ 	3	
2.7	Cell C33: =MAX(AVERAGE(D3:D30),AVERAGE(F3:F30)) <ul style="list-style-type: none"> AVERAGE function ✓ Range: D3:D30 ✓ AVERAGE function ✓ Range: F3:F30 ✓ MAX function ✓ Correct overall range (2 averages) ✓ 	6	
2.8	Graph/Chart: <ul style="list-style-type: none"> Graph/Column chart ✓ X-axis title ✓ Y-axis title ✓ Correct chart style used 'Style 8' ✓ 	4	
Total		21	

Question 3

3_Heart & 3_iHeart

Total Marks: 14

No.	Criteria	Max Marks	Candidate Marks
3.1	Heading: <ul style="list-style-type: none"> 'iHeart' inserted as a title ✓ 'Radio Awards' inserted into the subheading ✓ 	2	
3.2	Theme: <ul style="list-style-type: none"> 'Integral' design theme applied to all the slides ✓ 	1	
3.3	Layout: <ul style="list-style-type: none"> Layout changed to 'two content layout' or 'comparison' ✓ Slide 2's layout changed to 'two content layout' ✓ Text correctly displayed (each artist in their own column) ✓ 	3	
3.4	Transition: <ul style="list-style-type: none"> 'Curtain' transition applied ✓ on slide 2 ✓ 	2	
3.5	Animation: <ul style="list-style-type: none"> Wipe animation applied ✓ Timing set to 'Start with Previous' ✓ Delay for second bullet set to 1 second ✓ Timing for second bullet set to 'After Previous' ✓ 	4	
3.6	Graph: <ul style="list-style-type: none"> Graph inserted on last slide ✓ As a link ✓ 	2	
Total		14	


Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	2			2	
Q1.2	1			1	
Q1.3	4			4	
Q1.4		5		5	
Q1.5			2	2	
Q1.6	2			2	
Q1.7	3	1	4	8	
Q1.8	1			1	
Q2.1	1			1	
Q2.2	1			1	
Q2.3		1		1	
Q2.4		3		3	
Q2.5		2		2	
Q2.6		3		3	
Q2.7			6	6	
Q2.8		4		4	
Q3.1	2			2	
Q3.2	1			1	
Q3.3			3	3	
Q3.4		2		2	
Q3.5		4		4	
Q3.6		2		2	
Total	18	27	15	60	
%	30%	45%	25%	100%	

GRADE 11


Grade 11 Term 1 – Practical Test




Task Description	Comments
<p>This following task is a Grade 11 Practical Test that covers the practical content and skills for term 1:</p> <ul style="list-style-type: none"> • Word processing • Spreadsheet • Introduction to database 	<p>Though assessment in Grade 11 should focus on Grade 11 content and skills, content and skills from Grade 10 (which is the foundation that is built upon in Grade 11) must also be revised continuously and may also form part of the test.</p>

Grade 10 Term 1	Marks: [65]	Time: 60 minutes
<p>Instructions:</p> <ul style="list-style-type: none"> • This test consists of THREE questions. • Answer ALL the questions. • Use the following files to answer the questions (see screenshot): • Save all your work regularly in the provided test folder. 		
		

Question 1: Word Processing


The school started to raise funds to buy movies and they must organise a meeting.

	 Funds.docx		Cognitive Level/ Comments
	Open the Funds word processing document.		
1.1	Add a formula to the table on the first page in the bottom right-hand cell to calculate the average of the amounts in the column.	(1)	Understanding
1.2	<p>Find the Agenda below the table.</p> <p>Use a multilevel list to number the items on the agenda as indicated on the screenshot on the right.</p> <p>Take note that level 3 is a bullet that must be inserted via the multilevel list feature of your computer. Use Wingdings 2 character code 170.</p>	<p>1) Welcome</p> <p>2) Election</p> <p> a) Fund raising Committee</p> <p> ☐ Ten members</p> <p> ☐ Chairperson</p> <p> ☐ Scribe</p> <p> b) Marketing Committee</p> <p> ☐ Eight members</p> <p> ☐ Chairperson</p> <p> ☐ Scribe</p> <p>3) General</p> <p>4) Date of next meeting</p>	(3) Knowledge & Analysis
1.3	<p>Place the three paragraphs below the heading 'HOW TO CHOOSE A GOOD MOVIE TO WATCH' in three columns:</p> <ul style="list-style-type: none"> • There must be a line between the columns • The distance between the columns should be 1 cm • Each subparagraph must begin in its own column 	(4)	Knowledge & Analysis

1.4	<p>Insert the file Comedies.docx as a linked object below the</p>  <p>Comedies.docx</p> <p>columns. The file must be displayed as an icon.</p>	(3)	Apply
1.5	<p>The form must be completed before the learners can attend the meeting. Format the already existing form as follows:</p> <p>Surname: Must be in capital letters</p> <p>Age: Choose the correct type for the data that must be inserted</p> <p>Preference: Insert two choices, i.e. 'Fund raising' and 'Marketing'</p> <p>Attendance: Indicate if you will attend the meeting or not</p> <p>(Do NOT protect the form)</p>	(4)	Analyse & Evaluate
1.6	<p>The Grade 11's decided to create a logo to use on advertisements. They started with a logo on the last page, but it is not completed yet.</p> <ul style="list-style-type: none"> Use the picture Madagascar_Penguins.jpg provided as well  <p>Madagascar_Penguins.jpg</p> <p>as appropriate word processing features.</p> <ul style="list-style-type: none"> Create an output as a single object which will appear as shown below: 	(5)	Analysis
Save and close the document.			[20]


Question 2: Spreadsheet

The learners in your school want to know more about the cost regarding the manufacturing of films.

	Open the Expensive_Films spreadsheet and work in the Films worksheet.  Expensive_Films.xlsx		Cognitive Level/ Comments
2.1	Ensure that all the data fit in the columns.	(1)	
2.2	Merge cells A1:G1 .	(1)	
2.3	Use a formula in cell D5 to calculate the rand value per dollar (\$). <ul style="list-style-type: none"> The cost of one dollar (\$) is R14.62 Copy the formula to cell D24 Column D must display in South African rand with 2 decimals 	(4)	
2.4	Insert a column to the left of column A . Use Auto Fill in column A to number all the films from 1 to 20.	(2)	
2.5	Use a function in cell C26 to determine the second oldest film.	(3)	
2.6	Use conditional formatting in column F to shade the films with a rent of R180 or more in a light purple colour.	(2)	
2.7	Add a function in cell D28 to determine the average cost per film, using the data in column D . Use a function to round the number off to 1 decimal place.	(4)	
2.8	The rent that the school has to pay per film is indicated in column F . Your school will receive 5% discount when they rent a film. <ul style="list-style-type: none"> Add a formula in cell G5 to determine the discount amount. 	(3)	
2.9	Calculate the total value of the discount in cell G29 .	(2)	
2.10	Calculate the amount in column H which will be due by your school after the discount.	(3)	
	Save and close the document.	[25]	

Question 3: Database

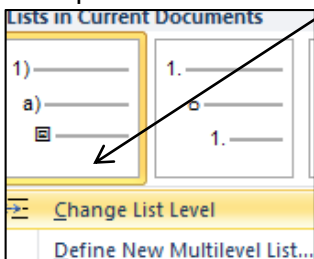
There are several learners already actively involved with research on different types of movies that can be used to raise funds.

	 Participants.accdb Open the Participants database. Work in the Participants table and format as follows:		Cognitive Level/ Comments
3.1	The alignment of the data in the <i>Grade_Graad</i> column must be horizontally centred.	(1)	Knowledge
3.2	Record number 46, Toni Jordaan, must be deleted, he left the school.	(1)	Knowledge
3.3	Sort the table alphabetically according to the <i>Surname_Van</i> field.	(1)	Knowledge
	Save and close the Participants table.		
	Work in the Marketing table and format as follows:		
3.4	Change the name of the table to Helpers .	(1)	Knowledge
3.5	Swap the order of the <i>Surname</i> and <i>Name</i> fields without deleting any data.	(2)	Knowledge
3.6	All the data in the <i>Surname</i> field must display in capital	(1)	Understanding

	letters.		
3.7	Change the field size of the <i>Name</i> field to 30 characters.	(1)	Knowledge
3.8	The <i>Gender</i> field must be completed.	(1)	Understanding
3.9	Set a validation rule on the <i>Grade</i> field to ensure that only Grades 10 to 12 are allowed to participate. Also add appropriate validation text.	(4)	Apply
3.10	Change the data type of the following fields to a more appropriate type: <ul style="list-style-type: none"> • <i>Donation</i> field: The default value of this field is R50 • <i>Photo</i> field • <i>Expertise</i> field: This field needs more than 255 characters 	(2) (1) (1)	Apply & Evaluate
3.11	Insert a field named <i>Marketing</i> , between <i>CellPhone</i> and <i>Donation</i> fields with an appropriate data type. This field will indicate if people will be available for the marketing programme or not.	(3)	Understand & Apply
	Save and close the document.	[20]	

Memorandum

Question 1

No	Criteria	Max Mark			Cognitive Level
Funds document					
1.1	Table formula Formula inserted: =SUM(ABOVE) ✓	1		1	
1.2	<ul style="list-style-type: none">Multilevel numbering Level 1: 1) ✓ Level 2: a) ✓ Level 3: ☐ ✓ (check multilevel list – no mark if level 3 not part of multilevel list) 	1 1 1		3	
1.3	Columns <ul style="list-style-type: none">Correct 3 paragraphs below the heading 'HOW TO CHOOSE A GOOD MOVIE TO WATCH' in three columns ✓Line between columns ✓Distance between columns 1 cm ✓Subparagraphs each in its own column ✓ (Ctrl + Shift + Enter = column break; no mark if enters were used)	1 1 1 1		4	
1.4	Linked object <ul style="list-style-type: none">Correct file Comedies.docx ✓Linked object ✓Inserted as icon ✓	1 1 1		3	
1.5	Electronic form Surname: Text format: Uppercase ✓ Age: Type: Number ✓ Preference: Drop down form field with 'Fund raising' and 'Marketing' ✓ Attendance: Check box form field ✓	1 1 1 1		4	
1.6	Logo <ul style="list-style-type: none">WordArt 'Movie Festival' in an arch format ✓Border of <i>Callout Shape</i> in <i>Dash</i> style ✓ weight is 3 pt ✓Oval filled with the photo, Madagascar_Penguins.jpg ✓Grouped to one object ✓	1 1 1 1 1		5	
Total for QUESTION 1				[20]	

Question 2

- Mark the questions from the formulae and not the values/answers in the cell.
- Check against candidate's actual work (Cell references may differ, depending on the candidate's response).

Candidate may use multiple formulae or cells as 'building blocks' to answers.

