

Exemplar Book on Effective Questioning

Accounting

Compiled by the Statistical Information and Research (SIR) Unit

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PREFACE

The National Senior Certificate (NSC) examinations are set and moderated in part using tools which specify the types of cognitive demand and the content deemed appropriate for Accounting at Grade 12 level. Until recently, the level of cognitive demand made by a question was considered to be the main determinant of the overall level of cognitive challenge of an examination question.

However, during various examination evaluation projects conducted by Umalusi from 2008-2012, evaluators found the need to develop more complex tools to distinguish between questions which were categorised at the same cognitive demand level, but which were not of comparable degrees of difficulty. For many subjects, for each type of cognitive demand a three-level degree of difficulty designation, *easy, moderate and difficult* was developed. Evaluators first decided on the type of cognitive process required to answer a particular examination question, and then decided on the degree of difficulty, *as an attribute of the type of cognitive demand*, of that examination question.

Whilst this practice offered wider options in terms of *easy, moderate and difficult* levels of difficulty for each type of cognitive demand overcame some limitations of a one-dimensional cognitive demand taxonomy, other constraints emerged. Bloom's Taxonomy of Educational Objectives (BTEO) (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) and the Revised Bloom's Taxonomy are based on the assumption that a cumulative hierarchy exists between the different categories of cognitive demand (Bloom et al., 1956; Bloom, Hastings & Madaus, 1971). The practice of 'levels of difficulty' did not necessarily correspond to a hierarchical model of increasing complexity of cognitive demand. A key problem with using the level of difficulty as an attribute of the type of cognitive demand of examination questions is that, questions recognised at a higher level of cognitive demand are not necessarily categorised as more difficult than other questions categorised at lower levels of cognitive demand. For example, during analyses a basic recognition or

recall question could be considered more difficult than an easy evaluation question.

Research further revealed that evaluators often struggled to agree on the classification of questions at so many different levels. The finer categorization for each level of cognitive demand and the process of trying to match questions to pre-set definitions of levels of difficulty made the process of making judgments about cognitive challenge overly procedural. The complex two-dimensional multi-level model also made findings about the cognitive challenge of an examination very difficult for Umalusi Assessment Standards Committee (ASC) to interpret.

In an Umalusi Report, *Developing a Framework for Assessing and Comparing the Cognitive Challenge of Home Language Examinations* (Umalusi, 2012), it was recommended that the type and level of cognitive demand of a question and the level of a question's difficulty should be analysed separately. Further, it was argued that the ability to assess cognitive challenge lay in experts' abilities to recognise subtle interactions and make complicated connections that involved the use of multiple criteria simultaneously. However, the tacit nature of such judgments can make it difficult to generate a common understanding of what constitutes criteria for evaluating the cognitive challenge of examination questions, despite descriptions given in the policy documents of each subject.

The report also suggested that the Umalusi external moderators and evaluators be provided with a framework for thinking about question difficulty which would help them identify where the main sources of difficulty or ease in questions might reside. Such a framework should provide a common language for evaluators and moderators to discuss and justify decisions about question difficulty. It should also be used for building the capacity of novice or less experienced moderators and evaluators to exercise the necessary expert judgments by making them more aware of key aspects to consider in making such judgments.

The revised Umalusi examination moderation and evaluation instruments for each subject draw on research and literature reviews, together with the knowledge gained through the subject workshops. At these workshops, the proposed revisions were discussed with different subject specialists to attain a common understanding of the concepts, tools and framework used; and to test whether the framework developed for thinking about question difficulty 'works' for different content subjects. Using the same framework to think about question difficulty across subjects will allow for greater comparability of standards across subjects and projects.

An important change that has been made to the revised examination evaluation instrument is that the analysis of *the type of cognitive demand* of a question and analysis of *the level of difficulty* of each question are now treated as two separate judgments involving two different processes. Accordingly, the revised examination evaluation instrument now includes assessment of difficulty as well as cognitive demand.

LIST OF ABBREVIATIONS

Abbreviation	Full name
ASC	Assessment Standards Committee
BTEO	Bloom's Taxonomy of Educational Objectives
CAPS	Curriculum Assessment Policy Statement
DBE	Department of Basic Education
FET	Further Education and Training
IEB	Independent Examinations Board
NSC	National Senior Certificate
NQF	National Qualifications Framework
QAA	Quality Assurance of Assessment
QCC	Qualifications, Curriculum and Certification
SIR	Statistical Information and Research

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1. INTRODUCTION

The rules of assessment are essentially the same for all types of learning because, to learn is to acquire knowledge or skills, while to assess is to identify the level of knowledge or skill that has been acquired (Fiddler, Marienau & Whitaker, 2006). Nevertheless, the field of assessment in South Africa and elsewhere in the world is fraught with contestation. A review of the research literature on assessment indicates difficulties, misunderstanding and confusion in how terms describing educational measurement concepts, and the relationships between them, are used (Frisbie, 2005).

Umalusi believes that if all role players involved in examination processes can achieve a common understanding of key terms, concepts and processes involved in setting, moderating and evaluating examination papers, much unhappiness can be avoided. This exemplar book presents a particular set of guidelines for both novice and experienced Accounting national examiners, internal and external moderators, and evaluators to use in the setting, moderation and evaluation of examinations at the National Senior Certificate (NSC) level.

The remainder of the exemplar book is organised as follows: First, the context in which the exemplar book was developed is described (Part 2), followed by a statement of its purpose (Part 3). Brief summaries of the roles of moderation and evaluation (Part 4) and cognitive demand (Part 5) an assessment. Examination questions selected from the NSC Accounting examinations of assessment bodies, the Department of Basic Education (DBE), and/or the Independent Examinations Board (IEB) are used to illustrate how to identify different levels of cognitive demand as required by the Curriculum and Assessment Policy Statement (CAPS) Accounting document (Part 6). Part 7 explains the protocols for identifying different levels of difficulty within a question paper. Application of the Umalusi framework for determining difficulty described in Part 7 is

illustrated, with reasons, by another set of questions from a range of Accounting examinations (Part 8). Concluding remarks complete the exemplar book (Part 9).

2. CONTEXT

Umalusi has the responsibility to quality assure qualifications, curricula and assessments of National Qualification Framework (NQF) Levels 1 - 5. This is a legal mandate assigned by the *General and Further Education and Training Act (Act 58 of 2001)* and the *National Qualification Framework Act (Act 67 of 2008)*. To operationalize its mandate, Umalusi, amongst other things, conducts research and uses the findings of this research to enhance the quality and standards of curricula and assessments.

Since 2003, Umalusi has conducted several research studies that have investigated examination standards. For example, Umalusi conducted research on the NSC examinations, commonly known as 'Matriculation' or Grade 12, in order to gain an understanding of the standards of the new examinations (first introduced in 2008) relative to those of the previous NATED 550 Senior Certificate examinations (Umalusi, 2009a, 2009b). Research undertaken by Umalusi has assisted the organisation to arrive at a more informed understanding of what is meant by assessing the cognitive challenge of the examinations and of the processes necessary for determining whether the degree of cognitive challenge of examinations is comparable within a subject, across subjects and between years.

Research undertaken by Umalusi has revealed that different groups of examiners, moderators and evaluators do not always interpret cognitive demand in the same way, posing difficulties when comparisons of cognitive challenge were required. The research across all subjects also showed that

using the type and level of cognitive demand of a question *only* as measure for judging the cognitive challenge of a question is problematic because cognitive demand levels on their own do not necessarily distinguish between degrees of difficulty of questions.

The new Umalusi framework for thinking about question difficulty described in this exemplar book is intended to support all key role players in making complex decisions about what makes a particular question challenging for Grade 12 examination candidates.

3. THE PURPOSE OF THE EXEMPLAR BOOK

The overall goal of this exemplar book is to ensure the consistency of standards of examinations across the years in the Further Education and Training (FET) sub-sector and Grade 12, in particular. The specific purpose is to build a shared understanding among teachers, examiners, moderators, evaluators, and other stakeholders, of methods used for determining the type and level of cognitive demand as well as the level of difficulty of examination questions.

Ultimately, the common understanding that this exemplar book seeks to foster is based on the premise that the process of determining the type and level of cognitive demand of questions and that of determining the level of difficulty of examination questions are two separate judgements involving two different processes, both necessary for evaluating the cognitive challenge of examinations. This distinction between cognitive demand and difficulty posed by questions needs to be made in the setting, moderation, evaluation and comparison of Accounting examination papers.

The exemplar book includes an explanation of the new Umalusi framework which is intended to provide all role-players in the setting of Accounting examinations with a common language for thinking and talking about question

difficulty. The reader of the exemplar book is taken through the process of evaluating examination questions; first in relation to determining the type and level of cognitive demand made by a question, and then in terms of assessing the level of difficulty of a question. This is done by providing examples of a range of questions which make different types of cognitive demands on candidates, and examples of questions at different levels of difficulty.

Each question is accompanied by an explanation of the reasoning behind why it was judged as being of a particular level of cognitive demand or difficulty, and the reasoning behind the judgements made is explained. The examples of examination questions provided were sourced by Accounting evaluators from previous DBE and the IEB Accounting question papers, pre- and post- the implementation of CAPS during various Umalusi workshops.

This exemplar book is an official document. The process of revising the Umalusi examination evaluation instrument and of developing a framework for thinking about question difficulty for both moderation and evaluation purposes has been a consultative one, with the DBE and the IEB assessment bodies. The new framework for thinking about question difficulty is to be used by Umalusi in the moderation and evaluation of Grade 12 Accounting examinations, and by all the assessment bodies in the setting of the question papers, in conjunction with the CAPS documents.

4. MODERATION AND EVALUATION OF ASSESSMENT

A fundamental requirement, ethically and legally, is that assessments are fair, reliable and valid (American Educational Research Association [AERA], American Psychological Association [APA] and National Council on Measurement in Education [NCME], 1999). Moderation is one of several quality assurance assessment processes aimed at ensuring that an assessment is fair,

reliable and valid (Downing & Haladyna, 2006). Ideally, moderation should be done at all levels of an education system, including the school, district, provincial and national level in all subjects.

The task of Umalusi examination **moderators** is to ensure that the quality and standards of a particular examination are maintained each year. Part of this task is for moderators to alert examiners to details of questions, material and/or any technical aspects in examination question papers that are deemed to be inadequate or problematic and that therefore, challenge the validity of that examination. In order to do this, moderators need to pay attention to a number of issues as they moderate a question paper – these are briefly described below.

Moderation of the technical aspects of examination papers includes checking correct question and/or section numbering, and ensuring that visual texts and/or resource material included in the papers are clear and legible. The clarity of instructions given to candidates, the wording of questions, the appropriateness of the level of language used, and the correct use of terminology need to be interrogated. Moderators are expected to detect question predictability, for example, when the same questions regularly appear in different examinations, and bias in examination papers. The adequacy and accuracy of the marking memorandum (marking guidelines) need to be checked to ensure that they reflect and correspond with the requirements of each question asked in the examination paper being moderated.

In addition, the task of moderators is to check that papers adhere to the overall examination requirements as set out by the relevant assessment body with regard to the format and structure (including the length, type of texts or reading selections prescribed) of the examination. This includes assessing compliance with assessment requirements with regard to ensuring that the content is examined at an appropriate level and in the relative proportions (weightings) of content and/or skills areas required by the assessment body.

The role of Umalusi examination **evaluators** is to perform analysis of examination papers after they have been set and moderated and approved by the Umalusi moderators. This type of analysis entails applying additional expert judgments to evaluate the quality and standard of finalised examination papers before they are written by candidates in a specific year. However, the overall aim of this evaluation is to judge the comparability of an examination against the previous years' examination papers to ensure that consistent standards are being maintained over the years.

The results of the evaluators' analyses, and moderators' experiences provide the Umalusi Assessment Standards Committee (ASC) with valuable information which is used in the process of statistical moderation of each year's examination results. Therefore, this information forms an important component of essential qualitative data informing the ASC's final decisions in the standardisation of the examinations.

In order for the standardisation process to work effectively, efficiently and fairly, it is important that examiners, moderators and evaluators have a shared understanding of how the standard of an examination paper is assessed, and of the frameworks and main instruments that are used in this process.

5. COGNITIVE DEMANDS IN ASSESSMENT

The *Standards for educational and psychological testing* (AERA, APA, & NCME, 1999) require evidence to support interpretations of test scores with respect to cognitive processes. Therefore, valid, fair and reliable examinations require that the levels of cognitive demand required by examination questions are appropriate and varied (Downing & Haladyna, 2006). Examination papers should not be dominated by questions that require reproduction of basic

information, or replication of basic procedures, and under-represent questions invoking higher level cognitive demands.

Accordingly, the Grade 12 CAPS NSC subject examination specifications state that examination papers should be set in such a way that they reflect proportions of marks for questions at various level of cognitive demand. NSC examination papers are expected to comply with the specified cognitive demand levels and weightings. NSC examiners have to set and NSC internal moderators have to moderate examination papers as reflecting the proportions of marks for questions at different levels of cognitive demand as specified in the documents. Umalusi's external moderators and evaluators are similarly tasked with confirming compliance of the examinations with the CAPS cognitive demand levels and weightings, and Umalusi's revised examination evaluation instruments continue to reflect this requirement.

Despite that, subject experts, examiners, moderators and evaluators are familiar with the levels and explanations of the types of cognitive demand shown in the CAPS documents, Umalusi researchers have noted that individuals do not always interpret and classify the categories of cognitive demand provided in the CAPS the same way. In order to facilitate a common interpretation and classification of the cognitive demands made by questions, the next section of this exemplar book provides a clarification of each cognitive demand level for Accounting followed by illustrative examples of examination questions that have been classified at that level of cognitive demand.