No	Criteria	Max Mark			Candidate mark
Expensive Films spreadsheet; Films worksheet					
2.1	All data fit in the columns ✓	1		1	
2.2	Merging Cells A1:G1: merged ✓	1		1	
2.3	Cell E5: =D5*14.5 =D5 ✓ * 14.5 ✓ In SA Rand with 2 decimals ✓	2 1		3	
2.4	Column A: Column inserted left of column A ✓ Numbered from 1 to 20 ✓	1 1		2	
2.5	Cell C26: =SMALL ✓ (C5:C24, ✓ 2 ✓)	1 1 1		3	
2.6	Conditional formatting Cell Value: >=180 ✓ Shaded in light purple ✓	1 1		2	
2.7	Cell D28: =ROUND ✓ (AVERAGE ✓ (D5:D24), ✓ 1 ✓)	1 1 1 1		4	
2.8	Cell G5: =F5*5% of F5*5/100 =F5 ✓ * ✓ 5% ✓ Formula copied to cell G24 ✓	3 1		4	
2.9	Cell G29: =SUM ✓ (G5:G24) ✓	1 1		2	
2.10	Column H: =F5 ✓ - ✓ G5 ✓	1 1 1		3	
	Total for Question 2			[25]	

Question 3

No	Criteria	Max Mark			Candidate mark
Research database; Participants table					
3.1	Data in <i>Grade_Graad</i> column horizontally centred ✓	1		1	
3.2	Record Toni Jordaan deleted ✓	1		1	
3.3	Table sorted alphabetically according to <i>Surname_Van</i> field ✓	1		1	
3.4	Name changed to Helpers ✓	1		1	
3.5	<i>Surname</i> and <i>Name</i> fields swapped ✓ No data deleted ✓	1 1		2	
3.6	<i>Surname</i> field Format: > ✓	1		1	
3.7	<i>Name</i> field Field size: 30 ✓	1		1	
3.8	<i>Gender</i> field Required: Yes ✓	1		1	
3.9	<i>Grade</i> field Validation rule: Between 10 and 12 or >= 10 and <=12 ✓ ✓ ✓ Validation text: Only Grade 10 to 12 can participate ✓	1 1 1 1		4	
3.10	<i>Donation</i> field Data type: Currency ✓ Default value: 50 ✓ <i>Photo</i> field Datatype: OLE Object ✓ <i>Expertise</i> field Field size: Memo ✓	1 1 1 1		4	
3.11	<i>Marketing</i> field Insert <i>Marketing</i> field ✓ between <i>CellPhone</i> and <i>Donation</i> fields ✓ Datatype: Yes/No ✓	1 1 1		3	
	Total for Question 3			[20]	

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1		1		1	
Q1.2	2		1	1	
Q1.3	3		1	4	
Q1.4		3		3	
Q1.5		1	3	4	
Q1.6			5	5	
Q2.1	1			1	
Q2.2	1			1	
Q2.3	3			3	
Q2.4	2			2	
Q2.5			3	3	
Q.2.6		2		2	
Q2.7			4	4	
Q2.8	4			4	
Q2.9	2			2	
Q2.10	3			3	
Q3.1	1			1	
Q3.2.	1			1	
Q3.3	1			1	
Q3.4	1			1	
Q3.5	2			2	
Q3.6		1		1	
Q3.7	1			1	
Q3.8		1		1	
Q3.9		4		4	
Q3.10		2	2	4	
Q3.11		3		3	
Total	28	18	19	65	
%	43,1%	27,7%	29,2%	100%	

Grade 11 Term 1 – Theory Test

Task Description	Comments
<p>This following task is a Grade 11 Theory Test that covers the theory content and skills for term 1:</p> <ul style="list-style-type: none"> • Systems Technologies • Social Implications 	<p>Though assessment in Grade 11 should focus on Grade 11 content and skills, content and skills from Grade 10 (which is the foundation that is built upon in Grade 11) must also be revised continuously and may also form part of the test.</p>

Grade 11 Term 1	Marks: [56]	Time: 60 minutes
Instructions: <ul style="list-style-type: none"> • This test consists of THREE sections and SIX questions. • Answer ALL the questions. • Note that in general, a mark is allocated per fact; therefore, a 2-mark question would require a minimum of 2 facts. • Number the answers correctly according to the numbering system used in this question paper. • Start each question on a new page (if possible). • Answer in full sentences and be as concise as possible when attempting a question requiring an explanation. • Write neatly and legibly. If you have to cross something out, use a ruler. 		

Section A

Question 1 – Multiple choice questions


Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A – D) next to the question number (1.1 – 1.5) in the ANSWER BOOK, for example 1.6 D.			
1.1	<p>Which ONE of the following options gives the CORRECT order of the information processing cycle?</p> <p>A Input, processing, output, storage</p> <p>B Input, output, processing, storage</p> <p>C Input, processing, storage, output</p> <p>D Input, storage, output, processing</p>	(1)	Knowledge
1.2	<p>Which ONE of the following is a type of volatile memory?</p> <p>A Flash drive</p> <p>B ROM</p> <p>C Hard drive</p> <p>D RAM</p>	(1)	Knowledge
1.3	<p>Which ONE of the following is CORRECT about an add-on?</p> <p>A An add-on is software that regulates data usage across a network system</p> <p>B An add-on is a device designed to increase the functionality of a computer system</p> <p>C An add-on is an area of storage reserved by the operating system for its own use.</p> <p>D An add-on is software that adds functionality to a program</p>	(1)	Application
1.4	Which ONE of the following is a measurement of the brightness of	(1)	Understandin

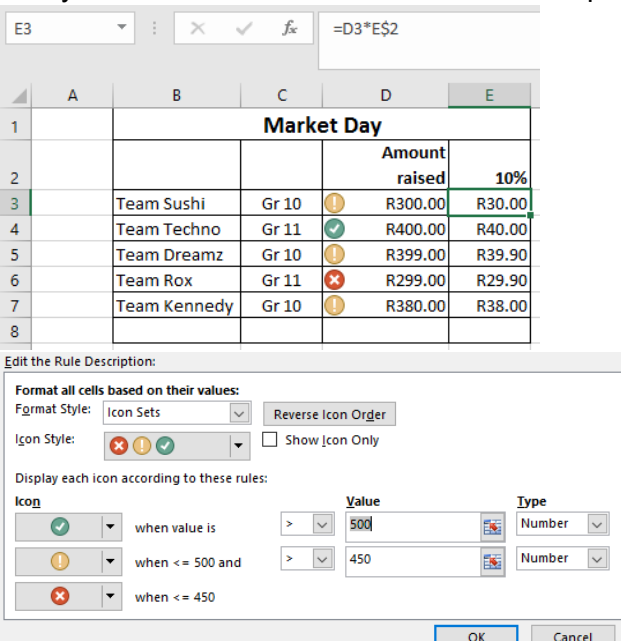
	the image in a data projector? A Pixels B Contrast ratio C Lumens D Resolution		9
1.5	Which ONE of the following statements is INCORRECT? A OCR software can be used by libraries to digitise and preserve documents. B OCR software produces an editable version of a scanned document. C OCR software analyses a document and compares it with fonts in its database. D OCR software allows a word processing document to be saved as a web page.	(1)	Understandin 9
Total Question 1		[5]	

Question 2 – Modified True/False items		Mark	Cognitive Level/ Comments
Indicate whether the following statements are TRUE or FALSE. Choose the answer and write 'true' or 'false' next to the question number (2.1 – 2.3) in the ANSWER BOOK. Correct the statement if it is FALSE. Change the underlined word(s) to make the statements TRUE. (You may not simply use the word 'NOT' to change the statement.)			
2.1	The term <u>metadata</u> refers to additional information about a file and its contents that is stored as part of the file.	(1)	Knowledge
2.2	An Ultrabook typically has a <u>3.5-inch</u> hard drive.	(1)	Knowledge
2.3	The quality of an image displayed on a monitor depends on the <u>pixels</u> and the size of the monitor.	(1)	Knowledge
Total Question 2		[3]	



Section A

Question 3: Systems Technologies		Mark	Cognitive Level/ Comments
Answer the following questions to help your school with upgrading the computers.			
3.1	A debate has started whether to replace some of the desktop computers in the media centre with notebook computers (laptops). Give TWO possible disadvantages of using notebook computers instead of desktop computers.	(2)	Understanding
3.2	An IT technician suggests that the memory and the hard drives on the existing computers should be upgraded before installing Microsoft Office 2016. 3.2.1 Explain why the memory may need to be upgraded to install and run Microsoft Office 2016, by referring to the functions of memory. 3.2.2 Give TWO advantages of an SSD as a storage medium as opposed to an HDD.	(2) (2)	Application Knowledge
3.3	Your teacher sometimes connects her cell phone to her notebook computer. 3.3.1 Give TWO ways in which this connection would be possible. 3.3.2 Give ONE reason why she may want to connect her cell phone to the notebook computer.	(2) (1)	Knowledge Application
3.4	Smartphones have many features built into them. 3.4.1 Discuss TWO advantages of BYOD. 3.4.2 Give ONE function that a smartphone provides that is similar to that of a notebook.	(2) (1)	Knowledge Understanding
3.5	Give TWO possible disadvantages of using a wireless mouse as opposed to a cabled mouse.	(2)	Application
3.6	It is apparent that the secretary confused the PSU for the UPS. Explain each of these TWO terms.	(2)	Knowledge
3.7	A parent has offered to donate an interactive whiteboard to the school. 3.7.1 Explain what an interactive whiteboard is and 3.7.2 how teachers and learners can use it.	(2) (1)	Knowledge Application
Total Question 3		[19]	

Question 4: Social Implications		Mark	Cognitive Level/ Comments
4.1	Explain the concept 'Internet ethics'.	(2)	Understanding
4.2	List ONE rule you would include in an AUP ('Acceptable user policy') to encourage ethical use of the Internet at your school	(1)	Application
4.3	With reference to spyware: 4.3.1 Explain the term <i>spyware</i> . 4.3.2 Explain why spyware is a security risk.	(1) (1)	Knowledge Understanding
4.4	Free programs that can be downloaded from the Internet are not really free. 4.4.1 Give the term best used to describe such a program. 4.4.2 Discuss how adware is not related to the abovementioned statement.	(2) (1)	Understanding Analysis
4.5	Study the screenshot below and answer the questions that follow:  4.5.1 What is the purpose of adding alternative text to an image? 4.5.2 What type of user would benefit the most accessing a document with alternative text?	(1) (1)	Understanding Application
Total Question 4		[19]	

Question 5: Solution Development		Mark	Cognitive Level/ Comments
5.1	Explain the difference between a linked object and an embedded object.	(2)	Understanding
5.2	Give TWO ways in which you can prevent users from making changes to a word processing document.	(2)	Application
5.3	<p>Study the screenshot below and answer the questions that follow.</p>  <p>5.3.1 Each cell has an address, known as a cell reference. Name the TWO types of cell referencing used in cell E3.</p> <p>5.3.2 Write down the function as it will appear in cell E4.</p> <p>5.3.5 A conditional formatting rule has correctly been applied to column D. However, the screenshot on the top displays the incorrect conditional formatting rule. Write down the correct parameters of the rule.</p>	(2) (2) (3)	Knowledge Application Analysis/ Evaluation
5.4	<p>Only teams who have collected more than R250.00 are entitled to receive 10% of the amount raised for a class outing.</p> <ul style="list-style-type: none"> Which function must be used in cell F3 to display a positive or negative message if the amount in cell D3 meets the criteria of 'greater than R250.00'? <p>Write down a possible positive and negative message that should display if the criteria are met.</p>	(2)	Application Understanding
Total Question 5		[13]	

Section C

Question 6 – Integrated Scenario		Mark	Cognitive Level/ Comments
Learners at school are given permission to bring their smart devices to school. You have been asked to take photos of the sport's day events so that it can be uploaded onto the school's website and Facebook page.			
6.1	<p>6.1.1 Name the digital technology as shown on the right that a smartphone's camera can use as input to access the school's website, without typing in the URL of the website.</p> 	(1)	Knowledge
	6.1.2 Other than accessing a website, give TWO other specific uses for the digital technology named in question 6.1.1.	(2)	Application
6.2	Explain the difference between disk <u>defragmentation</u> and the <u>formatting</u> of a hard disk drive.	(2)	Understanding
6.3	<p>The school will use a database (MS Access) to manage and maintain the resources within the school.</p> <p>Name the object in a database that will be used in each of the following instances:</p> <p>6.3.1 Capturing learners' details during registration.</p> <p>6.3.2 Making a selection of learners according to age groups for sports teams.</p> <p>6.3.3 Preparing a document to give sponsors a brief overview of the school's enrolment.</p>	<p>(1)</p> <p>(1)</p> <p>(1)</p>	<p>Application</p> <p>Application</p> <p>Application</p>
6.4	<p>Refer to the icon on the right and answer the questions that follow:</p>  <p>6.4.1 With reference to a database, name the icon picture above.</p> <p>6.4.2 Explain the use of this feature (question 6.4.1) in a database table.</p>	<p>(1)</p> <p>(1)</p>	<p>Knowledge</p> <p>Application</p>
Total Question 6		[10]	

Memorandum

Section A

Question 1 – Multiple-Choice Questions

1.1	C ✓
1.2	D ✓
1.3	D ✓
1.4	D ✓
1.5	D ✓

(5 x 1) = [5]

Question 2: Modified True/False Questions

2.1	True ✓	1
2.2	False. 2.5 inch ✓ (solid state hard drive)	1
2.3	False. Resolution ✓	1

(3 x 1) = [3]

Section B

Question 3 – Systems Technologies [20]