6. EXPLANATIONS AND EXAMPLES OF QUESTIONS ASSESSED AT THE DIFFERENT COGNITIVE DEMAND LEVELS IN THE ACCOUNTING TAXONOMY ACCORDING TO CAPS

The taxonomies of cognitive demand for each school subject in the CAPS documents are mostly based on the Revised Bloom's Taxonomy (Anderson and Krathwohl, 2001) but resemble the original Bloom's taxonomy in that categories of cognitive demand are arranged along a single continuum. Bloom's Taxonomy of Educational Objectives (BTEO) (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) and the Revised Bloom's Taxonomy imply that each more advanced or successive category of cognitive demand subsumes all categories below it. The CAPS Taxonomies of Cognitive Demand make a similar assumption (Crowe, 2012).

Note:

In classifying the type and level of cognitive demand, each question is classified at the highest level of cognitive process involved. Thus, although a particular question involves recall of knowledge, as well as comprehension and application, the question is classified as an 'analysis' question if that is the highest level of cognitive process involved. If evaluating' is the highest level of cognitive process involved, the question as a whole should be classified as an 'evaluation' question. On the other hand, if one of more sub-sections of the question and the marks allocated for each sub-section can stand independently, then the level of cognitive demand for each sub-section of the question should be analysed separately.

The CAPS documents for many subjects also give examples of descriptive verbs that can be associated with each of the levels of cognitive demand. However, it is important to note that such 'action verbs' can be associated with more than one cognitive level depending on the context of a question.

The Accounting CAPS document states that Grade 12 NSC Accounting examination papers should examine three levels of cognitive demand (Table 1).

TABLE 1: THE TAXONOMY OF COGNITIVE DEMAND LEVELS FOR THE ACCOUNTING NSC EXAMINATIONS

Cognitive levels	Activity
Knowledge and comprehension Levels 1 and 2	Basic thinking skills (e.g. factual recall, low-level comprehension and low-level application)
Application and analysis Levels 3 and 4	Moderately high thinking skills (e.g. more advanced application, interpretation and low-level analysis)
Synthesis and evaluation Levels 5 and 6	Higher order thinking skills (e.g. advanced analytical skills, evaluation and creative problem-solving)

SOURCE: CAPS ACCOUNTING GRADES 10 - 12 (DBE, 2011, P41).

To facilitate reading of this section, each of the above cognitive demand levels in the accounting Taxonomy is explained, and the explanation is followed by at least **three** examples of questions from previous Accounting NSC examinations classified at each of the levels of cognitive demand shown in Table 1 above. These examples were selected to represent the **best and clearest** examples of each level of cognitive demand that the accounting experts could find. The discussion below each example question explains the reasoning processes behind the classification of the question at that particular type of cognitive demand (Table 2 to Table 5).

Note:

Be mindful that analyses of *the level of cognitive process* of a question and *the level of difficulty* of each question are to be treated as two separate judgments involving two different processes. Therefore, whether the question is easy or difficult should not influence the categorisation of the question in terms of the type and level of cognitive demand. Questions should NOT be categorised as higher order evaluation/synthesis questions because they are difficult questions. Some questions involving the cognitive process of recall or recognition may be more difficult than other recall or recognition questions. Not all comprehension questions are easier than questions involving analysis or synthesis. Some comprehension questions may be very difficult, for example explanation of complex scientific processes. For these reasons, you need to categorise the level of difficulty of questions separately from identifying the type of cognitive process involved.

Table 2: Examples of lower- Order questions at level 1: Knowledge (factual recall)

Example 1:	
Question 6.1.1: November 2011 DBE	
What do the letters FIFO stand for? (2)	
Discussion:	
This question requires recall of basic knowledge regarding an accepted stock valuation method. The acronym FIFO is one that would have been used repeatedly in class as it is a widely used abbreviation in the business/accounting world. Thus, answering the question involves retrieving repeatedly taught facts from memory.	
Memorandum/Marking guidelines	
First In First Out or ✓✓ [2] Stock bought first is sold before the later stock purchased	
Example 2:	
Question 2.1: November 2013 DBE	
REQUIRED: Choose a cost category from COLUMN B that matches a description in COLUMN A. Write only the letter (A–D) next to the question number (2.1.1–2.1.4) in the ANSWER BOOK.	
COLUMN A	COLUMN B
2.1.1 Raw materials used in the factory	A. direct labour cost
2.1.2 Advertising expenses	B. factory overhead cost
2.1.3 Office telephone account	C. selling and distribution cost
2.1.4 Salary of the factory foreman	D. administration cost
	E. direct material cost
(4 X 2) = (8)	
Discussion:	
To choose the correct option, candidates have to recall basic information on cost concepts, and recognise which cost description provided in column A matches each category in column B. Thus, the question requires factual recall and recognition.	
Memorandum/Marking guidelines	
2.1.1	E (Direct labour) ✓✓
2.1.2	C (Selling and distribution) ✓✓
2.1.3	D(Administration) ✓✓
2.1.4	B (Factory overhead) ✓✓
[8]	
Example 3:	

Question 3.1: November 2013 DBE

3.1 Give ONE word/term for each of the following descriptions by choosing a word/term from the list below. Write only the word/term next to the question number (3.1.1–3.1.4) in the ANSWER BOOK.

current asset; non-current asset; income; expense; current liability; non-current liability

3.1.1 Profit on the sale of an asset is a/an ...

3.1.2 The portion of a loan that will have to be repaid within a year is a/an ...

3.2.3 Consumable stores on hand are a/an ...

3.2.4 Interest on a bank overdraft is a/an ...

Discussion:

To choose the correct term, candidates have to recall basic information on financial statements terms, and recognise which appropriate category matches the description. The question thus requires recall of factual knowledge which should have been taught and learnt in class from Grade 10.

Memorandum/Marking guidelines

3.1.1	Income	✓✓
3.1.2	Current liability	✓✓
3.1.3	Current assets	✓✓
3.1.4	Expense	✓✓

[8]

Table 3: Examples of lower- Order questions at level 2: Comprehension

Example 1:**Question 2.1: November 2010 DBE**

Explain one reasons why it is important for business to prepare a Bank Reconciliation Statement each month? (2)

Discussion:

To explain the reason for preparing the statement, candidates have to recall information on bank reconciliations and understand what the purpose of a Bank Reconciliation Statement is. Thus, the cognitive processes associated with this question are recall and comprehension.

Memorandum/Marking guidelines

Good explanation = 2 marks; satisfactory = 1

Expected response for 2 marks: ✓✓

- Improves internal control by minimizing fraud or error because records are checked to an external source.
- Improves internal control by identifying outstanding cheques and deposits.
- To compare the books of the business with that of the bank in order to detect errors and/ or dishonesty at an early stage.
- The books of the business and that of the bank should agree and the bank balance should be the same in both books.
- To reconcile the bank balance to the bank statement.

Expected responses for 1 mark:

- Internal control purposes.
- To reconcile the bank account.
- To identify the correct bank balance / update records.
- To identify outstanding cheques and deposits.
- Errors and dishonesty can be detected on a monthly basis.

Example 2:**Question 4.5: November 2011 IEB Paper 1 (adapted)**

Explain two internal control measures that a business could implement to reduce losses due to bad debts. (2)

Discussion:

To answer this question, candidates have to recall and show understanding of the concept of internal control measures by providing two actions to address this issue.

Memorandum/Marking guidelines

- Send out reminders either by post, SMS or phone to debtors over 60 days. ✓✓
- Do better credit checks on new debtors.
- Do not allow debtors to buy more stock more stock on credit if they are over 60 days overdue.

[2]

Example 3:**Question 6.1: November 2012 DBE (adapted)**

Why is it important for a business to prepare a Projected Income Statement? (2)

Discussion:

This question requires explanation of the importance of preparing a Projected Income Statement. In order to answer the question, candidates need to remember what the function of a Projected Income Statement is and show understanding of the concept by explaining its importance.

Memorandum/Marking guidelines

Valid explanation = 2 marks

- To reflect the profit or loss the business can expect to make.
- It enables him to plan properly and to anticipate any problems which could arise.
- So that he can compare budgeted to actual figures in order to take corrective action.

[2]

Table 4: Examples of middle- Order questions: Level 3: Application

Example 1:

Question 1.2.1: Feb-March 2014 DBE

You are provided with information relating to All-Bright Traders. The business is owned by Jakob Mthemba. He sells a single brand of washing powder in boxes. The financial year ends on 31 May 2013.

REQUIRED:

1.2.1. Calculate the following on 31 May 2013:

- Number of boxes of washing powder missing (4)

INFORMATION FOR THE YEAR ENDED 31 MAY 2013:

	NUMBER OF ITEMS	VALUE PER ITEM	CARRIAGE ON PURCHASES	TOTAL VALUE
Stock on hand on 1 June 2012	3 800			R107 500
Purchases:	19 250			R768 400
14 August 2012	5 750	R35	R3 750	R205 000
10 December 2012	7 500	R42	R4 400	R319 400
22 March 2013	6 000	R40	R4 000	R244 000
Sales	18 800	R60		R1 128 000
Stock on hand on 31 May 2013	3 350			?

Discussion:

This question requires candidates to perform a calculation using a specified method. To perform the procedure, candidates need to remember and apply the correct formula for the required calculation. All the financial information required for the calculation is provided in the source material for the question. Once they have identified the necessary figures, they can perform this basic low level, familiar, one-step calculation.

Memorandum/Marking guidelines

Number of washing powder boxes missing

✓ ✓ ✓ ✓
23 050 – 3 350 – 18 800 = 900

[4]

Example 2:

Question 1.3.1: November 2012 DBE

You are provided with information relating to Amy's Clothing Store. All goods are subject to 14% VAT. The business is owned by Amy Andrews.

REQUIRED:

Calculate the amount owed to SARS for VAT. (9)

INFORMATION:

		VAT EXCLUSIVE	VAT	VAT INCLUSIVE
1.	Invoices received from suppliers	R500 000	R70 000	R570 000
2.	Invoices issued to customers	R820 000	?	R934 000
3.	Credit notes issued to customers	R60 000	?	?
4.	Credit notes received from suppliers	R40 000	R5 600	R45 600
5.	Goods taken by Amy for personal use	?	?	R14 250
6.	Bad debts written off	R15 000	R2 100	R17 100

Discussion:

Answering this question involves drawing on the knowledge of the distinction between concepts (inclusive VAT and exclusive VAT and input and output VAT) which are related. Candidates have to apply in-depth processes and select the formulae to use. Candidates also have to select and classify the information on VAT. They have to perform a number of operations to determine the amount owed to SARS. The task thus necessitates the performing advanced/more complex accounting calculation procedures.

Memorandum/Marking guidelines

✓ ✓ ✓✓ ✓ ✓✓ ✓
70 000 – 114 800 + 8 400 – 5 600 – 1 750 + 2 100 = R41 650

OR

-70 000 + 114 800 – 8 400 + 5 600 + 1 750 – 2 100 = R41 650

OR: Input/Output calculation

VAT OUTPUT = 114 800 – 8 400 + 1 750 – 2 100 = R106 050

VAT INPUT = 70 000 – 5 600 = R64 400
R41 650

OR: Input/ output calculation

VAT OUTPUT = 114 800 + 1 750 + 5 600 = R122 150

VAT INPUT = 70 000 + 8 400 + 2 100 = R80 500
R41 650

OR: VAT CONTROL

8 400	114 800
2 100	1 750
70 000	5 600
R41 650	

[9]**Example 3:****Question 4.3: November 2011 DBE**

You are provided with information relating to Zipho Limited, a public company. The financial year ends on 28 February 2011.

REQUIRED:

Complete the note for the reconciliation between net profit before tax and cash generated from operations for the year ended 28 February 2011. (11)

INFORMATION:**1. Extract from Income Statement for the year ended 28 February 2011**

Depreciation	R203 000
Interest on loan (16% p.a.)	86 400
Net profit before tax	1 020 350
Income tax	306 105
Net profit after tax	714 245

2. Figures from the Balance Sheet and Notes on 28 February 2011

	2011	2010
Ordinary shareholders' equity	?	2 572 500
Ordinary share capital	1 800 000	1 233 000
Share premium	1 313 400	916 500
Retained income	?	423 000
Fixed/Tangible assets	2 790 000	3 824 500
Loan (18% p.a.)	500 000	850 000
Inventories	381 000	408 000
Cash and cash equivalents	1 155 000	3 000
Trade and other receivables	1 640 000	1 198 500
Trade Debtors	1 640 000	1 150 000
SARS (Income tax)	-	48 500
Trade and other payables	1 803 355	2 011 500

Trade creditors	1 534 355	1 030 000
Accrued expenses (telephone)	8 000	8 700
SARS (Income tax)	69 000	-
Shareholders for dividends	192 000	57 700
Bank overdraft	-	9 150

Discussion:

Completing this question involves in-depth processes. Candidates have to remember the format of the reconciliation between net profit before tax and cash generated from operations. They have to identify and select the appropriate information from the extract from Income Statement and the Balance Sheet provided and perform several preliminary operations and determine the effect of the result of the calculations. Hence the question is categorized as more advanced application.

Memorandum/Marking guidelines

RECONCILIATION BETWEEN NET PROFFIT BEFORE TAX AND CASH GENERATED FROM OPERATIONS FOR THE YEAR ENDED 28 FEBRUARY 2011	
Net profit before tax	1 020 350
Adjustments in respect of:	
Depreciation ✓	✓ 203 000
Interest expense ✓	✓ 86 400
Operating profit before changes in working capital	1 309 750
Cash effects of changes in working capital	40 655
Change in inventory	27 000
Change in trade and other receivables/debtors ✓	✓✓ (490 000)
Change in trade and other payables/creditors ✓	✓✓ 503 655
Cash generated from operations	<input checked="" type="checkbox"/> 1 350 405

[11]

Table 5: Examples of Middle-Order questions at Level 4: Analysis

Example 1:

Question 4.2.3: February/March 2014 DBE

You are provided with information relating to Bongi Limited, a public company.

4.2.3 Calculate the following financial indicators on 30 June 2013:

- Solvency ratio (5)
- Acid test ratio (4)

Information from the Balance Sheet on 30 June 2013:

	Notes	2013	2012
Fixed assets (at carrying value)		3 350 000	2 000 000
Current assets		458 400	588 000
Inventories		316 900	239 100
Trade and other receivables	1	137 500	194 900
Cash and cash equivalents		4 000	154 000
		3 808 400	2 588 000
Shareholders' equity		2 904 000	1 630 000
Ordinary share capital		1 200 000	1 000 000
Share premium		850 000	250 000
Retained income		854 000	380 000
Loan: Star Bank (9% p.a.)		400 000	560 000
Current liabilities		504 400	398 000
Trade and other payables	2	390 400	398 000
Bank overdraft		114 000	-
		3 808 400	2 588 000

Discussion:

To answer this question candidates have to identify what information is relevant for calculating these basic financial indicators which they should have covered in Grade 10 in respect of sole traders. This requires selecting information from the given financial information.

Memorandum/Marking guidelines

Solvency ratio

(R3 350 000 + R458 400): (R400 000 + R504 400)

R3 808 400 ✓✓ : R904 400 ✓✓
 = 4, 2: 1 ✓

[5]

Acid test ratio

(R458 400 – R316 900): R504 400 ✓
R141 500 ✓✓

= 0,3: 1 ✓

[4]

Example 2:

Question 5.2: November 2012 DBE

You are provided with information relating to Jankelo Ltd. New shares were issued on the first day of the financial year.

REQUIRED:

Use the information below to calculate the following figures or financial indicators for the financial year ended 30 June 2012. Calculate to ONE decimal place, where relevant.

- 2.2.2 Earnings per share (in cents) (4)
2.2.3 Net asset value per share (in cents) (3)

INFORMATION RELATING TO JANKELO LTD:

	30 June 2012	30 June 2011
Sales	R1 500 000	R1 300 000
Depreciation	40 000	32 000
Net profit after tax	330 000	374 000
Ordinary shareholders' equity	1 445 000	1 133 000
Ordinary share capital (par value R5,00)	900 000	740 000
Share premium	188 000	132 000
Retained income	357 000	261 000
Non-current liabilities	500 000	630 000
Fixed/Tangible assets	1 667 000	1 620 000
Current assets (including inventories)	190 000	203 000
Current liabilities	120 000	170 000
Inventories	110 000	135 000

Discussion:

This question requires calculation of financial indicators based on Grade 12 content (i.e. companies). In order to calculate the two required financial indicators, candidates have to recall the formulae which comprised of complex elements, the components of which have to be correctly identified from the financial data provided. They have to perform a number of preliminary operations before the application of the formulae.

Memorandum/Marking guidelines

Earnings per share

330 000 ✓ X 100

$$\frac{180\,000}{1} \checkmark \checkmark$$

$$= 183,3 \text{ cents } \checkmark$$

[4]

Net asset value per share

$$\frac{1\,445\,000}{180\,000} \checkmark \times \frac{100}{1}$$

$$= 802,8 \text{ cents } \checkmark$$

[3]

Example 3:

Question 6.2.2: November 2014 DBE

Ben Khulamo owns a small business that produces pies and doughnuts which he supplies to local school tuck shops.

REQUIRED:

1.2.2 Ben feels that he can produce and sell more doughnuts. Calculate the number of extra doughnuts he must produce and sell to make an additional profit of R15 000. Assume that the unit costs and selling price for 2014 remain unchanged. (4)

INFORMATION	DOUGHNUTS		PIES	
	2014	2013	2014	2013
Total units produced & sold	55 000 units	51 000 units	35 000 units	44 000 units
Break-even point (units)	21 667 units	24 074 units	38 095 units	18 519 units
Ben's selling price per unit	R8,00	R7,00	R12,50	R12,00
Selling price of competitor	R8,60	-	R12,50	-
VARIABLE COST PER UNIT	R5,00	R4,30	R8,30	R5,85
Direct material cost per	R1,95	R2,05	R5,05	R2,20
Direct labour cost per unit	R1,90	R1,55	R2,20	R2,60
Selling & distribution cost per unit	R1,15	R0,70	R1,05	R1,05
FIXED COST PER UNIT	R1,18	R1,27	R4,57	R3,64
Factory overhead cost per unit	R0,67	R0,78	R3,38	R2,50
Administration cost per unit	R0,51	R0,49	R1,19	R1,14

Discussion:

Answering this question involves advanced analysis because it entails more than one step i.e. firstly, identifying and discerning what information is required and secondly, performing the necessary calculations. It requires the use of a non-routine

procedure to arrive at the solution as candidates are expected to apply their knowledge in analysing the information to identify the relevant components.

Memorandum/Marking guidelines

$$\frac{15\,000}{3,00} \checkmark \checkmark \checkmark$$

= 5 000 extra units

OR $\frac{64\,000 + 100\,100 + 15\,000}{(R8 - R5) = R3,00} \checkmark \checkmark \checkmark$
 = 60 000 (to be made) \checkmark
 - 55 000 (currently made)
 = 5 000 extra units

OR

$$\begin{aligned} \text{FC} &= 55\,000 \times R1,18 \\ &= R64\,900 \checkmark \\ \text{To cover} &= R64\,900 + 15\,000 \\ &= R79\,900 \checkmark \checkmark \\ \text{Units needed} &= \frac{R79\,900}{R3} \\ &= 26\,633 \\ \text{BEP} &= 21\,667 \\ \text{Extra needed} &= 4966 \checkmark \end{aligned}$$

OR

$$\begin{aligned} \text{Sales } 55\,000 \times R8 &= R440\,000 \\ \text{COS } 55\,000 \times R5 &= R275\,000 \\ \text{GP} &= R165\,000 \\ \text{Target} &= R180\,000 \checkmark \\ \text{contribution } R3 &\checkmark \checkmark \\ &= 60\,000 \text{ units} \\ \text{making } 55\,000 \\ \text{additional} &= 5\,000 \text{ units } \checkmark \end{aligned}$$

[4]

Table 6: Examples of Higher-Order questions at Level 5: Evaluation

Example 1:

Question 4.5: November 2014 DBE

You are provided with information relating to Meteor Supermarkets Limited, a public company. The financial year-end is 28 February 2014.

REQUIRED:

4.5 Comment on the liquidity position of the company. Quote THREE relevant financial indicators (actual ratios or figures) and their trends. (9)

FINANCIAL INDICATORS

	2014	2013
Debt-equity ratio	?	0,1:1
Net asset value per share	?	617 cents
Current ratio	1,6:1	3,6:1
Acid-test ratio	1,2:1	3,1:1
Stock turnover rate	6,8 times	5,1 times
Debtors' collection period	40 days	35 days
Creditors' payment period	20 days	43 days

% return on average capital employed	18,8%	16,4%	
--------------------------------------	-------	-------	--

Discussion:

In this question, candidates have to assess and compare financial indicators to draw conclusions and provide evaluative comment on identified liquidity ratios. To do this, they have to identify relevant financial indicators, compare across two financial years and provide evaluative comment. This entails making a judgment and comment on whether the quantum and trends of the indicators are appropriate.

Memorandum/Marking guidelines

Any THREE valid financial indicators:
Name of financial indicator (1 mark)
Figure and trend (2 marks)

- Current ratio ✓: 3,6: 1 → 1,6: 1 / decreased to 1,6: 1 ✓✓
- Acid test ratio ✓: 3,1:1 → 1,2: 1 / decreased to 1,2: 1 ✓✓
- Stock turnover rate ✓: 5,1 → 6,8 times p.a./ increased to 6,8 times ✓✓
- Debtors' collection period: 35 □ 40 days / increased to 40 days.

General comment: For 3 marks (need only mention 3 indicators):

- The liquidity has generally improved.
- The current ratio and acid-test ratio were too high in 2013.They are now much more efficient in 2014.
- The stock is now being sold more quickly which will generate greater profit.
- However, the debtors are paying slightly more slowly – this trend must be rectified next year. ✓✓✓

[9]

Example 2:

Question 6.4: November 2016 DBE

You are provided with information relating to Mayhem (Pty) Ltd.
The directors compared the budgeted figures to the actual figures for September 2016.

6.4.2 The directors are not concerned about the overspending on packing material. Explain why this is so. Quote figures or calculations. (5)

	BUDGETED	ACTUAL
Sales	R288 000	R489 600
Salaries: salespersons	R40 000	R12 000
Commission: Salespersons	0	R66 150
Packing material	R14 400	R17 280

Discussion:

In this question candidates have to assess financial information provided to make judgments and then support their explanation with evidence. To answer the question, candidates need to identify relevant figures, compare them and provide explanation by quoting the relevant figures or performing a calculation.

Memorandum/Marking guidelines

Explanation ✓✓✓

Figures ✓✓

Sales were 70% over budgeted, while packing material were only 20% over budgeted.

Or

Packing material were budgeted at 5% of sales, while actual materials were only 3, 5% of sales.

[5]**Example 3:****Question 3.5: November 2014 DBE**

You are presented with information from the records of Vijay Limited. The financial year-end is 28 February 2014.

REQUIRED:

Comment on whether the shareholders should be satisfied with the percentage return and the market price of their shares. Quote TWO relevant financial indicators (actual figures/ratios/percentages) and their trends. Give an additional comment in each case. (6)

Financial indicator on 28 February:	2014	2013
Earnings per share (EPS)	170 cents	82 cents
Dividends per share (DPS)	100 cents	82 cents
Net asset value (NAV)	846 cents	786 cents
Return on Shareholders' equity (ROSHE)	22%	18, 3%
Additional information:	2014	2013
Market price of Vijay Ltd shares on JSE	1 032 cents	1 060 cents
Interest rate on alternative investments	9%	9%

Discussion:

This question requires candidates to evaluate financial indicators or information in order to arrive at conclusions and make judgments. To answer the question candidates need to recognise the relationship between the financial indicators and other information on market price of shares. Financial indicators are provided for two years. Candidates need to identify and select the appropriate financial indicators to compare. They have to determine the trend and then provide an evaluative explanation or comment on the shareholders satisfaction with the percentage return and market price of shares by quoting relevant figures as evidence to support their answer.

Memorandum/Marking guidelines

One mark for indicator, trends and figures and extra comment

ROSHE ✓

Increased from 18,3% to 22% / by 3,7% points. ✓

This exceeds the return on alternative investments (of 9%). ✓

NAV ✓

NAV increased from 786c to 846c/ by 60 cents ✓
 Market price decreased from 1060c to 1032c/ by 28 cents
 The market price exceeds the NAV / investors are prepared to pay extra for the shares. ✓

[6]

Table 7: Examples of Higher-Order questions at Level 6: creative problem solving

Example 1:

Question 6.2: November 2011 DBE

Quick Bikes sells one brand of scooters. The owner, Doctor Zulu, has three branches operating in Riverside, Valley View and Mountain Rise. The three branches are managed by Robby, Vusi and Melanie, respectively.

Doctor Zulu has obtained the annual figures from the three branches for the financial period ending 28 February 2011.

REQUIRED:

Identify ONE problem in relation to each branch, quoting figures to support the problem. In each case, offer Doctor Zulu advice on how to solve the problem. (12)

INFORMATION:

	RIVERSIDE (ROBBY)	VALLEY VIEW (VUSI)	MOUNTAIN RISE (MELANIE)
Number of scooters available for sale	470	300	190
Number of scooters sold during the year	380	75	190
Physical count on 28 February 2011	72	225	0
Cost price per scooter	R7 500	R7 500	R7 500
Selling price per scooter	R11 500	R11 500	R11 500
Advertising per year	R15 000	R40 000	R60 000
Salary of manager	R30 000 per month	R30 000 per month	R30 000 per month

Discussion:

The question requires a high-level of reasoning to solve a non-routine problem set in a real-life context. Here candidates are not only expected to make evaluative judgments using the financial information provided, they are required to come up with their own strategy as to how to solve the problem. They have to identify the problem by analysing and synthesising the financial information provided and then decide on, and use appropriate methods to solve the problem. They have to evaluate figures for each branch to identify one problem in each branch and quote figures to support the problems identified. They then have to provide a solution for each of the problems identified; they must expand on their evaluative judgments

by formulating and providing advice on how to solve the problems. Although candidates also have to work at lower cognitive levels to answer the question, the question is classified as being a Level 6 question (creative problem solving) as this level is the highest level of cognitive process involved.