3.1	TWO possible disadvantages of notebook computers (laptops) <ul style="list-style-type: none">• More expensive for the same specifications• Increased risk of theft/higher insurance costs• More fragile/easily broken• Difficult/more expensive to repair/upgrade• Smaller non-ergonomic keyboards increase the likelihood of RSI• Not modular, so whole unit needs to be sent in if any one component fails, etc. ✓✓ (Any TWO)	(2)
3.2.1	Memory upgrade <ul style="list-style-type: none">• Memory is where programs are loaded to be run – most commonly used programs are kept in memory• More memory is required for larger programs otherwise the program will run very slowly• Small and light-weight ✓✓ (Any TWO)	(2)
3.2.2	Advantages of SSD <ul style="list-style-type: none">• Faster than HDD, faster booting and data transfer ✓• More robust, does not break down easily since it does not have moving parts ✓ (Accept any valid response)	(2)

3.3.1	TWO ways to connect cell phone to notebook <ul style="list-style-type: none"> Wireless (Bluetooth) ✓ (USB) cable ✓ Wireless Wi-Fi (e.g. using share it app) ✓ 	(2)
3.3.2	ONE reason for connecting cell phone to notebook <ul style="list-style-type: none"> To transfer data To connect to the Internet (accept any one practical use) To charge the cell phone <p style="text-align: right;">✓ (Any ONE)</p>	(1)
3.4.1	Advantages of BYOD <ul style="list-style-type: none"> Increased productivity – employees/learners more comfortable using their own device. Up-to-date devices – Since BYOD devices are usually more updated and cutting-edge than the IT-issued devices, the company gets to reap the benefits of the most modern features, capabilities, and upgrades. Saves money – Companies can save a lot of money with the worker paying for the majority or all the costs for the mobile devices, services, and other associated expenses. School/company not liable for damage to the device. Increases engagement in the workplace and after hours – responsiveness is increased when employees are able to communicate outside of the office, i.e. answer e-mails and complete other tasks. <p style="text-align: right;">✓✓ (Any TWO relevant answers)</p>	(2)
3.4.2	ONE function of smartphones as opposed to older cell phones <ul style="list-style-type: none"> Use of applications (apps) Camera, video recorder Use of an operating system Includes PDA functions Sensing functionality: heartbeat, footsteps, etc. <p style="text-align: right;">✓ (Any ONE)</p>	(1)
3.5	TWO disadvantages of wireless mouses <ul style="list-style-type: none"> Requires batteries Greater potential for loss/theft/damage Signal can be interrupted <p style="text-align: right;">✓✓ (Any TWO)</p>	(2)
3.6	PSU – Power Supply Unit checks that the power being supplied to a PC is constant and is of the correct voltage. ✓ UPS – Uninterruptable Power Supply is a device that regulates the voltage reaching electronic equipment and protects it from damage. ✓	(2)
3.7	An interactive whiteboard is an instructional tool ✓ that allows computer images to be displayed onto a board using a digital projector. ✓ The teacher/learner can manipulate the elements on the board by using their finger as a mouse, directly on the screen. ✓	(3)
		[19]

Question 4 – Social Implications

4.1	Internet ethics <ul style="list-style-type: none"> Internet ethics means acceptable behaviour for using the Internet. ✓ We should be honest, and respect the rights and property of others on the Internet. ✓ <i>(Accept any references to violation of copyright issues.)</i>	(2)
4.2	ONE rule in an AUP to encourage ethical use of the Internet (Any ONE or other valid responses referring to ethical use of the Internet) ✓ <ul style="list-style-type: none"> Do not use the Internet to harm other users. Do not use the Internet to steal others' information. Do not use files from the Internet without the permission of the owner, unless such permission is given by a Creative Commons Licence. Do not copy copyrighted software without the author's permission. Always respect copyright laws and policies. Respect the privacy of others, just as you expect the same from others. Complain about illegal communication and activities, if found, to Internet Service Providers and local law enforcement authorities. Users should not intentionally use the Internet to retrieve or modify the information of others, which may include password information, files, etc. <i>(Note: Answer must be related to the ethical use of the Internet. Do not accept: 'Use Internet ethically'.)</i>	(1)
4.3	Spyware Software that secretly gathers info about you and your Internet habits/monitors activity on your computer ✓ and Security risk: Spyware sends this information to a third party/marketer. ✓ <i>(Spyware may gather info about e-mail addresses, usernames, passwords and account numbers.)</i>	(2)
4.4.1	Shareware ✓	(1)
4.4.2	Adware <ul style="list-style-type: none"> Adware is software that has advertisements embedded in the program. ✓ (pop up) The software developer is paid by advertisers to place their advertisement within the application. ✓ (The advertisements are displayed while the application is installing or while the application is being used.) 	
4.5.1	Purpose of Alt text to an image Gives a description of the image if it does not display correctly ✓	(1)
4.5.2	Type of user accessing Alt text Visually impaired people ✓ (do not accept hearing impaired and physically disabled)	(1)
		[10]

Question 5 – Solution Development

5.1	Linked object vs embedded object <ul style="list-style-type: none"> • Linked object – When an object is linked, changes that are made in either application will be reflected in the different object. ✓ • Embedded object – When an object is embedded, it has no association with the original source document. ✓ 	(2)
5.2	TWO ways to prevent users from making changes to a document <ul style="list-style-type: none"> • Protect the editing of the document with a password • Save the file as a pdf • Set to read-only • Mark the document as final <p style="text-align: right;">✓✓ (Any TWO)</p>	(2)
5.3.1	Cell referencing <ul style="list-style-type: none"> • Relative cell reference ✓ • Absolute cell reference ✓ 	(1)
5.3.2	Result of function in cell E4=D4*E\$2 <ul style="list-style-type: none"> • Cell E4=D4 ✓ *E\$2 ✓ 	(2)
5.3.3	Edit conditional formatting rule >=400 OR >399 >=300 OR >299 <ul style="list-style-type: none"> • Both operators for both rules ✓ • First value (must match operator) ✓ • First value (must match operator) ✓ 	(3)
5.4	IF Function <ul style="list-style-type: none"> • IF Function ✓ • Message "Receive 10%" or "No Outing" ✓ (Accept any valid response, i.e. reference to a blank cell, " ", for the negative option, etc.) 	(2)
		[13]

Section C

Question 6 – Integrated Scenario

6.1.1	Alternative input option for typing in a URL <ul style="list-style-type: none"> QR Code ✓ / Quick Response Code 	(1)
6.1.2	TWO uses for QR codes – other than accessing a website <ul style="list-style-type: none"> Financial transactions/raising money for a cause Collaboration between teacher and learners using smartboard technology Contributing to political parties or campaigns Paying for advertised items Redeeming store coupons Restaurant menus/restaurant payments <p style="text-align: right;">✓ ✓ (Any TWO)</p>	(2)
6.2	Disk defragmentation vs formatting the hard disk drive <ul style="list-style-type: none"> Files that are fragmented (split into two or more parts) are joined together again ✓ Formatting a disk that contains data will erase all the data on the disk ✓ 	(2)
6.3.1	Table OR Form ✓ (Used by non-computer literate people just to enter data)	(1)
6.3.2	<ul style="list-style-type: none"> Query (Query is the favoured answered since it can be saved) Report <i>(Do not accept 'Filter' as it is not a database object)</i> <p style="text-align: right;">✓ (Any ONE)</p>	(1)
6.3.3	Report ✓	(1)
6.4.1	Primary key ✓	(1)
6.4.2	A primary key is a field or set of fields with values that are unique throughout a table ✓	(1)
		[10]

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	1			1	
Q1.2	1			1	
Q1.3		1		1	
Q1.4		1		1	
Q1.5		1		1	
Q2.1	1			1	
Q2.2	1			1	
Q2.3	1			1	
Q3.1		2		2	
Q3.2.1		2		2	
Q3.2.2	2			2	
Q3.3.1	2			2	
Q3.3.2		1		1	
Q3.4.1	2			2	
Q3.4.2		2		2	
Q3.5		2		2	
Q3.6	2			2	
Q3.7	2	1		3	
Q4.1		2		2	
Q4.2		1		1	
Q4.3	1	1		2	
Q4.4.1		1		1	
Q4.4.2			2	2	
Q4.5.1		1		1	
Q4.5.2		1		1	
Q5.1		2		2	
Q5.2		2		2	
Q5.3.1	1			1	
Q5.3.2		2		2	
Q5.3.3			3	3	
Q5.4		2		2	
Q6.1.1	1			1	
Q6.1.2		2		2	
Q6.2		2		2	
Q6.3.1		1		1	
Q6.3.2		1		1	
Q6.3.3		1		1	
Q6.4.1	1			1	
Q6.4.2	1			1	
Total	20	35	5	60	
	33%	59%	8%		

Grade 11 Term 3 – Practical Test

Task Description	Comments
<p>This following task is a Grade 11 Practical Test that covers the practical content and skills for term 1 - 3:</p> <ul style="list-style-type: none"> • Word Processing • Spreadsheet 	<p>Though assessment in Grade 11 should focus on Grade 11 content and skills, content and skills from Grade 10 (which is the foundation that is built upon in Grade 11) must also be revised continuously and may also form part of the test.</p>

Grade 11 Term 3	Marks:	[45]	Time:	50 minutes
<p>Instructions:</p> <ul style="list-style-type: none"> • This test consists of TWO questions. • Answer ALL the questions. • Use the following files to answer the questions: <ul style="list-style-type: none"> ○ 1_OlympicsStats Spreadsheet file ○ 2_History Word processing file • Do NOT do more than is required by the question. • During the test you may consult the help functions of the programs that you are using. You may NOT use any other resource material. • Unless instructed otherwise, use formulae and/or functions for ALL calculations in questions involving spreadsheets. Use absolute cell references only where necessary to ensure that formulae are correct when you copy them to other cells in a spreadsheet. • All formulae and/or functions should be inserted in such a manner that the correct results will still be obtained even if changes are made to the existing data. <p>Save all your work regularly in the provided test folder.</p>				
<p>Scenario:</p> <p>The Olympic games are currently taking place in Rio de Janeiro. Your athletics coach, Mr Van Niekerk, has given you a variety of factual and statistical information that he gathered. He asked you to analyse and process the information.</p>				

Question 1: Spreadsheet

The spreadsheet contains data with statistical information that you need to process.





1_OlympicsStats.xlsx

Open the **1_OlympicsStats** spreadsheet and work in the **Stats** worksheet.

1.1	The heading of the worksheet is partially obscured by an image. Centre the heading of the worksheet vertically and horizontally.	(2)	Knowledge
1.2	Adjust the width of column C so that all the data in this column is displayed and visible.	(1)	Knowledge
1.3	Change the row height of rows 6:16 to 20.	(1)	Knowledge
1.4	Insert a clustered bar chart/graph to display only the countries and the number of medals won for only the 6 lowest total number of medals. Add data labels to the chart.	(3)	Understanding/ Application
1.5	Mr Van Niekerk wanted to know which country attended the most amount of games and which country attended the least amount of games. He inserted functions in cells G19 and G20 to calculate this. Correct the error(s) in the functions so that the correct results will be returned.	(4)	Analysis/ Evaluation
1.6	You noticed that some countries did not receive a gold or a bronze medal. Use a function in cell G21 to determine how many times this occurred.	(2)	Understanding
1.7	The cell range M6:N9 in the Rewards table displays the amount of money rewarded for each medal. Insert a formula in cell K7 to calculate the total reward that Brazil received. Round the amount off to the closest whole number. Ensure that the formula will work if copied down to the other cells in the column.	(5)	Application
1.8	Set the print area to print only the countries and amount of money received. Ensure that the gridlines will print.	(2)	Application
Save and close the 1_OlympicsStats spreadsheet.		[20]	

Question 2: Word processing

<p>Open the document 2_History and insert your name and surname into the footer.</p>  <p>2_History.docx</p>			
2.1	<p>Insert any cover page in the document as follows:</p> <ul style="list-style-type: none"> Add your name in the author control. Add the date field in the format 01-Jan-17 anywhere on the page. 	(4)	Knowledge Understanding
2.2	<p>Add an automatic caption 'Stadium' to the picture below the heading 'Symbols and Traditions'. The caption should appear as follows:</p> <ul style="list-style-type: none"> The label should be excluded from the caption. The numbering should be changed to a capital letter A. The caption should be displayed below the picture. 	(4)	Understanding/ Application
2.3	<p>Add an automatic table of contents below the heading 'Table of contents' as follows:</p> <ul style="list-style-type: none"> Use the 'Modern' table of contents format. Display the 'Olympic Torch' style as the first heading level. Display the 'Athlete' style as the second heading level. 	(4)	Understanding
2.4	<p>Add a page border to the document.</p> <ul style="list-style-type: none"> Use the wavy single line style. The width of the page border should be 1 ½pt. 	(3)	Knowledge
2.5	<p>Change the number of the footnote on the page with the 'Ancient Olympic Games' heading to a small letter 'a'.</p>	(1)	Knowledge
2.6	<p>Insert the 2_Baron picture on the last page to display as follows:</p>  <p>2_Baron.jpg</p>	(4)	Analysis
2.7	<p>Insert automatic page numbering at the top of the page as follows:</p> <ul style="list-style-type: none"> The first two pages must NOT be numbered and the third page should be numbered as '1'. Odd pages must use the 'Facet (Odd Page)' style. Even pages must use the 'Facet (Even Page)' style. 	(6)	Understanding/ Application
2.8	<p>Insert an automatic bibliography to appear as follows: Chen, J. The reason for the Olympics. Marsch, C. (n.d.). History of Olympics. NOTE: The J Chen source is a journal article.</p>	(4)	Analysis
Save and close the 2_History document.			[30]

Memorandum

Question 1		1_OlympicsStats	Total Marks: 20	
No.	Criteria	Max Mark	Candidate Mark	
1.1	Heading: Olympic Medal Table <ul style="list-style-type: none"> Centred vertically ✓ Centred horizontally ✓ 	2		
1.2	Column C <ul style="list-style-type: none"> Columns width adjusted – all data visible ✓ 	1		
1.3	Rows 6:16 <ul style="list-style-type: none"> Height: 20 ✓ 	1		
1.4	Chart/Graph <ul style="list-style-type: none"> Clustered bar chart/graph inserted ✓ Displays only country and medals for the lowest 6 countries ✓ Data labels added ✓ 	3		
1.5	Functions: Cells G19 and G20 <ul style="list-style-type: none"> =LARGE(E6:E15;0) → LARGE(E6:E16✓;1✓) =SMALL(D6:D16;0) → SMALL(E6:E16✓;1✓) 	4		
1.6	Cell G21: COUNTBLANK function <ul style="list-style-type: none"> =COUNTBLANK ✓(G6:I16)✓ (<i>Expected answer: 4</i>) 	2		
1.7	Cell K6 =ROUND((\$N\$7*G6)+(\$N\$8*H6)+(\$N\$9*I6),0) <ul style="list-style-type: none"> Round function used ✓ Absolute cell referencing included ✓ Rounded off to a whole number ✓ Multiplication ✓ Sum/Addition ✓ 	5		
1.8	Print area <ul style="list-style-type: none"> Print area set for column C and column K ✓ Gridlines checked to print ✓ 	2		
		Total for Question 1	20	

Question 2		2_History		Total Marks 30	
No.	Criteria	Max Mark	Candidate Mark		
2.1	Cover page: <ul style="list-style-type: none"> Any cover page inserted ✓ Name added as author in content control ✓ Date field inserted ✓ In format dd-mmm-yy ✓ 	4			
2.2	Caption: <ul style="list-style-type: none"> Automatic caption with text 'Stadium' inserted ✓ Label does not display ✓ Numbering changed to a capital letter A ✓ Displayed below picture ✓ 	4			
2.3	Table of Contents: <ul style="list-style-type: none"> Automatic table of contents inserted ✓ 'Modern' format used ✓ 'Olympic Torch' style set as first heading level ✓ 'Athlete' style set as second heading level ✓ 	4			
2.4	Page Border: <ul style="list-style-type: none"> Page border inserted ✓ Single wavy line style added ✓ Width set to 1 ½ pt ✓ 	3			
2.5	Footnote <ul style="list-style-type: none"> Footnote symbol changed to small letter 'a' ✓ 	1			
2.6	Picture <ul style="list-style-type: none"> Picture inserted ✓ Cropped to not display borders ✓ Picture flipped ✓ Reflected rounded rectangular effect applied ✓ 	4			
2.7	Page Numbering: <ul style="list-style-type: none"> Automatic page numbering inserted in the header ✓ First two pages are not numbered ✓ Page numbering starts on third page ✓ Third page numbered as 'page 1' ✓ Odd pages use the 'Facet (Odd Page)' style ✓ Even pages use the 'Facet (Even Page)' style ✓ 	6			
2.8	Source and Bibliography: <ul style="list-style-type: none"> Journal article added ✓ Author: J Chen ✓ Title: The reason for the Olympics ✓ Automatic bibliography inserted ✓ 	4			
Total for Question 2		30			

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	2			2	
Q1.2	1			1	
Q1.3	1			1	
Q1.4		3		3	
Q1.5			4	4	
Q1.6		2		2	
Q1.7		5		5	
Q1.8	2			2	
Q2.1	2	2		4	
Q2.2		4		4	
Q2.3		4		4	
Q2.4	3			3	
Q2.5	1			1	
Q2.6			4	4	
Q2.7		6		6	
Q2.8			4	4	
Total	12	26	12	50	
	24%	52%	24%	100%	

Grade 11 Term 3 – Theory Test

Task Description This test covers terms 2 and 3 Network and Internet Technologies and Social Implications.	Comments This is a “single topic” test, based on a scenario, and is aimed at testing the learners’ understanding of the topic as thoroughly as possible to prepare learners for the examination.
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Grade 11 Term 3	Marks: [45]	Time: 50 minutes
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Instructions:

- This test consists of THREE questions.
- Answer ALL the questions.
- In general, a mark is allocated per fact. A 2-mark question would therefore require TWO facts, etc.
- Refer to the scenario when answering questions.

Scenario

Your grandparents have decided to join the online world!

Their motivation: close family members recently moved overseas and they want to keep in touch.

They acquired a pamphlet that states the following and then provides some options for three Internet plans, Option1, Option 2 and Option 3:

VoIP (e.g. Skype or FaceTime) helps users stay in touch with family and friends by providing free video messaging at little to no cost. Users can make high-quality audio and video calls to people anywhere in the world.

Need broadband?

Option 1 (Fibre)	Option 2 (Fibre)	Option 3 (ADSL)
100 GB Capped data Up to 20 Mbps Fibre Line 20 Mbps download Upload = 25% of download 1 E-mail account (with 3 GB of online storage and 5 aliases) Free Night Surfer Data (00:00 – 06:00) Fibre Router included Cost: R850.00	Uncapped data Up to 10 Mbps Fibre Line 1 E-mail account (with 3 GB of online storage and 5 aliases) Free Night Surfer Data (00:00 – 06:00) Fibre Router included Cost: R1230.00	100 GB Capped data Up to 10 Mbps ADSL Line rental included 1 E-mail account (with 3 GB of online storage and 5 aliases) Free Night Surfer Data (00:00 – 06:00) Free WiFi enabled modem included Cost R700.00

Question 1: Your grandfather wants to understand the terminology to make an informed decision. He gave you a list of questions to answer and/or explain.		[16]	Cognitive Level/ Comment
1.1	Explain why one would need an Internet plan to be able to communicate with family over the Internet?	2	Knowledge
1.2	What does fibre mean in this context?	2	Knowledge
1.3	What does the 100 GB in Option 1 and Option 3 refer to?	1	Knowledge
1.4	What is uncapped data?	1	Knowledge
1.5	What does Mbps refer to?	1	Knowledge
1.6	What is WiFi?	2	Knowledge
1.7	Options 1 and 2 mention a router, but option 3 mentions a modem. (a) What is the function of a router? (b) What is the function of a modem?	4	Knowledge
1.8	What does online storage refer to? Refer to location and access in your answer.	2	Knowledge
1.9	What is broadband?	1	Knowledge
Total Question 1		[16]	

Question 2: Now that your grandpa has a better understanding of what the terminology means, he has a few follow-up questions that you need to answer:		[15]	Cognitive Level/Comment
2.1	If he takes Option 1 or Option 3, what will happen if he uses all the data in his plan before the end of the month? Will he still be able to use the Internet? Motivate your answer.	2	Understanding /application
2.2	Options 1 and 2 refer to fibre, but option 3 refers to ADSL. How does fibre differ from ADSL?	4	Understanding
2.3	All three options include “free night surfer data”. What does this mean?	2	Application
2.4	Explain why the options indicate “ up to 20 Mbps” or “ up to 10 Mbps”? Also provide an example.	3	Application
2.5	Your grandparents are of the opinion that they do not need the expensive packages (lots of data) as they will not spend more than an hour per week on the Internet. Critically comment on his opinion.	2	Evaluation
2.6	Your grandfather has one big concern. They currently do not have a telephone line and they do not intend to apply for one. Which of the above options will be ruled out if they do not have a telephone line? Motivate your answer.	2	Application
Total Question 2		[15]	

Question 3: Your grandfather is now really concerned about data usage and the money implications it may have.		[14]	Cognitive Level/ Comment
3.1	Your grandfather read that ads popping up on webpages impacts on your data usage. It is alleged they can use between 18% – 79% of your data. Explain to him (a) What adware is (b) Why websites use adware (c) How the use of an ad-blocker could help to save data.	3	Knowledge Understanding Understanding
3.2	Some people are against ad-blocking as they blame people that use ad-blockers that they prevent online content creation. Critically comment on the above statement.	3	Analysis/ Evaluation
3.3	Consider your grandparents' context and give them some advice (excluding blocking ads) as to how they can 'save data'. Provide two ways of saving data.	2	Analysis/ Evaluation
3.4	Your grandfather overheard a friend complaining about being 'throttled'. Explain to you grandfather what data throttling is and why it is implemented.	2	Understanding / Application
3.5	Your grandfather wonders if he should not consider an Internet plan with minimum data and only top up when he requires more. Use the following information to demonstrate to your grandfather that this is not a good idea: When one has used all one's data, one also has the option of buying additional data at a rate that is called 'out-of-bundle' rate. Consider the following: You decide on Option 1. You use all your data before the end of the month and you need an additional 20 GB data. You decide to top-up at 1 cent per MB out-of-bundle rate. (a) How much will you pay for the additional 20 GB? (b) How much do you save monthly through Option 1 (100 GB data @ R850.00 p/m), as opposed to buying out-of-bundle data for the same amount (100 GB)?	4	Analysis
Total Question 3		[14]	

Memorandum

Question 1:		[16]	Cognitive Level/ Comment
1.1	One needs data to use the Internet ✓ and an Internet plan provides you data ✓ that you can use to surf the Internet. (It gives therefore gives you access to the Internet).	2	
1.2	It is the medium ✓ and the technology associated with the transmission of data that connects you to the Internet ✓	2	
1.3	The data usage limit or cap. ✓ (It is the amount of data included in the Internet plan that you will be able to use per month.)	1	
1.4	Unlimited data usage ✓	1	
1.5	The data transfer speed ✓	1	
1.6	Wireless network technology ✓ that uses radio waves ✓ to provide network access between computers and other devices such as smartphones and printers	2	
1.7	(a) A modem provides access to the Internet ✓ and is essential for Internet connection ✓ (b) A routers allows multiple computers and other devices, such as smartphones, ✓ to join the same network (HAN/LAN), ✓ i.e. provides access to a local network (HAN/LAN). (It routes signals from the modem to other devices so they are also able to use the Internet)	4	
1.8	Storing data/files on a remote server ✓ (in a location other than your fixed hard drive or your portable devices) that can be accessed from anywhere ✓	2	
1.9	High-speed Internet connection ✓ delivered through ADSL, fibre, 3G/4G	1	
Total Question 1		[16]	