Memorandum/Marking guidelines

Each comment: one mark; quoting figure: one mark; advice: two marks

BRANCH	COMMENT	ADVICE
Riverside	Negligence of management/ theft occurring. ✓ There are 18 scooters missing (90-72)/ loss in profit of R72 000/Value of shortage of R135 000. ✓	Improve internal control / do regular physical stock checks/Vusi must be accountable (pay in) / Install security camera. ✓✓
Valley View	The scooters are not selling well/ Situated in a low economic area / Vusi is too lazy/Vusi has too much stock on hand. ✓ Only 75 out of 300 have been sold. ✓ OR Even though Vusi has advertised a lot, R40 000/R25 000 more than Riverside, it has not been effective. OR Stock will become obsolete/out of date, 225 left over. OR He made a net loss of R100 000 on figures available due to low sales.	Doctor Zulu should get Vusi to advertise effectively to increase sales. ✓✓ OR Instead of paying managers a set monthly income he should pay them commission based on sales. OR Restrict amount of stock on hand as this could lead to theft or out of date stock (stock piling). OR Close down the branch. OR Transfer stock to Mountain Rise branch.
Mountain Rise	Even though Melanie has spent the most on advertising, ✓ R60 000, ✓this has not led to good sales. Advertised four times more but has half of Vusi's sales. OR Her advertising has been very effective that it has led to all 190 units of stock being sold out. OR	The manager's advertising strategy should be revisited. OR Instead of paying managers a set monthly income he should pay them commission based on sales. ✓✓ OR Order more stock to satisfy demand to prevent customers from going to other branches or competitors.

	Poor management/She is not ordering enough stock and has no stock (Nil) left over. The customers might be going to other branches to get their scooters.	OR Obtain stock from other branches to address the demand.
--	--	--

[12]

Example 2:

Question 6.10: February/ March 2013 DBE

John will have a problem to replace his old computers and cash registers in March 2013. The cost of these items amounts to R150 000 and he expects them to last 5 years. However, he does not have cash available to pay for this. His options are:

- Raise a new loan at an interest rate of 14% p.a. to be repaid over 36 months.
- Hire (Lease) the assets from IT Connect Ltd at R5 100 per month.
- Invite his friend James to become an equal partner in the business and provide capital of R150 000.

John realises that all three options have the advantage of not requiring the R150 000 outlay in March 2013.

Consider each of these options and explain ONE other advantage and ONE disadvantage of each option. Provide figures to support your answer.

(6)

Discussion:

This question requires high-level reasoning to solve the problem identified. Candidates need to consider various options and make recommendations or advice based on the information provided. The question is not predictable, and may be considered as new and unfamiliar to candidates. To answer the question, they are required to think creatively, based on the stance they take concerning risk attached to debt and equity. They have to analyse and interpret the financial information provided for each option. They must expand on their evaluative judgments by performing calculations to support their solutions. The question, therefore is classified as being a Level 6 question (creative problem solving) as this level is the highest level of cognitive process involved.

Memorandum/Marking guidelines

	OTHER ADVANTAGE	DISADVANTAGE
Option 1: Raise a new loan at an interest rate of 14% p.a. to be repaid over 36 months	He will own the assets and they could last longer than five years if he takes good	He has to pay interest of R1 750 per month + R4 167 per month to repay the loan. ✓

	care of them. ✓	
Option 2: Hire (lease) the assets from IT Connect Ltd at R5 100 per month	He does not have to raise a loan/does not have to pay interest on the loan/he will not have to pay repair costs ✓	The lease charges are expensive, R5 100 per month (R306 000 over the expected life span of five years.)/never owns the assets but continues to pay. ✓
Option 3: Invite his friend James to become an equal partner in the business and provide capital of R150 000	He will have the necessary funds to purchase the assets which will then belong to the business/share workload and skills. ✓	He will have to share half his profits with his new partner. ✓

[6]

Example 3:

Question 6.2.1: NOVEMBER 2014 DBE

BEN'S CATERING

Ben Khulamo owns a small business that produces pies and doughnuts which he supplies to local school tuck shops.

Where comments/explanations are required below, quote figures, unit costs or financial indicators to support your opinions.

REQUIRED:

6.2.1 Identify ONE unit cost for doughnuts and TWO unit costs for pies that were major problems in 2014, considering that the inflation rate was 5%. For each unit cost identified, give a possible cause of the problem and give advice on how to rectify it. (12)

INFORMATION	DOUGHNUTS		PIES	
	2014	2013	2014	2013
Total units produced & sold	55 000 units	51 000 units	35 000 units	44 000 units
Break-even point (units)	21 667 units	24 074 units	38 095 units	18 518 units
Ben's selling price per unit	R8,00	R7,00	R12,50	R12,00
Selling price of competitor	R8,60	-	R12,50	-
VARIABLE COSTS PER UNIT	R5,00	R4,30	R8,30	R5,85
Direct material cost per unit	R1,95	R2,05	R5,05	R2,20
Direct labour cost per unit	R1,90	R1,55	R2,20	R2,60
Selling & distribution cost per u	R1,15	R0,70	R1,05	R1,05
FIXED COSTS PER UNIT	R1,18	R1,27	R4,57	R3,64
Factory overhead cost per unit	R0,67	R0,78	R3,38	R2,50
Administration cost per unit	R0,51	R0,49	R1,19	R1,14

Discussion:

This question tests candidates' problem-solving ability based on their analysis and evaluation of the information provided. Candidates are expected to identify the problems, quote the evidence from the question and make suggestions as to how each problem can be solved. The information provided covers a range of different concepts. Candidates are therefore expected to draw on their knowledge and understanding of these different concepts in creatively working out their responses. They have to make evaluative judgments by considering figures as well as trends to arrive at a complete answer. Candidates are also required to provide practical solutions that are relevant and pertinent to the problems identified.

Memorandum/Marking guidelines

Identify cost ✓✓✓ figures ✓✓✓	Problem ✓✓✓ valid advice ✓✓✓
One unit cost for dough nuts (quote figures)	Problem and advice (both must be specific, not general FC & VC & general expenses)
Variable costs now R5,00/ R4,30 → R5,00 (16,3%) Or Direct labour cost now R1,90 / R1,55 → R1,90 (+23%) Or Selling and distribution cost now R1,15/ R0,70 → R1,15 (+64%) Do not accept administrative cost	Possible cause of the problem Workers are not operating efficiently/ wages increased/ more overtime. Advice: Assess the efficiency of workers/ offer incentives/ time and motion studies/ restrict overtime/ train workers to be more efficient/ improve supervision. Possible cause of the problem: Salesperson not efficient/ transport costs increased / bad debts/ theft of fuel/increase in fuel prices Advice: Offer commission on sales/ look for cheaper forms of transport/ training/plan trips better
Two units costs for pies (quote figures)	Problem and advice (both must be specific, not general FC & VC)
Direct material cost now R5.05 / R2,20 □ R5,05 (+ 130%)	Possible cause of the problem: Lack of expertise of workers/ poor quality raw materials/ increased raw materials cost/ theft of raw materials / wastage Advice: Investigate causes of wastage/look for a cheaper supplier/ better quality of raw material/ better training/ improve security
Factory overhead cost now R3,38 R2,50 □ R3,38 (+ 35%)	Must cover FOHC Possible cause of the problem: Low production increased fixed cost per unit/ increase in certain costs, e.g. rent Advice: Increased units produced to reduce unit costs/ advertise the product better/

	diversify the range/ economise on expenses, e.g. rent, water, electricity	
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[12]

To accomplish the goal of discriminating between high achievers, those performing very poorly, and all candidates in between, examiners need to vary the challenge of examination questions. Until recently, the assumption has been that 'alignment' with the allocated percentage of marks for questions at the required cognitive demand levels meant that sufficient examination questions were relatively easy; moderately challenging; and difficult for candidates to answer.

However, research and candidate performance both indicate that a range of factors other than type of cognitive demand contributes to the cognitive challenge of question. Such factors include the level of content knowledge required, the language used in the question, and the complexity or number of concepts tested. In other words, cognitive demand levels on their own do not necessarily distinguish between degrees of difficulty of questions.

This research helps, to some extent, explain why, despite that some NSC examination papers have complied with the specified cognitive demand weightings stipulated in the policy, they have not adequately distinguished between candidates with a range of academic abilities in particular between higher ability candidates. As a result, examiners, moderators and evaluators are now required to assess the difficulty of level of each examination question in addition to judging its cognitive demand.

Section 7 below explains the new protocol introduced by Umalusi for analysing examination question difficulty.

7 ANALYSING THE LEVEL OF DIFFICULTY OF EXAMINATION QUESTIONS

When analysing the level of difficulty of each examination question, there are six important protocols to note. These are:

1. Question difficulty is **assessed independently** of the type and level of **cognitive demand**.
2. Question difficulty is assessed against **four levels of difficulty**.
3. Question difficulty is determined against the assumed capabilities of the **envisaged** Grade 12 Accounting NSC examination **candidate**.
4. Question difficulty is determined using **a common framework** for thinking about question difficulty.
5. Question difficulty entails **distinguishing unintended sources of difficulty** or ease **from intended sources of difficulty** or ease.
6. Question difficulty entails identifying **differences** in levels of difficulty **within a single question**.

Each of the above protocols is individually explained and discussed below.

7.1 Question difficulty is assessed independently of the type and level of cognitive demand

As emphasised earlier in this exemplar book, the revised Umalusi NSC examination evaluation instruments separate the analysis of the type of cognitive demand of a question from the analysis of the level of difficulty of each examination question. Cognitive demand describes the *type of cognitive process* that is required to answer a question, and this does not necessarily equate or align with the *level of difficulty* of other aspects of a question, such as the difficulty of the content knowledge that is being assessed. For example, a recall question can ask a candidate to recall very complex and abstract scientific content. The question would be categorised as Level 1 in terms of the cognitive demand taxonomy but may be rated as 'difficult' (Level 3 Table 10 below).

7.2 Question difficulty is assessed at four levels of difficulty

Note:

Cognitive demand is just one of the features of a question that can influence your comparative judgments of question difficulty. The type and level of cognitive process involved in answering a question does not necessarily determine how difficult the question would be for candidates. Not all evaluation/synthesis /analysis questions are more difficult than questions involving lower-order processes such as comprehension or application.

The revised Umalusi NSC examination evaluation instruments require evaluators to exercise expert judgments about whether each examination question is 'Easy', 'Moderately challenging', 'Difficult' or 'Very difficult' for the envisaged Grade 12 learner to answer. Descriptions of these categories of difficulty are shown in Table 10.

TABLE 8 LEVELS OF DIFFICULTY OF EXAMINATION QUESTIONS

1	2	3	4
Easy for the envisaged Grade 12 student to answer.	Moderately challenging for the envisaged Grade 12 student to answer.	Difficult for the envisaged Grade 12 student to answer.	Very difficult for the envisaged Grade 12 student to answer. The skills and knowledge required to answer the question allow for the top students (<i>extremely high-achieving/ability students</i>) to be discriminated from other high achieving/ability students).

Note :

The fourth level, 'very difficult' has been included in the levels of difficulty of examination questions to ensure that there are sufficient questions that discriminate well amongst higher ability candidates.

7.3 Question difficulty is determined against the assumed capabilities of the envisaged Grade 12 Accounting NSC examination candidate

The revised Umalusi NSC examination evaluation instruments require evaluators to exercise expert judgments about whether each examination question is

'Easy', 'Moderately challenging', 'Difficult' or 'Very difficult' for the '**envisaged**' Grade 12 learner to answer (Table 9). In other words, assessment of question difficulty is linked to a particular target student within the population of NSC candidates, that is, the Grade 12 candidate of average intelligence or ability.

The Grade 12 learners that you may have taught over the course of your career cannot be used as a benchmark of the 'envisaged' candidate as we cannot know whether their abilities fall too high, or too low on the entire spectrum of all Grade 12 Accounting candidates in South Africa. The revised Umalusi NSC examination evaluation instruments thus emphasise that, when rating the level of the difficulty of a particular question, your conception of the 'envisaged' candidate needs to be representative of the entire population of candidates for all schools in the country, in other words, of the overall Grade 12 population.

Most importantly, the conception of this 'envisaged' candidate is a learner who has been taught the whole curriculum adequately by a teacher who is qualified to teach the subject, in a functioning school. There are many disparities in the South African education system that can lead to very large differences in the implementation of the curriculum. Thus this 'envisaged' learner is not a typical South African Grade 12 learner – it is an intellectual construct (an imagined person) whom you need to imagine when judging the level of difficulty of a question. This envisaged Grade 12 learner is an aspirational ideal of where we would like all Accounting learners in South Africa to be.

Note:

The concept of the **envisaged Grade 12 candidate** is that of an imaginary learner who has the following features:

- a. Is of average intelligence or ability
- b. Has been taught by a competent teacher
- c. Has been exposed to the entire examinable curriculum

This envisaged learner represents an imaginary person who occupies the middle ground of ability and approaches questions *having had all the necessary schooling*.

7.4 Question difficulty is determined using a common framework for thinking about question difficulty

Examiners, moderators and evaluators **in all subjects** are now provided with a common framework for thinking about question difficulty to use when identifying sources of difficulty or ease in each question, and to provide their reasons for the level of difficulty they select for each examination question.

The framework described in detail below provides the main sources of difficulty or 'ease' inherent in questions. The four sources of difficulty which must be considered when thinking about the level of difficulty of examination questions in this framework are as follows.

1. **'Content difficulty'** refers to the difficulty inherent in the subject matter and/or concept/s assessed.
2. **'Stimulus difficulty'** refers to the difficulty that candidates confront when they attempt to read and understand the question and its source material. The demands of the reading required to answer a question thus form an important element of 'stimulus difficulty'.
3. **'Task difficulty'** refers to the difficulty that candidates confront when they try to formulate or produce an answer. The level of cognitive demand of a question forms an element of 'Task difficulty', as does the demand of the written text or representations that learners are required to produce for their response.
4. **'Expected response difficulty'** refers to difficulty imposed by examiners in a marking guideline, scoring rubric or memorandum. For example, mark allocations affect the amount and level of answers students are expected to write.

This framework derived from Leong (2006) was chosen because it allows the person making judgments about question difficulty to grapple with nuances and with making connections. The underlying assumption is that judgment of question difficulty is influenced by the interaction and overlap of different aspects of the four main sources of difficulty. Whilst one of the above four sources of difficulty may be more pronounced in a specific question, the other three sources may also be evident. Furthermore, not all four sources of difficulty need to be present for a question to be rated as difficult.