Question 2:		[15]	Cognitive Level/ Comment
2.1	Once he has used all the data, he will still be able to use the Internet ✓, however, the access speed will be reduced ✓ (the Internet connection will become very slow/will no longer function at the maximum speed (20 Mbps / 10 Mbps) as indicated in the options)	2	
2.2	ADSL runs over existing copper wire infrastructure (telephone line) ✓ and offers average speeds of around 4Mbps – 10 Mbps ✓. Fibre, transmits information as light impulses along flexible glass fibres ✓ at incredible speed (up to 1000 Mbps) ✓	4	
2.3	In addition to the normal data limit, one is allowed to surf/download i.e. use data ✓ at no additional cost or that is not subtracted from one's cap, from midnight to 6:00 am (during time that the lines are not 'busy') ✓	2	
2.4	20 or 10 Mbps indicates the maximum speed ✓ as speed may vary depending on various factors ✓ such as: Any one of: ✓ <ul style="list-style-type: none"> Time of day / how "busy" lines may be When a mixture of wired and wireless technologies is used, the data transmission speed is determined by the slowest component	3	

2.5	When one uses the internet, one uses data that is measured in bytes ✓ and cost is based on the amount of data you consume, irrespective of how much time you spend on the Internet. ✓	2	
2.6	Option 3 ✓ One needs a telephone line to be able to use an ADSL connection to the Internet ✓	2	

Question 3: Your grandfather is now really concerned about data usage and the money implications it may have.		[14]	Cognitive Level/ Comment
3.1	(a) Software continually downloads adverts, using your data, and that allows these advertisements to pop up on your screen when surfing the Internet ✓ (b) Many 'free' programs or websites are not really 'free', but sponsored through advertisements ✓ (c) An ad-blocker prevents adverts to pop up while you are surfing ✓	3	
3.2	It costs money to develop online content. This is often sponsored through ads. ✓ If ad-blockers prevent advertisers from getting value for their money, they may stop advertising on the web, which means that there will be no money to cover the cost of developing on-line content. ✓ As a result, free online content may dry up and end-users will have to pay large amounts for content developed commercially. ✓	3	
3.3	Any two of: ✓✓ <ul style="list-style-type: none"> • Use automated download function to schedule updates from 00:00 – 06:00 (free night surfer time) • Minimise the use of streaming, e.g. when making video calls through e.g. Skype, do not keep the camera on the whole time • When sending e-mails avoid large attachments, such as photos with the following extensions: "avi", "jpeg", "gif", etc. as they carry large amounts of data • Request family not to send e-mails with large attachments (as above) • Use a firewall to avoid the possibility that fraudsters get remote access to your computer that will enable them to transfer data via your account • Minimise usage by not downloading large files, such as MP3s or using software such as Napster Accept any other correct answer relating to the context	2	
3.4	It is the technique used by data carriers to limit bandwidth for clients if they exceed certain limits ✓ so that they are able to continue using the Internet at no extra cost but at reduced speed. ✓	2	
3.5	(a) Approx. 1000 MB = 1 GB ✓ 20 GB = 20 x 1000 MB → 20000 MB @ 1 cent per MB → 20000 cent → R200.00 ✓✓ (b) R150.00 (100 GB would cost R200 x 5 = R1000.00 and Option 1 provides 100 GB for R850) ✓	4	



Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	2			2	
Q1.2	2			2	
Q1.3	1			1	
Q1.4	1			1	
Q1.5	1			1	
Q1.6	2			2	
Q1.7	4			4	
Q1.8	2			2	
Q1.9	1			1	
Q2.1		2		2	
Q2.2		4		4	
Q2.3		2		2	
Q2.4		3		3	
Q2.5			2	2	
Q2.6		2		2	
Q3.1	1	2		3	
Q3.2			3	3	
Q3.3			2	2	
Q3.4		2		2	
Q3.5			4	4	
Total	17	17	11	45	
%	37,7%	37,7%	25%	100%	

Grade 12


Grade 12 Term 1 – Practical Test

Task Description	Comments
<p>This following task is a Grade 12 term 1 Practical Test that focuses on database and spreadsheet content:</p> <ul style="list-style-type: none"> • Formatting • Primary key • Field properties • Queries 	<p>Although assessment in Grade 12 should focus on Grade 12 content and skills, content and skills from Grade 10 and 11 must also be revised continuously and may also form part of the test.</p>

Grade 12 Term 1	Marks:	[60]	Time:	60 minutes
<p>Instructions:</p> <ul style="list-style-type: none"> • Save your work at regular intervals. • Read through the question before answering and/or solving the problem. Do not do more than is required. • During the test you may make use of the help facilities of the programs which you are using. • The test folder is called Gr12 Test1 DATA, which contains the following files: <p>NB: You must rename the folder Gr12 Test1 DATA with your surname and name, e.g. Surname Name Gr12 Test1</p>				
<p>Scenario:</p> <p>On 10 April 1912, a ship called the <i>RMS Titanic</i> sailed from Southampton, UK, to New York City, US, with 2 224 passengers and crew on board. Unfortunately, on 14 April 1912, the <i>Titanic</i> struck an iceberg close to midnight and sank in the early hours of the next morning.</p>				
				

Question 1: Database

A database was created to capture the data of the passengers and crew who were aboard the *Titanic*.


	 1Titanic.accdb Open the 1Titanic database.	Marks	Cognitive Level/ Comments
1.1	Work in the Bookings table and change the design of the table as follows:		This task starts off with a 'challenging' Input Mask due to the sequence of the fields in the data file.
1.1.1	Format the <i>Title</i> field to accept the first letter as an upper-case letter and the remaining letters as lower-case letters, e.g. Colonel.	5	Evaluation This is not simple formatting as the learner is required to solve the problem. Once the problem is identified, the learner is required to apply various Input Mask characters, i.e. >L<CCCCC [C3 D1]. Learner has to identify 6 lower-case characters (A-Z).
1.1.2	Change the field size of the Age field to accept two digits.	1	Application
1.1.3	Insert a field called Cabin directly between the Class and the Ticket fields. Set the cabin field size to 5 characters.	2	Knowledge
1.1.4	Change the properties of the Ticket field so that it is compulsory for a user to enter a value into this field for every new record added to the table.	1	Application
1.1.5	Change the Embarked field to display the following predefined values: Southampton, Queenstown, Cherbourg. Arrange these values in alphabetical order and ensure the user cannot enter any other value besides these ones.	3	Application
1.1.6	Use data validation on the Date field so that the only dates that can be entered in this field is any date between the 10th and 14th April 1912, inclusive of both dates. <ul style="list-style-type: none"> Add suitable validation text. Change the format of the date to appear as dd-mmm-yy. 	4	Application
	Save and close the Bookings table. <u>Do not close the database.</u>		

1.2	<p>Import the worksheet Travellers from the 2LogBook spreadsheet into the 1Titanic database as a new database table called tblTravel.</p> <p>Note the following:</p> <ul style="list-style-type: none"> There should be no primary key in the new database table. Delete all the records of the passengers whose home or destination was anywhere in Sweden. <p>Save and close the tblTravel table. <u>Do not close the database</u></p>	4	Knowledge (3) Application (1)
1.3	<p>Generate a query based on the Bookings table to display the <i>Surname</i>, <i>Names</i> and <i>Age</i> of all the passengers or crew who were between the ages of 40 and 60 years old.</p> <p>Save the query as qryAge.</p>	4	Knowledge (1) Application (3)
1.4	<p>Open the qryGeneration query.</p> <p>Modify the query to display:</p> <ul style="list-style-type: none"> Only the 1st Class passengers with ticket numbers higher than 10000. Show all the fields for those passengers whose title was either 'Mr' or 'Master', <u>and</u> those whose names ended with the letters 'Jr'. <p>Save and close the query qryGeneration.</p>	6	Analysis/Evaluation
1.5	<p>Open the qryCalc query.</p> <p>The query shows how much passengers paid for a ticket in British pounds at that time.</p> <p>Modify the query by adding a calculated field as follows:</p> <ul style="list-style-type: none"> Insert a field called Rate to determine the cost (fare) of a ticket in South African rand at the exchange rate of R21.76 to the British pound. Format this field to Currency with two decimal places. Rearrange the fields so that the <i>Embarked</i> field appears as the first field in the query. <p>Save and close the qryCalc query.</p>	5	Knowledge (1) (inserting and naming field) Analysis (4)

1.6	<p>Open the form called frmCapture.</p> <p>Modify the form as follows:</p> <ul style="list-style-type: none"> • Change the heading to read as 'Titanic Stats' and place the heading in the centre of the form header. • Add an etched special effect to the border of the heading 'Titanic Stats'. • Move the image of the ship, found in the form header, to the page footer. • Format the image so that it is fully visible. • Change the background colour of the form to a light blue colour. • Display all the label borders in a red colour • Display all the gridlines in a red colour so that the table borders also display in red. • Use a formatting rule to highlight the LifeBoat textbox in an orange colour if that textbox is blank. <p>Save and close the frmCapture form.</p>	9	Knowledge (6) Application (3)
1.7	<p>Open the report called rptEmbark.</p> <p>Modify the report as follows:</p> <ul style="list-style-type: none"> • Group the report according to the <i>Embarked</i> field. • Use a calculation in the group footer to display the number of passengers who boarded the <i>Titanic</i> at each port. • Sort the report alphabetically according to the <i>Surname</i> field. • Display your own name in a label at the bottom of each page. <p>Save and close the rptEmbark Report.</p> <p>Save and close the database.</p>	5	Knowledge (1) Application (4)
Save and close the document.		[49]	

Question 2: Spreadsheet


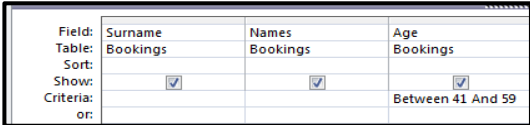

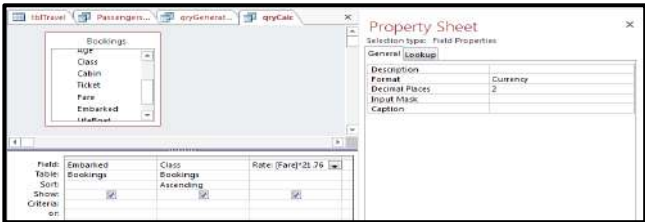
A database was created to capture the data of the passengers and crew who were aboard the *Titanic*.

Open the 2Logbook spreadsheet. Refer to the Passenger worksheet. <div style="text-align: center;">  2LogBook.xlsx </div>			
2.1	Any passenger 18 years or older is regarded as an adult. Use a suitable function in cell H2 to determine whether the passenger was an adult or a child.	4	Application
2.2	Use a LOOKUP function in cell N20 to determine the <u>exact</u> body number allocated to a person, if their body was recovered. The lookup data appears in the BodyNumber worksheet. (A #N/A message will appear if a person's body was not recovered.)	5	Application (4) Knowledge (1)
2.3	A partially correct formula has been used in cell R2 to determine what the percentage was of those passengers who survived the tragedy at the time of the incident. (This formula was based on the correct data in cells P3:Q5 .) Modify this formula as a <u>function</u> to display the answer to the next percentage.	2	Analysis
Save and close the document.		[11]	

Memorandum

Question 1

	Item/Criteria	Mark	Comment
1.1.1			
1.1.2	Field: Age Field size = Double ✓	1	
1.1.3	Field: Cabin <ul style="list-style-type: none"> New field <i>Cabin</i> appears between <i>Class</i> and <i>Ticket</i> fields ✓ Field size: 5 ✓	2	
1.1.4	Field: Ticket Required property set to Yes ✓	1	
1.1.5	Field: Embarked <ul style="list-style-type: none"> Lookup field (drop-down list) applied ✓ Options include Cherbourg; Queenstown; and Southampton ✓ (<i>Allocate mark if one or more options appears</i>) Options appear in alphabetical ✓ (<i>All three options appear in the correct order</i>)	3	
1.1.6	Field: Date <ul style="list-style-type: none"> Validation rule: Between #1912/04/10# And #1912/04/14# (One mark for the dates ✓ and one mark for the criteria ✓ – Between ... And) Validation text: Must be suitable and include the dates ✓ (e.g. only dates between and including 10 and 14 April 1912) Date field format is set to Medium date ✓ (<i>Date displays as 10-Apr-1912</i>)	4	
1.2	<ul style="list-style-type: none"> Table tblTravel appears in the 1Titanic database ✓ (<i>Mark from Travellers table if the table was not renamed to tblTravel, then do not allocate the first mark.</i>) Data from the Travellers worksheet in the 2LogBook spreadsheet have been imported into the DB ✓ No primary key is set ✓ No records appear for passengers whose home/destination was anywhere in Sweden ✓ i.e. database table contains 707 records <i>(Method:</i> <i>Query: not like *Sweden*, copy and paste to new table, rename as tblTravel.</i> <i>Alternative: Apply a text filter in SS before importing to DB.</i> <i>Text filter – does not contain 'Sweden'.)</i>	4	Sort/filter to delete 'Sweden' records <i>Alternative, use Text filter on Home/Destination column in the SS – text does not contain 'Sweden', copy and paste to new worksheet before importing to DB.</i>
1.3	Query: qryAge (<i>Expect 165 records</i>)	4	