The four-category conceptual framework is part of the required Umalusi examination evaluation instruments. Each category or source of difficulty in this framework is described and explained in detail below (Table 6). Please read the entire table very carefully.

TABLE 9 FRAMEWORK FOR THINKING ABOUT QUESTION DIFFICULTY

CONTENT/CONCEPT DIFFICULTY
<p>Content/concept difficulty indexes the difficulty in the subject matter, topic or conceptual knowledge assessed or required. In this judgment of the item/question, difficulty exists in the academic and conceptual demands that questions make and/or the grade level boundaries of the various 'elements' of domain/subject knowledge (topics, facts, concepts, principles and procedures associated with the subject).</p>
<p>For example:</p> <p>Questions that assess 'advanced content', that is, subject knowledge that is considered to be in advance of the grade level curriculum, are <i>likely</i> to be difficult or very difficult for most candidates. Questions that assess subject knowledge which forms part of the core curriculum for the grade are <i>likely</i> to be moderately difficult for most candidates. Questions that assess 'basic content' or subject knowledge candidates would have learnt at lower grade levels, and which would be familiar to them are <i>unlikely</i> to pose too much of a challenge to most candidates.</p> <p>Questions that require general everyday knowledge or knowledge of 'real life' experiences are <i>often</i> easier than those that test more specialized school knowledge. Questions involving only concrete objects, phenomena, or processes are <i>usually</i> easier than those that involve more abstract constructs, ideas, processes or modes.</p> <p>Questions which test learners' understanding of theoretical or de-contextualised issues or topics, rather than their knowledge of specific examples or contextualised topics or issues <i>tend</i> to be more difficult. Questions involving familiar, contemporary/current contexts or events are <i>usually</i> easier than those that are more abstract or involve 'imagined' events (e.g. past/future events) or contexts that are distant from learners' experiences.</p> <p>Content difficulty may also be varied by changing the number of knowledge elements or operations assessed. <i>Generally</i>, the difficulty of a question increases with the number of knowledge elements or operations assessed. Questions that assess learners on two or more knowledge elements or operations are <i>usually</i> (but not always) more difficult than those that assess a single knowledge element or operation.</p> <p>Assessing learners on a combination of knowledge elements or operations that are seldom combined <i>usually</i> increases the level of difficulty.</p>

EXAMPLES OF INVALID OR UNINTENDED SOURCE OF CONTENT DIFFICULTY

- Testing obscure or unimportant concepts or facts that are not mentioned in the curriculum, or which are unimportant to the curriculum learning objectives.
- Testing very advanced concepts or operation that candidates are extremely unlikely to have had opportunities to learn.

STIMULUS DIFFICULTY

Stimulus difficulty refers to the difficulty of the linguistic **features of the question** (**linguistic** complexity) and the challenge that candidates face when they attempt to read, interpret and understand the words and phrases in the question AND when they attempt to read and understand the **information or 'text' or source material (diagrams, tables and graphs, pictures, cartoons, passages, etc.) that accompanies the question.**

For example:

Questions that contain words and phrases that require only simple and straightforward comprehension are *usually* easier than those that require the candidate to understand **subject specific phraseology and terminology** (e.g. idiomatic or grammatical language not usually encountered in everyday language), or that require more technical comprehension and specialised command of words and language (e.g. everyday words involving different meanings within the context of the subject).

Questions that contain information that is 'tailored' to an expected response, that is, questions that contain no irrelevant or distracting information, are *generally* easier than those that require candidates to select relevant and appropriate information or **unpack a large amount of information** for their response. A question **set in a very rich context** can increase question difficulty. For example, learners may find it difficult to select the correct operation when, for example, a mathematics or accountancy question is set in a context-rich context.

Although the level of difficulty in examinations is *usually* revealed most clearly through the questions, text complexity or the degree of **challenge or complexity in written or graphic texts** (such as a graph, table, picture, cartoon, etc.) that learners are required to read and interpret in order to respond can increase the level of difficulty. Questions that depend on reading and selecting content from a text can be more challenging than questions that do not **depend on actually reading the accompanying text** because they test reading comprehension skills as well as subject knowledge. Questions that require candidates to **read a lot** can be more challenging than those that require limited reading. Questions that tell learners where in the text to look for relevant information are *usually* easier than those where **learners are not told where to look.**

The level of difficulty may increase if texts set, and reading passages or other **source material** used are challenging for the grade level, and make **high reading demands** on learners at the grade level. Predictors of textual difficulty include

- **semantic content** - for example, if vocabulary and words used are typically outside the reading vocabulary of Grade 12 learners, 'texts' (passage, cartoon, diagram, table, etc.) are *usually* more difficult. 'Texts' are *generally* easier if words or images are made accessible by using semantic/context, syntactic/structural or graphophonic/visual cues.
- **syntactic or organisational structure** - for example, sentence structure and length. For example, if learners are likely to be *familiar with the structure* of the 'text' or resource, for example, from reading newspapers or magazines, etc. 'texts' are *usually* easier than when the structure is unfamiliar.
- **literary techniques** - for example, abstractness of ideas and imagery - and **background knowledge required**, for example, to make sense of allusions.
- if the **context** is **unfamiliar** or remote, or if candidates do not have or are **not provided with access to the context** which informs a text (source material, passage, diagram, table, etc.) they are expected to read, and which informs the question they are supposed to answer and the answer they are expected to write, then constructing a response is *likely* to be more difficult than when the context is provided or familiar.

Questions which require learners to **cross-reference different sources** are *usually* more difficult than those which deal with one source at a time.

Another factor in stimulus difficulty is presentation and visual appearance. For example, type face and size, use of headings, and other types of textual organisers etc. can aid '**readability**' and make it easier for learners to interpret the meaning of a question.

EXAMPLES OF INVALID OR UNINTENDED SOURCES OF STIMULUS DIFFICULTY

- Meaning of words unclear or unknown.
- Difficult or impossible to work out what the question is asking.
- Questions which are ambiguous.
- Grammatical errors in the question that could cause misunderstanding.
- Inaccuracy or inconsistency of information or data given.
- Insufficient information provided.
- Unclear resource (badly drawn or printed diagram, inappropriate graph, unconventional table).
- Dense presentation (too many important points packed in a certain part of the stimulus).

EXPECTED RESPONSE DIFFICULTY

Expected response difficulty refers to difficulty imposed by examiners in a **mark scheme and memorandum**. This location of difficulty is more applicable to 'constructed' response questions, as opposed to 'selected' response questions (such as multiple choice, matching/true-false).

For example:

When examiners expect few or no details in a response, the question is *generally* easier than one where the mark scheme implies that **a lot of details are expected**.

A further aspect of expected response difficulty is the clarity of the **allocation of marks**. Questions are *generally* easier when the allocation of marks is explicit, straight-forward or logical (i.e. 3 marks for listing 3 points) than when the **mark allocation is indeterminate or implicit** (e.g. when candidates need all 3 points for one full mark or 20 marks for a discussion of a concept, without any indication of how much and what to write in a response). This aspect affects difficulty because candidates who are unclear about the mark expectations in a response may not produce sufficient amount of answers in their response that will earn the marks that befit their ability.

Some questions are more difficult/easy to mark accurately than others. Questions that are **harder to mark and score objectively** are *generally* more difficult for candidates than questions that require simple marking or scoring strategies on the part of markers. For example, recognition and recall questions are *usually* easier to test and mark objectively because they usually require the use of matching and/or simple scanning strategies on the part of markers. More complex questions requiring analysis (breaking down a passage or material into its component parts), evaluation (making judgments, for example, about the worth of material or text, or about solutions to a problem), synthesis (bringing together parts or elements to form a whole), and creativity (presenting own ideas or original thoughts) are *generally* harder to mark/score objectively. The best way to test for analysis, evaluation, synthesis and creativity is usually through extended writing. Such extended writing *generally* requires the use of more cognitively demanding *marking* strategies such as interpreting and evaluating the logic of what the candidate has written.

Questions where **a wide range of alternative answers or response/s** is possible or where the correct answer may be arrived at through different strategies *tend* to be more difficult. On the other hand, questions may be so open-ended that learners will get marks even if they engage with the task very superficially.

EXAMPLES OF INVALID OR UNINTENDED SOURCES OF EXPECTED RESPONSE DIFFICULTY

- Mark allocation is unclear or illogical. The weighting of marks is important in questions that comprise more than one component when components vary in levels of difficulty. Learners may be able to get the same marks for answering easy component/s of the item as other learners are awarded for answering the more difficult components.
- Mark scheme and questions are incongruent. For example, there is no clear correlation between the mark indicated on the question paper and the mark allocation of the memorandum.
- Question asked is not the one that examiners want candidates to answer. Memorandum spells out expectation to a slightly different question, not the actual question.
- Impossible for candidate to work out from the question what the answer to the question is (answer is indeterminable).
- Wrong answer provided in memorandum.
- Alternative correct answers from those provided or spelt out in the memorandum are also plausible.
- The question is 'open' but the memo has a closed response. Memo allows no leeway for markers to interpret answers and give credit where due.

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- Impossible for candidate to work out from the question what the answer to the question is (answer is indeterminable).
- Wrong answer provided in memorandum.
- Alternative correct answers from those provided or spelt out in the memorandum are also plausible.
- The question is 'open' but the memo has a closed response. Memo allows no leeway for markers to interpret answers and give credit where due.

The framework described above does not provide you with explicit links between the different sources of difficulty, or show relationships and overlaps between the different categories and concepts in the framework. This is because it is impossible to set prescribed rules or pre-determined combinations of categories and concepts used for making judgments about the source of difficulty in a particular examination question.

The intention behind the framework is to allow you to exercise your sense of judgment as an expert. The complexity of your judgment lies in your ability as an expert to recognise subtle interactions and identify links between different categories of a question's difficulty or ease. For example, a question that tests specific knowledge of your subject can actually be more difficult than a multi-step question because it requires candidates to explain a highly abstract concept, or very complex content. In other words, although questions that test specific knowledge are *usually* less difficult than multiple-concept or operation questions, the level of difficulty of the content knowledge required to answer a question can make the question more difficult than a multi-step or multi-operation question.

Not all one-word response questions can automatically be assumed to be easy. For example, multiple-choice questions are not automatically easy because a choice of responses is provided – some can be difficult. As an expert in your subject, you need to make these types of judgments about each question.

Note:

It is very important that you become extremely familiar with the framework explained in Table 9, and with each category or source of difficulty provided (i.e. content difficulty, task difficulty, stimulus difficulty, and expected response difficulty). You need to understand the examples of questions which illustrate each of the four levels (Table 10 to Table 13). This framework is intended to assist you in discussing and justifying your decisions regarding the difficulty level ratings of questions. You are expected to **refer to all four categories or sources of difficulty** in justifying your decisions.

When considering question difficulty ask:

- How difficult is the **knowledge** (content, concepts or procedures) that is being assessed for the envisaged Grade 12 candidate? (*Content difficulty*)
- How difficult is it for the envisaged Grade 12 candidate to formulate the answer to the question? In considering this source of difficulty, you should **take into account the type of cognitive demand** made by the task. (*Task difficulty*)
- How difficult is it for the envisaged Grade 12 candidate to **understand the question and the source material** that need to be read to answer the particular question? (*Stimulus difficulty*)
- What does the **marking memorandum and mark scheme** show about the difficulty of the question? (*Expected response difficulty*)

7.5 Question difficulty entails distinguishing unintended sources of difficulty or ease from intended sources of difficulty or ease

Close inspection of the framework for thinking about question difficulty (Section 7.4, Table 9) above, shows that, for each general category or source of difficulty, the framework makes a distinction between 'valid' or intended, and 'invalid' or unintended sources of question difficulty or ease. Therefore, defining question difficulty entails identifying whether sources of difficulty or ease in a question were intended or unintended by examiners. Included in Table 9 are examples of unintended sources of difficulty or ease for each of the four categories.

Valid difficulty or 'easiness' in a question has its source in the requirements of the question, and is **intended** by the examiner (Ahmed and Pollit, 1999). Invalid sources of difficulty or 'easiness' refer to those features of question difficulty or 'easiness' that were **not intended** by the examiner. Such unintended 'mistakes' or omissions in questions can prevent the question from assessing what the examiner intended, and are likely to prevent candidates from demonstrating

their true ability or competence, and can result in a question being easier or more difficult than the examiner intended.

For example, grammatical errors in a question that could cause misunderstanding for candidates are unintended sources of question difficulty because the difficulty in answering the question could lie in the faulty formulation of the question, rather than in the intrinsic difficulty of the question itself (for example, because of stimulus difficulty). Candidates “may misunderstand the question and therefore not be able to demonstrate what they know” (Ahmed and Pollit, 1999, p.2). Another example is question predictability (when the same questions regularly appear in examination papers or textbooks) because familiarity can make a question which was intended to be difficult, less challenging for examination candidates.

Detecting unintended sources of difficulty or ease in examinations is largely the task of moderators. Nevertheless, evaluators also need to be vigilant about detecting sources which could influence or alter the intended level of question difficulty that moderators may have overlooked.

Note:

When judging question difficulty, you should distinguish **unintended sources of question difficulty or ease** from those sources that are intended, thus ensuring that examinations have a range of levels of difficulty. The framework for thinking about question difficulty allows you to systematically identify technical and other problems in each question. Examples of problems might be: unclear instructions, poor phrasing of questions, the provision of inaccurate and insufficient information, unclear or confusing visual sources or illustrations, incorrect use of terminology, inaccurate or inadequate answers in the marking memorandum, and question predictability. You should **not** rate a question as difficult/easy if the source of difficulty/ease lies in the ‘faultiness’ of the question or memorandum. Instead, as moderators and evaluators, you need to alert examiners to unintended sources of difficulty/ease so that they can improve questions and remedy errors or sources of confusion before candidates write the examination.