	<ul style="list-style-type: none"> Fields: Surname, Names and Age appear ✓ Age field criteria: ≥ 41 And ≤ 59 Criteria is ≥ 41 ✓ And ✓ ≤ 59 ✓ (Must appear on one line. No marks if OR was used)  <p>Accept criteria: >40 And <60</p>  <p>Accept criteria: Between 41 and 59</p>		
1.4	<p>Query: qryGeneration (Expect 72 records)</p> <ul style="list-style-type: none"> Surname field sorted in ascending order ✓ Title field criteria: "Mr" ✓ or "Master" ✓ Names field: Or criteria – Like *Jr ✓ Class field criteria: 1st Class ✓ (Accept "1st*) Ticket field criteria: >10000 ✓ 	6	
1.5	<p>Query: qryCalc</p> <ul style="list-style-type: none"> New field: Rate ✓ Calculation: [Fare] * 21.76 ✓ Formatted as Currency ✓ and two decimal places ✓ Embarked field appears as the 1st field in the query ✓ 	5	
1.6	<p>Form: frmCapture</p> <ul style="list-style-type: none"> Heading 'Statistics' ✓ in centre of form header ✓ (No mark if only text 'Statistics' is centred in the textbox) Etched effect added to heading ✓ Image moved to page footer ✓ (Does not appear in form header) Image is fully visible ✓ (Size mode = Stretch) Background colour of form is a blue colour ✓ All label borders are displayed in a red colour ✓ Conditional formatting applied to Lifeboat text box – orange highlight ✓ if text box is blank ✓ 	9	
1.7	<p>Report: rptEmbark</p> <ul style="list-style-type: none"> Grouped according to Embarked field ✓ Calculation in group footer =Count ✓ ([Embarked]) ✓ Sorted alphabetically according to Surname field ✓ 	5	

	Learner name appears as a label in the page footer ✓		
		49	

Question 2

2.1	Cell H2: =IF(G2>=18,"Adult","Child") =IF✓(G2>=18✓,"Adult"✓,"Child"✓)	4	
2.2	Cell P2 – LOOKUP function in =VLOOKUP(C2,BodyNumber!\$A\$2:\$F\$240,6,FALSE) <ul style="list-style-type: none"> Lookup value: C2 ✓ Table array: BodyNumber!\$A\$2:\$F\$240 (worksheet and cell range ✓ and absolute referencing ✓) Column index number: 6 ✓ Exact match - FALSE ✓	5	
2.3	Cell R6 =ROUNDUP(B1309/B1311*100,0) <ul style="list-style-type: none"> Function: ROUNDUP ✓ Operator: *100,0 ✓	2	
		11	

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1.1			5	5	
Q1.1.2		1		1	
Q1.1.3	2			2	
Q1.1.4		1		1	
Q1.1.5		3		3	
Q1.1.6		4		4	
Q1.2	3	1		4	
Q1.3	1	3		4	
Q1.4			6	6	
Q1.5	2		3	5	
Q1.6	6	3		9	
Q1.7	1	4		5	
Q2.1		4		4	
Q2.2	1	4		5	
Q2.3			2	2	
Total	16	28	16	60	
%	26,6%	46,7%	26,6%		

Grade 12 Term 2 – Theory test

Task Description This task covers a variety of topics, including Information Management	Comments Although assessment in Grade 12 should focus on Grade 12 content and skills, content and skills from Grade 10 and Grade 11 (which is the foundation that is built upon in Grade 12) must also be revised continuously and may also form part of the test.
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Grade 12 Term 2	Marks: [70]	Time: 70 minutes
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Instructions:

- This test consists of Section A, Section B and Section C.
- This test consists of THREE questions.
- Answer ALL the questions.
- In general, a mark is allocated per fact. A 2-mark question would therefore require TWO facts, etc.
- Refer to the scenario when answering questions.

Section A – Short questions


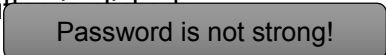

Question 1	[5]	
Give ONE word/term for each of the following descriptions. Write only the word/term next to the question number (1.1.1–1.1.5) in the Answer Book .		
1.1	Programs that are part of the system software, which perform maintenance and administrative tasks	(1) Knowledge
1.2	Measurement and identification of unique physical characteristics of a person that are normally used to do security checks	(1) Knowledge
1.3	Programs that make it possible for operating systems to communicate with and control hardware devices	(1) Knowledge
1.4	Software that is freely distributed but can only be used for a limited time or with limited capabilities	(1) Knowledge
1.5	Software, such as flash players, that extend the capabilities of a browser	(1) Knowledge

Question 2	[5]						
Indicate whether the following statements are TRUE or FALSE. Choose the answer and write 'true' or 'false' next to the question number (3.1–3.5) in the ANSWER BOOK. Correct the statement if it is FALSE. Change the underlined word(s) to make the statement TRUE. (You may not simply use the word 'NOT' to change the statement.)							
	<table> <tr> <th>Question</th><th>Answer</th></tr> <tr> <td>Computer program instructions are executed by the <u>CPU</u>.</td><td>True</td></tr> <tr> <td>Dot matrix, inkjet and laser are types of <u>keyboards</u>.</td><td>False – printers</td></tr> </table>	Question	Answer	Computer program instructions are executed by the <u>CPU</u> .	True	Dot matrix, inkjet and laser are types of <u>keyboards</u> .	False – printers
Question	Answer						
Computer program instructions are executed by the <u>CPU</u> .	True						
Dot matrix, inkjet and laser are types of <u>keyboards</u> .	False – printers						
2.1	The <u>input mask</u> feature of a database ensures that no two records can be identical in a table. (1) Knowledge						
2.2	<u>HTML</u> is a markup language used to create websites (1) Knowledge						
2.3	'*Africa' can be used as a criterion for a field in a database query to return all the records starting with the word 'Africa' in that specific field (1) Understanding						

2.4	Posing as someone else online is considered to be <u>bandwidth</u> theft.	(1)	Knowledge
2.5	<u>Freeware</u> is a general term for e-mails sent to you that you did not request and that often contain advertising	(1)	Knowledge

Section B – Integrated Scenario

Question 3 – Study the scenario below and answer the questions that follow:		[39]	
The administrative building of a transport station in a town has been extended to include access to other transport services. The infrastructure has also been upgraded			
3.1	Open-source software has been loaded onto some desktop computers. Other computers have been preloaded with proprietary software.		
3.1.1	State ONE disadvantage of using open-source software.	(1)	Knowledge
3.1.2	State ONE disadvantage of using proprietary software	(1)	Knowledge
3.2	The department is considering installing thin-client computers in the administrative office		
3.2.1	What is a <i>thin-client</i> computer?	(1)	Knowledge
3.2.2	State TWO advantages of installing thin-client computers.	(2)	Knowledge
3.3	The following computer will be supplied to managers:		
	<div> <p>Quad-Core-Intel-Atom-Z3735F-Processor,-1.33-GHz</p> <p>2GB-RAM</p> <p>32-GB-SSD</p> <p>3-USB-2.0-connectors</p> <p>Micro-SD-card-slot</p> <p>Ethernet-port</p> <p>HDMI-port</p> <p>Wi-Fi-and-Bluetooth-4.0</p> <p>Windows-10</p> </div>		
3.3.1	Explain what a <i>microSD</i> card is.	(2)	Knowledge
3.3.2	What is the benefit of using an HDMI port for video output instead of using a VGA port?	(1)	Understanding
3.3.3	This PC uses Wi-Fi and Bluetooth technologies. Differentiate between Wi-Fi technology and Bluetooth technology.	(2)	Understanding
3.3.4	This computer will be structured in such a way that the operating system and applications are installed on the SSD and the data are stored on a conventional hard drive. Explain the benefit of using each type of storage.	(2)	Understanding
3.4	The computers in the administrative building are connected to the local area network. All users will have access to the Internet. However, a Wi-Fi network will NOT be used. State TWO limitations of Wi-Fi that could have led to this decision.	(2)	Application
3.5	An ADSL connection will be used for Internet connection in the offices.		
3.5.1	State TWO advantages of an ADSL connection.	(2)	Knowledge

3.5.2	Which device is needed in a wired network to connect the LAN to the Internet?	(1)	Knowledge
3.5.3	VoIP will be used for video calls over the Internet. Briefly discuss TWO possible problems that could be experienced when using VoIP.	(2)	Understanding/ Application
3.6	All electronic communication from the administrative offices will use either a digital certificate or a digital signature. Explain the purpose of a digital signature.	(1)	Knowledge
3.7	The technician was asked to download a training video onto an office computer using BitTorrent. What is <i>BitTorrent</i> ?	(2)	Knowledge
3.8	To be able to buy tickets for transport online, a user must complete the online form shown on the right:		
			
3.8.1	When purchasing tickets online, users need to provide personal information. State TWO precautions to prevent identity theft, which could take place during this process.	(2)	Analysis
3.8.2	What is the purpose of the asterisk character ("*") next to most of the labels?	(1)	Understanding
3.8.3	There is no indication of how to enter the gender. Suggest TWO ways that could be used to ensure that input for the gender is valid.	(2)	Analysis/ Evaluation
3.8.4	The following error message appears when the 'Confirm Registration' button is clicked:		
			
	Suggest TWO ways to ensure that a password is strong.	(2)	Knowledge
3.9	The following advertisements were placed on advertising boards outside the administrative building:		
			
3.9.1	What is a hotspot?	(1)	Knowledge
3.9.2	Give TWO advantages of the use of a cloud service to store and sync files.	(2)	Knowledge
3.9.3	Briefly explain the difference between <i>cloud backup services</i> and <i>cloud syncing services</i> .	(2)	Understanding

3.9.4	Advertisement C suggests that streaming can take place live online. Explain the term streaming.	(2)	Knowledge
3.10	Before proceeding with the installation of the new software update, the end-user licence agreement (EULA) must be agreed to. State TWO aspects that the end-user will typically agree to in the EULA.	(2)	Understanding/ Application
3.11	The station administration has employed a web designer. State TWO skills that a web designer must have to create a website.	(2)	Understanding

Section C – Information Management

Question 4 – Study the case study below and answer the questions that follow:		[21]	
<p>Increasingly, the Internet and big data are combined with mobility and social networking to allow companies to respond speedily to customer demands.</p> <p>Take the Red Robin restaurant chain in the United States. A while ago, they tested a new hamburger across the chain and gave their frontline waiters devices on which to input customer feedback – likes and dislikes – about the burger.</p> <p>Normally the testing, feedback and response loop would have taken 12 to 18 months. This time round they were able to get a new, improved burger on to the menu within four weeks.</p> <p>In South Africa, the Johannesburg Road Agency's (JRA) <i>Find and Fix</i> app allows motorists to report issues such as potholes and broken traffic lights as they encounter them, with one or two clicks on a smartphone.</p> <p>The internet of things is about four big trends: social, mobile, cloud and big data and people using data and information collected through things like mobility and sensors and the cloud to make smarter, better decisions or to provide better, quicker service.</p> <p>It helps to collect and analyse data faster, understand customers, to make decisions faster, and to service customers better.</p> <p>[Adapted from <i>The Mail and Guardian</i>, 4 June 2014 (http://mg.co.za/article/2014-06-04-inside-the-internet-of-things)]</p>			
4.1	Give one example from the extract (article) of data or information that requires the use of a questionnaire.	(1)	Application
4.2	Give an example from the case study of the following:		
	4.2.1 Data	(1)	Application
	4.2.2 Information	(1)	Application
4.3	What are the four big trends regarding the internet of things?	(4)	Understanding
4.4	Explain in your own words how the four big trends in 4.3 enable better decisions or quicker service.	(4)	Analysis
4.5	What device do you think did Red Robin restaurant gave their waiters to capture the customer feedback on?	(1)	Understanding/ Application
4.6	Explain why, using waiters and devices to input customer feedback instead of using the conventional response loop, reduced the time to have an improved burger on the menu.	(1)	Analysis/ Evaluation