7.6 Question difficulty entails identifying differences in levels of difficulty within a single question

An examination question can incorporate more than one level of difficulty if it has subsections. It is important that the components of such questions are 'broken down' into their individual levels of difficulty.

Note:

Each subsection of a question should be analysed separately so that the percentage of marks allocated at each level of difficulty and the weighting for each level of difficulty can be ascertained as accurately as possible for that question.

8. EXAMPLES OF QUESTIONS AT DIFFERENT LEVELS OF DIFFICULTY

This section provides at least **three** examples of questions from previous Accounting NSC examinations (Table 10 to Table 13) categorised at each of the four levels of difficulty described in Section 7 (Table 9) above. These examples were selected to represent the **best and clearest** examples of each level of difficulty that the accounting experts could find. The discussion below each example question tries to explain the reasoning behind the judgments made about the categorisation of the question at that particular level of difficulty.

TABLE 10: EXAMPLES OF QUESTIONS AT DIFFICULTY LEVEL 1 – EASY

Example 1:	
<u>Question 4.1: November 2012 DBE</u>	
REQUIRED:	
Choose a description from COLUMN B that matches the term in COLUMN A. Write only the letter (A–D) next to the question number (4.1.1–4.1.4) in the ANSWER BOOK. (8)	
COLUMN A	COLUMN B

4.1.1 Income Statement	A) this shows the owners' equity (net worth) of a company, its assets and liabilities, at the end of the financial year
4.1.2 Balance Sheet	B) this shows an opinion expressed on the fair presentation of the figures in the financial statements
4.1.3 Cash Flow Statement	C) this shows the net profit or loss of a company for a financial year
4.1.4 Independent Auditor's Report	D) this shows the effect of the operating, financing and investing activities on the money possessed by the business.

(2 x 4) = (8)

Discussion:

This question is classified as 'easy' because:

- 'Companies' forms an essential part of the prescribed curriculum for the topic dealing with financial statements and audit report of Companies. All Grade 12 candidates should know and understand the accounting terms, Income Statement, Balance Sheet, Cash Flow Statement, and Independent Auditor's Report as they are used repeatedly throughout the Grade 10-12 curriculum **(content)**
- The task is to identify the description in Column B that 'matches' each term in Column A. This is a simple recall and recognition task. The envisaged Grade 12 candidate should have no trouble matching each term with the correct description, and it is very easy for them to write the answers **(task)**.
- The instruction is very specific and clear, it is not difficult for candidates to work out what is required. The terms and phrases used in the stimulus material such as owners' 'equity (net worth)' 'assets and liabilities', 'financial year', fair presentation', 'net profit or loss' should all be familiar to Grade 12 candidates **(stimulus)**.
- The answers consist of single letters (A-D) written next to each sub-question number so they are easy to write. The allocation of two marks per answer and the marking of the question are straightforward **(expected response)**.

This question is thus easy in terms of content, stimulus, task and expected response difficulty.

Memorandum/Marking guidelines

4.1.1	C ✓✓
4.1.2	A ✓✓
4.1.3	D ✓✓
4.1.4	B ✓✓

[8]

Example 2:

Question 6.1.3: November 2014 DBE

Brian Jonas is the owner of Brian's Brellies, a business that manufactures umbrellas. The financial year ends on 31 July 2014.

REQUIRED:

Prepare the Production Cost Statement for the year ended 31 July 2014. (10)

INFORMATION

STOCK BALANCES	31 JULY 2014	1 AUGUST 2013
Raw material stock	R124 400	R98 780
Work-in-process stock	R42 600	R37 600
Indirect material	R3 600	R4 400

Raw material issued to the factory for production: R623 700

Direct labour cost: R612 864

Factory overhead cost: R302 100

Discussion:

This question is classified as easy because:

- 'The Production Cost Statement' forms part of the core curriculum for Grade 12. The information required to prepare this statement should be familiar to Grade 12 candidates as the topic is first introduced as ledger accounts in Grade 11 (**content**).
- The instruction is very specific and clear, it is not difficult to work out what the question is asking. The stimulus material provided is clear and easy to read and all the information required to prepare the Production Cost Statement is provided. The terms used (such as 'work-in process stock'; 'indirect material'; and 'factory overhead cost') should all be familiar to Grade 12 candidates (**stimulus**).
- The **task** is to prepare the Production Cost Statement. It should be easy for the ideal Grade 12 candidate to formulate a response as the task involves performing a routine application with no preliminary calculations required. Candidates simply have to remember the format of the statement and insert the relevant amounts in the right places.
- One mark is allocated for each correct detail and figure. Marking should be straightforward and the envisaged Grade 12 candidate should have no problem achieving the marks allocated (10 marks) (**expected response**).

The question is thus deemed to be easy in relation to all four possible sources of difficulty outlined in the framework

Memorandum/Marking guidelines

PRODUCTION COST STATEMENT FOR THE YEAR ENDED 31 JULY 2014

Direct material cost		623 700
Direct labour cost ✓	<input checked="" type="checkbox"/>	612 864
Prime costs	<input checked="" type="checkbox"/>	1 236 564
Factory overhead costs ✓	<input checked="" type="checkbox"/>	302 100
Total production costs	<input checked="" type="checkbox"/>	1 538 664
Work in process (1 August 2013)	✓	37 600
		1 576 264
Work in process (31 July 2014)	✓	42 600
Cost of production of finished goods	<input checked="" type="checkbox"/>	1 533 664

[10]

Example 3:

Question 1.3.2: November 2012 DBE

VALUE-ADDED TAX

You are provided with information relating to Amy's Clothing Store. All goods are subject to 14% VAT. The business is owned by Amy Andrews.

REQUIRED:

Amy has not yet submitted the VAT return.

John Smith is the internal auditor. He has a CA qualification. He has noticed that an invoice for purchases from KZN Wholesalers amounting to R200 000 has been signed by Amy and recorded by the bookkeeper. On investigation, he discovers that KZN Wholesalers does not exist.

What should John Smith do about this? Explain. (3)

Discussion:

- 'Business Ethics and VAT' form part of the core curriculum for Grade 12. The candidates should be familiar with the concept of 'fraudulent documents', their impact on VAT and the professional role of a chartered accountant. **(content)**
- The instruction is very specific and clear, it is not difficult to work out what the question is asking. The stimulus material provided is clear and easy to read and all the information required to formulate the explanation that should be given to John Smith is provided. The terms used in the question and source material (for example, 'VAT return; internal auditor, tax evasion') should all be familiar to Grade 12 candidates. **(Stimulus)**
- The **task** is to explain what the auditor, John Smith should do about fraudulence of documents. It should be easy for the envisaged Grade 12 candidate to formulate a response as the task involves basic understanding of business ethics (i.e. fraudulent documents), and their impact on VAT. Candidates simply have to remember knowledge on business ethics and tax evasion.
- The envisaged Grade 12 candidate should find it easy to formulate the response (1 explanation or advice) and attain the 3 marks allocated). Excellent

explanation = 3 marks; good = 2 marks; satisfactory = 1 mark; incorrect = 0 marks. Therefore, mark allocation and marking of the question is straightforward (**expected response**).

The question is thus deemed to be easy in relation to all four possible sources of difficulty.

Memorandum/Marking guidelines

Any valid explanation

Excellent = 3 marks; good = 2 marks; satisfactory = 1 mark

Response for three marks must mention the action (inform Amy and instruct her to cancel the entry) and must explain the reason (tax evasion / unethical / illegal).

Award part-marks for partial answers.

Examples of responses:

He should inform Amy that tax evasion is illegal, she should not have authorised this transaction. He must that the entry for R200 000 must be cancelled and the correct amount owed to SARS must be paid. (3 marks)

He must insist that the entry is cancelled because tax evasion is illegal. (2 marks)

He must insist that this is corrected. (1 mark)

[3]

TABLE 11: EXAMPLES OF QUESTIONS AT DIFFICULTY LEVEL 2 – MODERATE

Example 1:

Question 4.4: November 2011 IEB Paper 1

Information relating to Marlpet Distributors

Marlpet Distributors is a sole Trader owned by Gerald Fields. They specialise in supplying pet shops with a variety of pet products and dry pet food.

Over the past two years credit sales have increased in volume and the debtors' clerk has not been able to cope with this increase. Gerald has had to employ an additional debtors' clerk to assist with the management of debtors.

Debtors are expected to pay their accounts as follows:

1. 30% in the transaction month. A 30% discount is allowed if payment is received during the transaction month.
2. 65% in the month following the transaction month.
3. 5% is to be written off as a bad debt in the second month following the transaction month.

Gerald analysed the actual debtors' collection pattern for August 2011. The result were:

CREDIT SALES	ACTUAL COLLECTIONS			
	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
August R55 000	R8 536 received. Discount given R264	R19 250	R22 000	R4 950 to be written off

				as a bad debt
	16%	35%	40%	9%

REQUIRED:

Using the analysis of actual debtors' collection for August 2011, give two points to explain whether you think that the collections from debtors are being efficiently managed. Substantiate your opinion by providing figures and making comparisons. (6)

Discussion:

The question is classified as moderately difficult because:

- Grade 12 candidates should be familiar with the topic (Budgeting) as it forms a core part of Grade 11 and 12 curricula. However, the concept of analysis of Debtors' collection schedule is moderately difficult for the envisaged Grade 12 candidate to understand. **(content)**
- The instruction in the question is clear and the terms and phrases used (for example, 'transaction month'; 'actual debtors' collection pattern'; 'substantiate') should all be familiar to Grade 12 accounting candidates. The source material does not require much interpretation. All information required to formulate the answer is provided. What makes the stimulus moderately difficult is that it is not easy for an envisaged candidate to work out what the question is asking because the candidate needs to analyse the amounts for actual collections before providing a solution. **(stimulus)**
- The **task** is to provide two points explaining whether the collections from debtors are being efficiently managed. To formulate a response, candidates first have to assess the financial information provided (in the Debtors' collection schedule). Answering the question thus involves identifying the relevant data, comparing it, writing at least two sentences offering an explanation for their opinion and then providing comparative figures as evidence to justify their opinion. Although this question is categorised as an evaluation question, because Grade 12 accounting candidates are exposed to similar tasks regularly in class, the task is more routine and hence is classified as moderately difficult rather than difficult.
- Six marks are allocated for this question. Candidates are told that they have to write two explanations and provide figures to substantiate their opinion. The envisaged Grade 12 candidate could experience difficulty in deciding on how many figures are needed with regard to the second part of the question and not include sufficient to attain both marks. **(expected response)**

The question is thus deemed to be moderately difficult in terms of all four possible sources of difficulty outlined in the framework.

Memorandum/Marking guidelines

Any two of the following answers:

- Debtors are not keeping to credit terms of 60 days. Only 51% are paying within 60 days. Or 49% are not paying within 60 days.
- Almost 9% of debtors are not paying at all and are written off – they should be making more of an effort to get this money back, compared to the 5% target.

Any other acceptable answer.

[6]

Example 2:

Question 6.2.1: November 2013 DBE

You are provided with information relating to Fast Save Traders owned by Mohammed Khan. The business sells school shirts. Their financial year ends on 31 July 2013. The business uses the FIFO (first in first out) method to value stock. The periodic inventory system is used.

REQUIRED:

Calculate the value of closing stock according to the FIFO method on 31 July 2013.
(7)

INFORMATION

Sales and cost of sales for the year

	TOTAL
Sales	R504 000
Cost of sales	R415 500

Inventories of shirts

	NUMBER OF UNITS	PRICE PER UNIT	TOTAL
1 August 2012	600	R80	R48 000
31 July 2013	970	?	?

Purchases and returns:

	NUMBER OF UNITS	PRICE PER UNIT	TOTAL
Purchases:			
12 October 2012	750	R110	R82 500
18 December 2012	1 900	R130	R247 000
6 March 2013	680	R100	R68 000
24 June 2013	880	R120	R105 600
	4 210		R503 100
Returns:			
7 March 2013	(60)	R100	(R6 000)
24 June 2013	(150)	R120	(R18 000)
NET TOTAL	4 000		R479 100

Discussion:

- Knowing how to calculate the value of closing stock is central to stock valuation and should be familiar to all candidates. They should have been taught this in class as it forms a core part of the Grade 12 curriculum. **(content)**
- The question itself is short and easy to read and understand. The phrases and terms used in the question and source material ('FIFO (first in first out) method'; 'periodic inventory system'; 'value of closing stock'; 'purchases and returns'), should all be familiar to Grade 12 candidates. All the information needed to work out the answer is provided in the source material. Although the terms and phrased used in the question are familiar to Grade 12 candidates, the information is provided in three but related sources (opening and closing stock, sales and cost of sales, purchases and returns). The question is moderately difficult for the envisaged candidate because it is not easy for the candidate to select the relevant information to calculate the closing stock from three sources. **(stimulus)**
- The task is to calculate closing stock using FIFO method. Candidates have to recognise that because the periodic inventory system is used, they can use two methods to calculate closing stock. Although the number of stock on hand is provided in the material for the question, candidates need to remember the formula for calculating stock on hand using FIFO method. They also have to recognise that there are stock returns in March and June and that stock was purchased at different prices, therefore they have to perform preliminary calculations. Thus, they have to use more abstract reasoning to interpret the financial information. Hence the task is moderately difficult for the envisaged Grade 12 candidate. **(task)**
- 7 marks are allocated for this question. The allocation of seven marks indicates to candidates that they have to perform preliminary calculations, if they get the first calculation wrong, then subsequent answers will be wrong. Thus, the envisaged Grade 12 candidate will find it moderately difficult to obtain all 7 marks. **(expected response)**

The question is thus deemed to be moderately difficult in terms of stimulus, task and expected response.

Memorandum/Marking guidelines

730 ✓	X R120 ✓	R87 600 ✓
970		
240 <input checked="" type="checkbox"/>	X R100 ✓	<u>R24 000 <input checked="" type="checkbox"/></u>
Or		
48 000 + 503 100 – 18 000 – 6 000 – 415 500		<u>R111 600 <input checked="" type="checkbox"/></u>
✓	✓	✓
	✓	✓✓

[7]

Example 3:

Question 2.2.2: November 2013 DBE

2.2 PROTEA MANUFACTURERS

Protea Manufacturers make one styles of uniforms (overalls). The financial year ends on 31 August 2013.

REQUIRED:

2.2.2 The internal auditor is not satisfied with the direct labour cost for the year.

- Explain the problem relating to the direct labour cost and quote figures to support your explanation. (3)
- Give TWO possible solutions to the problem. (4)

Direct labour cost

	Hours	Rate	Workers	Total
Normal Time	1 200	R32,00	10	R384 000
Overtime	880	R64,00	10	R563 200
Employer's contribution				R38 400
				R985 600

Discussion:

- To answer this question, candidates need to understand and know about cost concepts. Grade 12 candidates should all know and understand direct labour costs as it is a fundamental part of the prescribed curriculum and an easy concept for the envisaged Grade 12 candidate to grasp). **(content)**
- The instructions in the question are very specific and clear. The source material provided is easy to read and does not require much interpretation. Grade 12 candidates should be familiar with the terms ('overtime', 'normal time', 'direct labour cost') as they are introduced in lower grades and used repeatedly throughout the Grade 10-12 curriculum. The stimulus material provides very specific data related to the question. **(stimulus)**
- The **task** is to identify and explain the problem, quote figures as evidence, and provide two solutions to the problem. Candidates are required to evaluate financial information and formulate solutions to the identified problem. Although the question requires creative thinking, the task is classified as moderately difficult because all information to be evaluated is provided in the stimulus material. What also makes the task moderately difficult rather than easy for the envisaged Grade 12 candidate is that they are expected to formulate their own solutions by writing extended explanation.
- Three marks are allocated for explaining the problem and quoting the figures to support the explanation. The implication is that if candidates incorrectly identify the problem or provide an incorrect explanation, they will lose all 3 marks. Four marks are allocated for providing two solutions to the problem. Although the mark allocation for the second part of the question seems straightforward, if candidates do not identify a valid problem in the first part, they will not be able to provide suitable solutions. Thus, the envisaged Grade 12 candidate could find it moderately difficult to obtain all 7 marks **(expected response)**.

The question is thus deemed to be moderately difficult in terms of stimulus, task and expected response.

Memorandum/Marking guidelines

Any valid response ✓✓✓

Good answer = 3 marks; good answer without figures = 2 marks; part answer = 1

Expected responses: PPP

- The workers are earning more through overtime (R563 200) than they are from normal time (R384 000).
- The workers worked 1 200 hours normal time compared to 880 hours overtime/DLC is 71% of total costs.
- Overtime accounts for 57% of the total direct labour cost.
- Normal time is low possible due to disruption, absenteeism or poor supervision (relevant figures required e.g. 49 weeks x 40 hours = 1 960)

[3]

Any TWO possible solutions to this problem ✓✓

Good answer = 2 marks; part answer = 1

Expected responses for 2 marks:

- Set production targets that must be completed (time and motion studies).
- Better supervision to ensure workers are on duty during normal working hours/ rotate supervisors if necessary to prevent abuse.
- Set limits on overtime hours and ensure foreman controls this.
- Reconsider conditions of service e.g. minimum normal hours, overtime rate.
- Employ more workers at normal rate for a full working day throughout the year, then discontinue overtime (cheaper to pay for normal time).
- Anticipate disruption to normal time production (e.g. power cuts, strikes) – have contingency plans in place.

Expected responses for 1 mark:

- More normal time to be worked/ less overtime to be worked (same point)
- Train workers.

[4]

TABLE 12: EXAMPLES OF QUESTIONS AT DIFFICULTY LEVEL 3 – DIFFICULT

Example 1:

Question 6.6 and 6.7: November 2012 DBE

- 6.6 Jim is of the opinion that he could benefit financially if he accepts Samuel's offer. State THREE points that would have a positive effect on his Projected Income Statement for January 2013 if he accepts the offer. Give figures or information from the question to support your answer. (6)
- 6.7 Jim is also conscious of the fact that there are negative points if he accepts the offer. State TWO points that Jim should consider before finalising his decision to sell the property. Explain. (4)

INFORMATION:

1. Jim bought the land and buildings for R1,2 million in 2011.
 - He rents out an unused portion of this property to a tenant. The rent will increase by 5% on 1 November 2012.
 - Jim had received a loan from his brother to pay for the land and buildings. The balance of this loan was R1 million on 1 October 2012. The interest

rate is 15% p.a. and the loan is reduced by R50 000 per month on the last day of the month. Interest is paid monthly and is not capitalised.

2. Jim would like to improve/increase his projected net income and is considering a proposal from a local businessman, Samuel Davids.

Samuel is prepared to purchase all the land and buildings of the business from Jim for R1,5 million during December 2012 and rent it to him for R10 500 per month.

Jim is interested in this offer as he knows that this will enable him to repay the loan from his brother in full on 1 January 2013 (the loan on this date will be R850 000). He will also be able to invest the surplus funds in a fixed deposit at 6% pa.

INFORMATION:

**HAPPY HOLIDAY SHOP
EXTRACT FROM THE PROJECTED INCOME STATEMENT**

FOR THE THREE MONTHS ENDED 31 DECEMBER 2012

	BUDGET	ACTUAL	BUDGET	BUDGET
	OCT. 2012	OCT. 2012	NOV. 2012	DEC. 2012
Sales	R 590 000	R 710 500	R 590 000	R 708 000
Cost of sales	368 750	490 000	368 750	442 500
Gross profit	221 250	220 500	221 250	265 500
Rent income	5 200	5 200	?	?
Salaries	?	?	?	?
Maintenance of property	4 000	7 000	4 000	4 000
Municipal rates on property	1 000	1 000	1 000	1 000
Telephone	1 500	1 200	1 500	1 500
Water and electricity	1 200	5 600	1 200	1 200
Advertising	4 000	4 000	4 000	?
Stationery	?	?	?	?
Trading stock deficit	8 000	12 300	8 000	8 000
Interest expense (15% p.a.)	(12 500)	(12 500)	?	(11 250)

Discussion:

The question is classified as difficult because:

- The knowledge needed to answer this question (points that would have a positive effect on the Projected Income Statement and the negative effects of selling a property) forms part of the curriculum topic, (Projected Income Statement) which deals with the analysis and interpretation of Projected Income Statement. Although Grade 12 candidates would have learnt about Projected Income Statement in class, this question makes high conceptual demands on Grade 12 candidates because, to answer it, they need to understand the difference between a lease and a buy decision. **(content)**

- The stimulus material is complex. Although the instructions are specific and clear, to answer the question, candidates need to perform calculations using figures from all three sources provided. The information is presented in numerical and textual (word-based) terms. This combination contributes to the difficulty of interpreting and cross referencing the information provided. **(stimulus)**
- **The task** is to state the three points that would have a positive effect on the Projected Income Statement and the negative effects of selling a property if the owner accepts the offer. To answer the question candidates have to evaluate a lease versus buy decision, and anticipate/predict the effect on the profit earned by the business. Multiple steps are involved in working out the answer and candidates have to read, interpret and cross-reference a large amount of information. Candidates need to identify the items and figures which are affected by the decision, determine figures which impact on the Projected Income Statement, compare them (perform some calculations) and provide comments on the positive effect that the identified items have on the Projected Income Statement. They also have to provide negative effects of selling the property by quoting relevant figures and evidence from the information provided. Formulating an answer requires a degree of creative thought in a context which is unfamiliar to the envisaged Grade 12 candidate.
- 6 marks are allocated for the question. Candidates are instructed to write three points that would have a positive effect. If candidates provide an incorrect point, they lose 2 marks. 4 marks are allocated for 6.7, second part of the question. Candidates are instructed to write two points that would have a negative effect. The envisaged candidate will find it difficult to achieve all the marks because of all the steps required to answer the question; if one of the calculations is incorrect, then they will provide incorrect point. **(expected response)**

The question is difficult in terms of the content, stimulus material, task and expected response.

Memorandum/Marking guidelines

Three separate points and ✓✓✓
Figures ✓✓✓

Expected responses for 2 marks each (point and figure):

- He will be saving interest on the loan – R10 625 or R11 250 or R11 875/ He will be paying no interest on loan (i.e. 0).
- He will be earning interest on a fixed deposit – 6% of R650 000 (R3 250).
- He will save on maintenance costs – R4 00 or R7 000/ He will incur no maintenance costs (i.e. 0).
- He will save on rates – R1 000/ He will not pay rates (i.e. 0).
- The rent expense is R125 less than the interest on the loan (R10 625 – R10 500)
- He will reflect a profit on sale of the property of R300 000 in the Income Statement.

[6]

Two valid points ✓✓ ✓✓

Expected responses for 2 marks:

- He will be losing an asset which appreciates in value over time.
- The value of the land and buildings may increase by more than the rent he is paying (R126 000 per year).
- He will be losing rent income (R5 460 per month).
- He will be paying rent (R10 500 per month).
- The rental will increase annually.
- It could hamper future development of the business (if he does not own the fixed assets).
- He will not have collateral in the form of property.

[4]

Example 2:

Question 5.3.4: November 2012 DBE

Your friend, James, wants to buy shares in a company which sells running shoes. He asks you for advice and presents you with the following financial indicators of two companies he is considering. Both companies have the same number of shares with the same par values.

	KWELA LTD	POMI LTD
Market price per share on the JSE	750 cents	885 cents
Net asset value per share	609 cents	939 cents
Earnings per share	410 cents	176 cents
Dividends per share	240 cents	185 cents
% return on shareholders' equity	21,3%	11,2%
% return on total capital employed	32,6%	13,6%
% interest rate on loans	15,0%	15,0%
Debt/Equity ratio	0,3:1	2,0:1
Current ratio	6,0:1	1,5:1
Acid-test ratio	2,8:1	0,9:1
Period for which stock is on hand	150 days	88 days
Average debtors' collection period	53 days	25 days

REQUIRED:

Explain your answers to the following questions. In each case compare and quote financial indicators of both companies (actual figures, ratios or percentages) to support your answer.

The existing shareholders of the two companies hold different opinions of the current market value of their shares.

- Explain why the existing shareholders of Kwela Ltd are happy with this. Quote financial indicator/figures to support your answer.
- Explain why the existing shareholders of Pomi Ltd are very disappointed with this. Quote a financial indicator/figures to support your answer.

(4)

Discussion:

This question is classified as difficult because:

- The topic, 'analysis and interpretation of company's financial statements', is covered in the Grade 12 curriculum. It should thus be familiar to candidates. However, the concepts involved, specifically, 'financial indicators for companies' are difficult for the envisaged Grade 12 candidate to understand. If candidates do not understand the concepts 'net asset value' and 'market price per share', then they will not be able to make an evaluative judgment. **(content)**
- The instructions in the question are clear and fairly easy to understand. However, the stimulus includes a large amount of information especially numerical data, which candidates have to read and analyse in order to respond. Many of the terms used in the material, such as 'net asset value' and 'earnings per share' are highly specialized and require technical comprehension. **(stimulus)**
- To complete the task, candidates have to analyse the relationship between the financial indicators for the two companies by comparing them. They have to identify and select appropriate financial indicators from the information provided and make an evaluative judgment as to whether these indicators are positive or negative. The task is thus difficult because it requires an analytic comparative judgment that synthesises the information available. **(task)**
- 4 marks are allocated for the whole question (i.e. 2 marks for each bulleted question). The mark allocation is therefore relatively straightforward. However, candidates have to write extended text using their own words to explain shareholders opinions; they have to condense what could be a long answer into one sentence, making sure each answer is logical and to the point. This aspect makes the expected response difficult for the envisaged Grade 12 candidate. **(expected response)**

The question is thus difficult in relation to all four of the possible sources of difficulty.

Memorandum/Marking guidelines

Comparing market price and NAV of Kwela Ltd ✓ Figures ✓

Market price of Kwela Ltd is 750 cents which is higher than the NAV of 609 cents OR market price is 141 cents higher than the NAV. Kwela Ltd is thus able to fetch a price higher than the value of the shares in the books of the company.

Comparing market price and NAV of Pomi Ltd ✓ figures ✓

Market price of Pomi Ltd 885 cents which is lower than the NAV of 939 cents OR market price is 54 cents lower than the NAV.

[4]

Example 3:

Question 3.2.4: November 2012 DBE

You are provided with information relating to Belino Manufacturers which consists of two factories producing different products: Belino blankets and Belino towels. The owner of the business, Benny Belino, has compared the profit he has earned over the past two years (2011 and 2012) and has found that it has decreased by more than R3 million.

He asks for advice in reversing this disturbing trend. Note that the inflation rate is 7% and that Benny was able to keep the fixed costs unchanged over the past year.

REQUIRED:

Benny has decided to increase the prices of either the blankets or the towels by R15,00 in the next financial year.