Data collected through the Find and Fix app are saved in a database. Assume the database has the following layout:						
Date Reported		Location (GPS coordinates)	Problem (e.g. Traffic light or Pothole)	Maintenance team assigned	Date Fixed	
			Traffic light	Team 1		
4.7	Does the table contain a field that will be suitable for using as a primary key? Name the field and motivate your answer.				(2)	Understanding
4.8	Which field property could be used in the <i>Problem</i> and <i>Maintenance team assigned</i> fields to speed up and improve accurate data capturing?				(1)	Application
4.9	The city manager wants to improve service delivery. One indicator would be the turnaround time for fixing problems.					
	4.9.1 How would he be able to determine how long it took to fix a problem?				(1)	Application
	4.9.2 Will it be able to generate the turnaround time automatically from the database? Motivate your answer.				(1)	Analysis
4.10	Which fields will be populated through the motorists' smartphones?				(2)	Analysis/ Evaluation
	Total				[70]	

Memorandum

Section A – Short Questions

Question 1		[5]	Learner Mark
1.1	Utility software/Operating system ✓	1	
1.2	Biometrics/Biometric input ✓	1	
1.3	Drivers ✓	1	
1.4	Shareware/Demo/Trial ✓	1	
1.5	Plug-ins/Add-ons ✓	1	

Question 2		[5]	Learner Mark
2.1	False – primary key/Indexed (No duplicates) option ✓	1	
2.2	True ✓	1	
2.3	False – Africa* ✓	1	
2.4	False – identity ✓	1	
2.5	False – Spam ✓	1	

Section B – Integrated Scenario

Question 3		[39]	Learner Mark
3.1.1	Any ONE ✓ disadvantage of open source software <ul style="list-style-type: none"> No formal /dedicated support as compared to proprietary/Help manuals often not available/Not useful No one to hold responsible for shortcomings in the software Various versions of the same software available/Not standardised 	1	
3.1.2	Any ONE ✓ disadvantage of proprietary software <ul style="list-style-type: none"> Proprietary software is owned by a company and you need to buy a licence to use it/Expensive Cannot change source code to suit the specific needs of the company 	1	
3.2.1	Computers that have limited resources, ✓ such as no HDD of their own/depends on a server for resources	1	
3.2.2	Any TWO ✓✓ <ul style="list-style-type: none"> Cost effective/Cheaper hardware Physically smaller dimensions/Space considerations Consumes less power Only need to install/update software on one computer 	2	
3.3.1	A flash memory/storage device ✓ that can be used in a variety of devices ✓	2	
3.3.2	Any ONE ✓ <ul style="list-style-type: none"> Video output with sound HDMI is best suited for the output of high-definition/ resolution/quality video. 	1	
3.3.3	Any TWO ✓✓ <ul style="list-style-type: none"> Wi-Fi has a longer range than Bluetooth Wi-Fi has a higher data transfer speed than Bluetooth Bluetooth is used to transfer data between devices Wi-Fi is used to connect to (larger) networks, e.g. Internet 	2	
3.3.4	Concepts:	2	

	<ul style="list-style-type: none"> SSD – faster access to software/boot up ✓ HDD – (cheaper) to store large amounts of data/data that does not need fast access ✓ 		
3.4	Any TWO ✓✓ <ul style="list-style-type: none"> Security exposure Limited range Signal weakening due to structures, e.g. walls Low bandwidth/slower when many users share limited access points 	2	
3.5.1	Any TWO ✓✓ <ul style="list-style-type: none"> Permanent connection/Stable connection/Always on/24-7 Can phone and access the Internet at same time High bandwidth specifications are available Scalable solutions/packages Cost effective/affordable Higher download speed than upload speed 	2	
3.5.2	Router ✓	1	
3.5.3	Any TWO ✓✓ <ul style="list-style-type: none"> Internet connection may be down/both users must be connected to the Internet Both users need the same software Could be poor quality if connection is slow Cap could be used up quickly if using video/uses lots of data 	2	
3.6	Uniquely identifies/verifies ✓ the sender.	1	
3.7	Concepts: <ul style="list-style-type: none"> Content is accessed on multiple computers/peer-to-peer basis ✓ Transfer of files ✓ 	2	
3.8.1	Any TWO ✓✓ <ul style="list-style-type: none"> Log off your account/profile at the end of a session Make sure URL/website is secure Use a strong password Do not give out unnecessary personal information/details Make sure website is valid – check security certificate Shoulder surfing 	2	
3.8.2	Compulsory/mandatory to enter data in this field ✓	1	
3.8.3	Any TWO ✓✓ Use a: <ul style="list-style-type: none"> List box Combo box/drop down list Radio buttons Coding to test/validate Check box Clearly indicate the format in the label/message Supplying a default value/hint 	2	
3.8.4	Any TWO ✓✓ The password should contain: <ul style="list-style-type: none"> upper-case and lower-case characters a combination of numeric and alphabetical characters special characters at least 8 or more characters 	2	

	<ul style="list-style-type: none"> no personal/predictable information no standard dictionary words no patterns/repetition 		
3.9.1	A place where Wi-Fi/wireless connection to the Internet is available. ✓	1	
3.9.2	Any TWO ✓✓ <ul style="list-style-type: none"> To have access from multiple devices Accessible from point where there is an Internet connection To be able to share files To make a duplicate copy off-site/backup when device is lost Less hardware requirements/does not use your own storage space 	2	
3.9.3	Cloud backup service: (Any ONE ✓) <ul style="list-style-type: none"> There is a proper backup schedule Hard drive/specified files are backed up first Duplicate copies of changed files are made Files are encrypted/for your access only/private Cloud syncing services: ✓ <ul style="list-style-type: none"> Software monitors the changes made to your files and mirrors the changes to the online storage/back to the device/all devices will have the same copy 	2	
3.9.4	Streaming: <ul style="list-style-type: none"> Watching movies online/from website ✓ as it is streamed/in real time ✓/do not need to download first/not saved locally 	2	
3.10	EULA: Any TWO ✓✓ <ul style="list-style-type: none"> Agree to the number of computers on which to install software Agree/disagree to the distribution of the software/copyright Agree to renewal of license Accept that the company will not be liable for defects in software Not to use software for illegal purposes Actions that can be taken for violation Not to unethically use the software Agree to allow the company to collect usage data 	2	
3.11	Any TWO ✓✓ <ul style="list-style-type: none"> HTML skills Graphic design skills Knowledge on HCI principles Creativity and imagination Knowledge on advances in technology 	2	

Section C – Information Management

Question 4		[21]	Learner Mark
4.1	<ul style="list-style-type: none"> Customer feedback on their likes and dislikes Motorists reporting potholes and broken traffic lights (ANY ONE) ✓ 	1	
4.2.1	<ul style="list-style-type: none"> Input from customers 	1	

	<ul style="list-style-type: none"> • Customer feedback, likes/dislikes • Which traffic light is broken • Where a pothole is, etc. (ANY ONE) ✓		
4.2.2	The processing and analysis of the data ✓	1	
4.3	<ul style="list-style-type: none"> • Social data ✓ • Mobile data ✓ • Cloud data ✓ • Big data ✓ 	4	
4.4	<ul style="list-style-type: none"> • Social data – information that social media users publicly share and that includes metadata such as the user's location and biographical data ✓ • Mobile data – data transfer to and from a smartphone via cellular carriers. Mobile data service is a built-in option in tablets and can be added to laptops ✓ • Cloud data – digital data stored in the "Cloud"/Internet or on a server ✓ • Big data – extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions ✓ 	4	
4.5	<ul style="list-style-type: none"> • Tablets • Smartphones (ANY ONE) ✓	1	
4.6	<ul style="list-style-type: none"> • Waiters can collect data and information immediately from customers ✓ Accept other valid response	1	
4.7	Yes – Location ✓ GPS coordinates are unique ✓	2	
4.8	Lookup field ✓	1	
4.9.1	<ul style="list-style-type: none"> • Use the Date Fixed Date Reported fields • Subtract the Date Fixed from the Date Reported. (ANY ONE) ✓	1	
4.9.2	Yes <ul style="list-style-type: none"> • Insert a calculated field in a table • Create a query and create a calculation (ANY ONE) ✓	1	
4.10	Date Reported, Location, Problem <ul style="list-style-type: none"> • One or more correct fields mentioned ✓ • Only correct fields mentioned ✓ 	2	










Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total	Cognitive Demand/Comments
Q1.1	1				
Q1.2	1				
Q1.3	1				
Q1.4	1				
Q1.5	1				
Q2.1	1				
Q2.2	1				
Q2.3		1			
Q2.4	1				
Q2.5	1				
Q3.1	1				
Q3.2	1				
Q3.2.1	1				
Q3.2.2	2				
Q3.3.1	2				
Q3.3.2		1			
Q3.3.3		2			
Q3.3.4		2			
Q3.4		2			
Q3.5.1	2				
Q3.5.2	1				
Q3.5.3		2			
Q3.6	1				
Q3.7	2				
Q3.8.1			2		
Q3.8.2		1			
Q3.8.3			2		
Q3.8.4	2				
Q3.9.1	1				
Q3.9.2	2				
Q3.9.3		2			
Q3.9.4	2				
Q3.10		2			
Q3.11		2			
Q4.1		1			
Q4.2.1		1			
Q4.2.2		1			
Q4.3		4			
Q4.4			4		
Q4.5		1			
Q4.6			1		
Q4.7		2			
Q4.8		1			
Q4.9.1		1			
Q4.9.2			1		
Q4.10			2		
Total	29	29	12	70	
%	41	41	18		


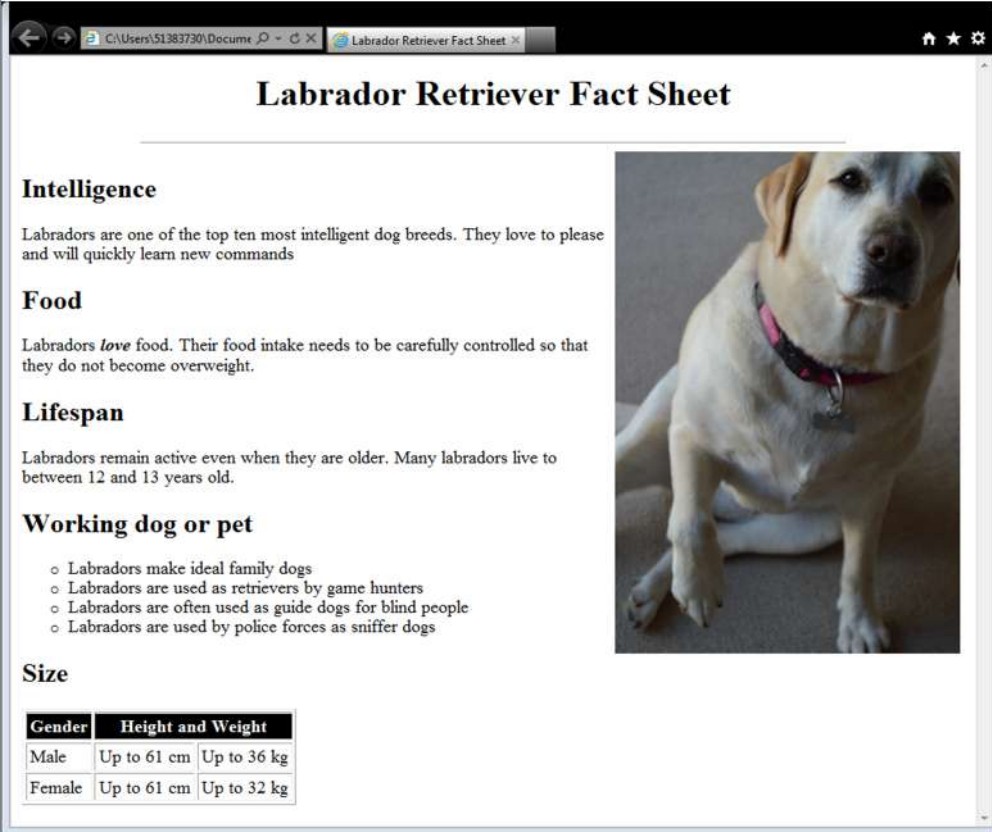

Grade 12 Term 3 – Practical Test

Task Description	Comments
This following task is a Grade 12 Practical term 3 Test that focuses on HTML.	Although assessment in Grade 12 should focus on Grade 12 content and skills, HTML content and skills from Grade 11 (which is the foundation that is built upon in Grade 12) must also be revised continuously and may also form part of the test.

Grade 12 Term 3	Marks: [45]	Time: 45 minutes
Instructions: 1. Question numbers are inserted as comments in the coding to show approximately where the answer(s) should be inserted. 2. Use the attached HTML sheet as a reference.		Scenario: Interesting Facts About Labradors

Question 1	Open the file 1Loco.html in a text editor or html editor such as Notepad++.  1Loco.html <ul style="list-style-type: none"> Review your answers in a web browser. Your final web page should look similar to the one shown below. 	[30]	Cognitive Demand/ Comments												
<div> <h3>Modern South African Electric Locomotives</h3> <p>Transnet Freight Rail are in the process of modernising their locomotives. Information on the most recent electric locomotives can be found in the table below.</p> <h4>Interesting information</h4> <table border="1"> <thead> <tr> <th>Class</th><th>Type</th><th>Specifications</th><th>Photograph</th></tr> </thead> <tbody> <tr> <td>19E</td><td>Dual voltage Bo-Bo</td><td> <ul style="list-style-type: none"> Weight: 86 368 kg Brakes: Air, Rheostatic and Regenerative Max Speed: 120 km/h </td><td></td></tr> <tr> <td>20E</td><td>Dual voltage Bo-Bo</td><td> Weight: 104 200 kg Brakes: Air, Rheostatic and Regenerative Max Speed: 100 km/h </td><td></td></tr> </tbody> </table> <h4>References</h4> <p>By User:Eugene Arner - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=11985342 By Col André Kritzing, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=44600063</p> </div>			Class	Type	Specifications	Photograph	19E	Dual voltage Bo-Bo	<ul style="list-style-type: none"> Weight: 86 368 kg Brakes: Air, Rheostatic and Regenerative Max Speed: 120 km/h 		20E	Dual voltage Bo-Bo	Weight: 104 200 kg Brakes: Air, Rheostatic and Regenerative Max Speed: 100 km/h		Example of structured question – consists of a stem (which describes a situation followed by a series of related questions). It leads learners through the question and they are less likely to stray from the subject or miss the point. Explicit, direct instructions – mostly no or little interpretation required – everything needed to answer the questions are immediately available. Learners' tasks are clearly indicated. Mostly, each instruction can be done in isolation, however, care has to be taken that failure in one part does not affect the learners' answers in subsequent parts.
Class	Type	Specifications	Photograph												
19E	Dual voltage Bo-Bo	<ul style="list-style-type: none"> Weight: 86 368 kg Brakes: Air, Rheostatic and Regenerative Max Speed: 120 km/h 													
20E	Dual voltage Bo-Bo	Weight: 104 200 kg Brakes: Air, Rheostatic and Regenerative Max Speed: 100 km/h													
<div>  1LocoAns.html  SARClass19ESmall.jpg g </div> Picture Data Files:															
1.1	Add HTML code to display the text 'Modern South African Electric Locomotives' in the browser tab.	(2)	Knowledge D1												

1.2	Change the background colour of the page which is similar to the screenshot above.	(2)	<i>Knowledge, D2</i> D2 – due to the fact that the learner has to know the exact position for the page colour.
1.3	Format the level 1 heading 'Modern South African Electric Locomotives' as follows: <ul style="list-style-type: none"> Change the font to Comic Sans MS Change the font size to 5 and bold the text 		<i>Knowledge, D2</i> D2 – multiple attributes would increase the difficulty level.
1.4	Insert a red horizontal line immediately above the heading 'Interesting information'. The line should be set to 60% of the screen width.	(3)	<i>Knowledge, D2</i> D2 – the attribute is not a specific size, but a %. Possibly different from general classwork.
1.5	Make the following changes to the table below the heading 'Interesting Information':		
1.5.1	Give the table a size 2 border	(1)	<i>Knowledge, D1</i>
1.5.2	Ensure that there is a space of 3 between cell contents and the cell borders.	(1)	<i>Understanding, D2</i> The question refers to cell padding, but because it is not stated, the cognitive level is a bit higher
1.5.3	Edit the HTML code so that the text 'Class' in the first row of the table displays as a table heading.	(1)	<i>Understanding, D1</i> Understanding that the table cell should become a table heading.
1.5.4	Align the text in the second and third rows of the table to the top of the row.	(2)	<i>Understanding, D1</i> The thinking involved regarding which rows should be aligned increases the cognitive level to understanding.
1.5.5	The text in the third cell of the second row ('Weight: ... 120 km/h') should display as a bulleted list with square bullets. Correct the HTML code to ensure that the list displays correctly.	(3)	<i>Understanding, D2</i> D2: Changing the type of bullet is also more difficult
1.6	Add HTML code to create a bookmark 'ref' linked to the heading 'References'.	(3)	<i>Understanding, D2</i>
1.7	Add HTML code to hyperlink the text '19E' in the second row of the table to the bookmark 'ref'.	(3)	<i>Understanding, D2</i>
1.8	Add HTML code to add the image Class20ESmall.jpg to the third row of the table. The height of the image should be 60.	(4)	<i>Knowledge, D2</i> D2 – Difficult content to insert an image.
1.9	Add your name and surname in a comment immediately before the closing body tag.	(1)	<i>Knowledge, D1</i>

Question 2	<p>Open the file 2Labrador.html in a text or html editor such as Notepad++.</p> <p style="text-align: center;"> 2Labrador.html</p>	[15]	Cognitive Demand/Comments
<p>The screenshot below shows the completed webpage when displayed in the Internet Explorer browser.</p> 			<p>Application and Analysis</p> <p>Though some guidance is provided, learners need to analyse the completed example to see how it differs from what is provided in the screenshot, which changes to make and where to make the changes and apply the knowledge and skills to make the website look as the one provided in the screenshot.</p> <p>Analysis & Evaluation D2</p>
<p>Your task is to edit the html file 2Labrador so that it resembles the screenshot on the right.</p> <p>Note:</p> <ul style="list-style-type: none"> • Alignment, size and text formatting displayed on the page. • Add html tags and suitable attributes where necessary. • You should make at least 15 changes to the document. <p>Picture Data File:</p> <p> Holly.JPG</p> <p>Information adapted from 'Seven Interesting Facts About Labradors' (http://www.pets4homes.co.uk/pet-advice/seven-interesting-facts-about-labradors.html)</p>			

Memorandum

Question 1

No	Criteria	Max Mark	Cognitive Level/Comments
1Locos.html <i>Attributes and values only earn marks if applied to the correct tag</i> <i>Ignore if attributes are also added to closing tags</i> <i>Mark from the HTML code but check in a web browser</i>			
1.1	Title <code><title>Modern South African Electric Locomotives</title></code> <ul style="list-style-type: none"> Added <code>< title > . . . < / title ></code> between <code>< head > . . . < / head ></code> ✓ Added text 'Modern South African Electric Locomotives' <code>< title > . . . < / title ></code> ✓ 	2	
1.2	Background colour <code><body bgcolor="yellow"></code> <ul style="list-style-type: none"> Attribute and value added to opening <code><body></code> tag ✓ 	2	
1.3	Font type and size <code><h1>Modern South African Electric Locomotives</h1></code> <ul style="list-style-type: none"> <code></code> tags added correctly ✓ Face attribute and value correct ✓ Size attribute and value correct ✓ Text bold ✓ <i>Notes to marker:</i> <i>Only award the first mark if the font tags are nested correctly</i> <i>Font tags must be inside the h1 tags to earn first mark</i>	1 1 1 1	
1.4	Horizontal line <code><hr color="red" width="60%" /></code> <ul style="list-style-type: none"> <code><hr></code> tag added ✓ Colour attribute and value correct ✓ Width attribute and value correct ✓ 	1 1 1	
1.5.1	Table border <code><table border="2" cellpadding="3"></code> <ul style="list-style-type: none"> Attribute and value added to opening table tag ✓ 	1	
1.5.2	Cell padding <code><table border="2" cellpadding="3"></code> <ul style="list-style-type: none"> Attribute and value added to opening table tag ✓ 	2	
1.5.3	<code><th>Class</th></code> <ul style="list-style-type: none"> <code>td</code> tags changed to <code>th</code> tags ✓ <i>Notes to marker:</i> <i>Can also be answered using b tags and center alignment of text</i>	1	
1.4.4	Text alignment <code><tr valign="top"></code> <ul style="list-style-type: none"> Attribute and value added correctly ✓ To both <code>tr</code> tags (2nd and 3rd rows) ✓ 	1 1	

1.4.5	Unordered list <code><ul type="square"></code> <code>Weight: 86 368 kg</code> <code>Brakes: Air, Rheostatic and Regenerative</code> <code>Max Speed: 120 km/h</code> <code></code> <ul style="list-style-type: none"> Attribute and value added to opening ul tag ✓ <code>...</code> tags added ✓ To all three list items ✓ <i>Notes to marker</i> <i>Award the second mark if li tags added to at least one list item</i> <i>The closing li tag can be omitted</i>	1 1 1	
1.6	Bookmark/Anchor and Link <code><h2>References</h2></code> <ul style="list-style-type: none"> a tags added correctly ✓ Bookmark 'ref' created ✓ Applied to text 'References' ✓ <i>Note to marker</i> <i>Can also use id="ref"</i>	1 1 1	
1.7	Link <code><td>19E</td></code> <ul style="list-style-type: none"> Link created (a tags added correctly) ✓ To bookmark 'ref' ✓ Applied to text '19E' ✓ 	1 1 1	
1.8	Image <code><td></code> <code></td></code> <ul style="list-style-type: none"> Image tag added ✓ To third row of table ✓ Image source Class20ESmall.jpg ✓ Image height is 60 ✓ 	1 1 1 1	
1.9	Comment <code><!-- Name and surname --></code> <ul style="list-style-type: none"> Name and surname in a comment <input type="checkbox"/> above the closing <code></body></code> tag ✓ 	1	
Total for Question 1		[30]	

Question 2

No	Criteria	Max Mark	Learner Mark
2Labrador.html <i>Mark from the browser. Award marks if the element displays correctly. Accept any 14 correct answers.</i>			
2.1	Title <ul style="list-style-type: none"> Text added to title tags ✓✓ 	2	
	Level 1 Heading <ul style="list-style-type: none"> Level 1 heading centred ✓ 	1	
	Horizontal Line <ul style="list-style-type: none"> Horizontal line added under level 1 heading <input type="checkbox"/> Width of horizontal line <100% ✓ 	2	
	Dog Image (aka Holly) <ul style="list-style-type: none"> Image of dog resized ✓ Aspect ratio of image maintained (approx. 0.67) ✓ Image of dog aligned on right ✓ 	3	
	Text formatting <ul style="list-style-type: none"> Word 'love' displayed in italics ✓ Word 'love' displayed in bold ✓ 	2	
	Bulleted list <ul style="list-style-type: none"> Bulleted list under heading 'Working dog or pet' ✓ Circle bullet used ✓ 	2	
	Table formatting <ul style="list-style-type: none"> Table border displays ✓ Cell padding increased ✓ Colspan attribute applied to second cell in first row ✓ First row has black background ✓ First row text white font colour ✓ 	5	
Total for Question 2			[15]

Cognitive Analysis

Cognitive Level	Lower Order	Middle Order	Higher Order	Total
Q1				
Q1.1	2			2
Q1.2	2			2
Q1.3	4			4
Q1.4	3			3
Q1.5				
Q1.5.1	1			1
Q1.5.2		1		1
Q1.5.3		1		1
Q1.5.4		2		2
Q1.5.5		3		3
Q1.6		3		3
Q1.7		3		3
Q1.8	4			4
Q1.9	1			1
Q2			15	15
Total	17	13	15	45
	37,7%	29%	33,3%	

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