- Which product should Benny increase in price by R15,00? Explain and quote figures to support your answer. (3)
- In this case, estimate how much extra net profit he could earn next year assuming that his level of production and sales will remain unchanged. Give a calculation to support your answer. (2)

INFORMATION:

The accountant has identified the following information

GENERAL INFORMATION

	BELINO BLANKETS		BELINO TOWELS	
	2012	2011	2012	2011
Total fixed costs (factory overhead costs and administration costs)	3 800 000	3 800 000	2 500 000	2 500 000
Net profit	1 144 000	5 975 000	2 620 000	930 000

Calculation of variable unit costs:

	BELINO BLANKETS		BELINO TOWELS	
	2012	2011	2012	2011
Direct material cost per unit	R34,00	R35,00	R27,00	R20,00
Direct labour cost per unit	R75,00	R65,00	R16,00	R16,00

Selling and distribution cost per unit	R12,00	R9,00	R3,00	R5,00
Total variable costs per unit	R121,00	R109,00	R46,00	R41,00

Additional information/calculations

	BELINO BLANKETS		BELINO TOWELS	
	2012	2011	2012	2011
Selling price per unit charged by Belino	R430,00	R500,00	R110,00	R90,00
Selling price of competitors	R410,00	R450,00	R130,00	R105,00
Number of units made and sold	16 000 units	25 000 units	80 000 units	70 000 units
Break-even point	12 298 units	9 719 units	39 063 units	51 020 units

Discussion:

This question is classified as difficult because:

- 'Manufacturing' forms an important part of the curriculum topics covered in Grade 12. The candidate should be familiar with the topic (analysis and interpretation of cost information for manufacturing enterprises). **(content)**
- Although the instruction itself is clear, understanding the question and its various components is difficult for the envisaged Grade 12 candidate because of the large amount information provided. The source material provides extensive numerical data which has to be interpreted, analysed and cross-referenced in order to come up with viable solutions to the problem. **(stimulus)**
- The **task** involves making evaluative judgments and formulating viable solutions to problems, by extensive analysis and comparison of the complex data provided. What makes the task difficult for the ideal Grade 12 candidates is that they are required to expand on their evaluative judgments by formulating reasons to justify their selection and showing figures and calculations to support their answers.
- 3 marks are allocated for the first bulleted question. 2 marks are allocated for the second bulleted question. The envisaged candidate will find it difficult to achieve all the marks because of all the steps required to answer the question; if the first calculation is incorrect, then candidates will provide incorrect estimation of extra net profit. **(expected response)**

The question is thus difficult in relation to stimulus material, task and expected response.

Memorandum/Marking guidelines

Towels ✓
Explanation ✓
Quoting of figures ✓

Expected responses for 2 marks:

- If he increases the price of towels to R125 it is still lower than the price of R130 charged by his major competitor (still R5 lower than competitor).
- He cannot increase the price of blankets because his price of R430 is already higher than the R410 charged by his major competitor (already R20 more)

$$80\,000 \times R15 = R1,2\text{ m } \checkmark\checkmark$$

(1 mark if answer is between R1m & R1,4m)

[5]

TABLE 13: EXAMPLES OF QUESTIONS AT DIFFICULTY LEVEL 4 – VERY DIFFICULT

Note:

During the development of the exemplar book some subject specialist argued that there is a fine line between a difficult and a very difficult question. It was also evident that in some subjects question papers did not have questions that could be categorised as very difficult. In order to cater for this category, subject specialists were requested to adapt existing questions and make them very difficult or create their own examples of very difficult question. However, it was noted that in some instances attempts to create very difficult questions introduced invalid sources of difficulty which in turn rendered the questions invalid. Hence Umalusi acknowledges that the very difficult category may be problematic and therefore requires especially careful scrutiny,

Example 1:

Question created for the purpose of this exemplar book

MANUFACTURING

You are provided with information relating to PQ Manufacturers for the year ended 30 July 2015.

REQUIRED:

Calculate the number of units produced and sold during the current financial year. (8)

INFORMATION:

- The break-even point is 4 500 units.
- All products manufactured are sold in the same year.
- Net profit of R1 089 000 was earned during the current financial year.
- The selling price per product is R360.
- Fixed costs are R891 000 per year.

Discussion:

- 'Manufacturing' forms an important part of the curriculum topics covered in Grade 12. The candidate should be familiar with the topic (break-even point). **(Content)**
- The instruction itself is clear. Although the information provided is simple, it needs to be properly analysed before performing further calculations. **(stimulus)**
- The **task** is to calculate the number of units produced and sold during the current financial year. Candidates may have done various forms of this calculation in class. However, the task is regarded as very difficult for the envisaged Grade 12 candidates as it is a complex calculation which require the analysis and interpretation of preparation of manufacturing businesses. The process of calculating the unknown is non-routine, requires mathematical ability, and analytical skills in the context of manufacturing (break-even point).
- 8 marks are allocated for the whole question. Although candidates get part marks for showing certain steps in the calculation, getting full marks depends on the accuracy of subsequent calculations. Hence, attaining high or full marks for the expected response is very difficult for the envisaged Grade 12 candidate **(expected response)**.

The question is very difficult in relation to task and expected response.

Memorandum/Marking guidelines

$$\begin{array}{rcl} \frac{\text{R}891\,000 \checkmark}{\text{R}360 \checkmark - \text{VC per unit}} & = & 4\,500 \text{ units } \checkmark \\ \text{VC per unit} & = & \text{R}162 \checkmark \end{array}$$

Let number of units produced be = y

$$\begin{array}{rcl} \text{Sales} - \text{Variable costs} - \text{Fixed costs} & = & \text{R}1\,089\,000 \\ 360y - 162y - 891\,000 & = & \text{R}1\,890\,000 \\ 198y \checkmark \checkmark & = & \text{R}1\,980\,000 \checkmark \end{array}$$

$Y = 10\,000 \text{ units } \checkmark$

[8]

Example 2:

Question created for the purpose of this exemplar book

MASTER LIMITED

You are provided with information relating to Master Ltd for the financial year ended 30 June 2014.

REQUIRED:

Use the information below to calculate the following:

- a) Depreciation on vehicles for the year ended 30 June 2014 (14)
- b) The selling price of the vehicle sold. (6)

CHANGE THE RATE OF CALCULATING DEPRECIATION.

INFORMATION:

1. Extract from PRE-ADJUSTMENT TRIAL BALANCE AS AT 30 JUNE 2014

	DEBIT	CREDIT
Balance Sheet Accounts Section	R	R
Ordinary share capital		2 820 000
Retained income		684 460
Mortgage loan: Joy Bank		804 500
Land and buildings	2 097 000	
Vehicles	814 000	
Equipment	516 000	
Accumulated depreciation on vehicles		294 800
Accumulated depreciation on equipment		341 000

1. Details of fixed assets

- A vehicle which was purchased on 1 November 2011 was sold for cash at a profit of R11 000 on 31 March 2014.
- Depreciation for the first year on this vehicle was R22 000.
 - The details of the asset sold from the Fixed Asset Register were as follows:
 - Cost price, R165 000
 - Depreciation rate of ? p.a. on the diminishing-balance method

Discussion:

This question is classified as very difficult because:

- The knowledge required to answer this question, namely, asset disposal and analysis and interpretation of it, forms an essential part of the Grade 11 and 12 curricula. Content is familiar to candidates. **(content)**
- The information or source material provided to perform the necessary calculations needs to be properly interpreted by candidates. They have to cross reference the numerical and textual information provided. Although the question is set in a context that would be familiar to Grade 12 envisaged candidates, it is not to their normal practical experiences. **(stimulus)**
- The **task** is to calculate depreciation on vehicle sold and the value at which a vehicle was sold. Although candidates may have done depreciation and disposal of asset in class, the task is regarded very difficult for the envisaged Grade 12 candidates, despite the exposure to this section of work in class, as they are required to perform complex arithmetical calculations. Although the cost price is provided, accumulated depreciation for the vehicles sold is not provided. To calculate the accumulated depreciation, candidates have to carry out several preliminary calculations. Thus, they have to start by calculating the rate of the depreciation before calculating the accumulated depreciation.
- 20 marks are allocated for the whole question. 14 marks (10 marks for depreciation on sold vehicles and 4 marks for depreciation on the remaining

vehicles) are allocated for correctly calculating depreciation on vehicles. Calculation of the correct amount of depreciation depends on the accuracy of other earlier calculations. Six marks are allocated for correctly calculating the selling price of the vehicle sold. Attaining full 6 marks depends on the accuracy of the accumulated depreciation of the vehicle sold. Although candidates get part marks for showing certain steps in the calculation, getting full marks depends on the accuracy of subsequent calculations. Hence, attaining high or full marks for the expected response is very difficult for the envisaged Grade 12 candidate. **(expected response)**

The question is deemed very difficult in relation to stimulus, task and response.

Memorandum/Marking guidelines

(a) Depreciation on vehicles:

Calculation of the depreciation rate:

$$\frac{X}{100} \times R165\,000 \times \frac{8}{12} = R22\,000 \checkmark\checkmark$$

$$\begin{aligned} X &= R22\,000 \times 12 \times 100 / 165\,000 \times 8 \checkmark \\ &= 264\,000 / 165\,000 \times 8 \\ &= 264\,000 / 132\,000 \checkmark \\ &= 20 \checkmark\checkmark \end{aligned}$$

Depreciation for the vehicle sold:

Year 1: = 22 000

Year 2: (165 000 – 22 000) x 20% = 28 600 ✓✓

Year 3: (165 000 – 50 600) x 20% x 9/12 = 17 160 ✓✓

$$(165\,000 - 22\,000 - 28\,600) \times 20\% \times \frac{9}{12} = 17\,160$$

$$[(814\,000 - 165\,000) - (294\,800 - 50\,600)] \times 20\% = 80\,960 \checkmark$$

Total depreciation on vehicles: = 98 120 (14)

(b) Selling price of vehicle sold:

$$165\,000 - (22\,000 + 28\,600 + 17\,160) + 11\,000 = 108\,240 \checkmark (6)$$

[20]

Example 3:

Question created for the purpose of this exemplar book

You are provided with information relating to ABC Ltd for the year ended 30 June 2015.

REQUIRED:

- 1.1 Calculate total (a) and (b) (see Information 4 below). (12)
- 1.2 Calculate total dividends for the year. (9)

INFORMATION:

- 1. **Figures obtained from the Income Statement for year ended 30 June 2015:**

- Interest expense R 327 500
- Depreciation 702 000
- Net income before tax 2 450 000

2. **Financial indicators calculated on 30 June 2015:**

- % Return on average shareholders' equity 23,0%
- % Return on average capital employed (before tax) 27,5%
- Net asset value per share R13,80

3. **Ordinary shares:**

- 500 000 shares were in issue on 1 July 2014
- 150 000 new shares were issued on 31 December 2014 at 925 cents each.
- 50 000 shares were repurchased on 31 March 2015 at 440 cents above the average issue price.
-

4.

Extract from the Balance Sheet for the past two years ended 30 June:	2015	2014
Ordinary Share Capital	5 010 000	4 040 000
Retained Income		3 102 000
Ordinary Shareholders' Equity	a)	7 142 000
Total Capital Employed	b)	9 200 000

Discussion:

This question is classified as very difficult because:

- 'Companies' form an important part of the curriculum topics covered in Grade 12. The candidate should be familiar with the topic (financial statements for companies and analysis and interpretation of financial statement). **(content)**
- Although the instruction is clear, understanding the question and its various components is very difficult for the envisaged Grade 12 candidate because of the type of information provided. The information or source material provided to perform the necessary calculations needs to be properly interpreted, analysed and cross-referenced by candidates. In addition the context (setting) (analysing and working backwards from financial indicators) is distant from the envisaged Grade 12 candidate's experience. **(stimulus)**
- The **task** is to calculate the missing figures in the extract from the Balance Sheet and the total dividends for the year. Although candidates may have done the analysis and interpretation of financial in class, the task is regarded very difficult for the envisaged Grade 12 candidates as candidates are required to work backwards from financial indicators and other information in order to identify and calculate the figures required to perform calculations. To be able to do that candidates have to remember the formulas for calculating financial indicators. They need to sift through the information to identify which components of the question affected by the type of information provided. Candidates also need to understand how the components of the question are inter-related to each other as some of the information provided affects more than one component.
- 21 marks are allocated for the whole question. Five marks are allocated for correctly calculating 'ordinary shareholders equity' and 7 marks are for calculating the 'total capital employed'. Nine marks are allocated for the calculation of 'dividends for the year'. Although candidates get part marks for showing certain steps in the calculation, getting full marks depends on the accuracy of the information selected. Hence, attaining high or full marks for the expected response is very difficult for the envisaged Grade 12 candidate. **(expected response)**

The question is deemed very difficult for the envisaged Grade 12 candidate in relation to stimulus, task and expected response.

Memorandum/Marking guidelines

1.1 a) Calculation of Ordinary Shareholders' Equity on 30 June 2015:

✓✓

✓✓

✓

600

000 x R13,80 = R8 280 000 (5)

b) Calculation of Total Capital Employed on 30 June 2015:

$$\text{Average TCE: } \frac{2\,450\,000 + 327\,500}{0,275} = \frac{2\,777\,500}{0,275} = 10\,100\,000 \checkmark$$

$$\text{TCE at beginning of year} = 9\,200\,000 \checkmark$$

$$\text{TCE at end of year:} = 11\,000\,000 \checkmark (7)$$

1.2 Calculation of total dividends for the year ended 30 June 2015:

RI at begin	NI after tax	Repurchase		
✓	✓ ✓ □	✓ ✓	☑	☑ □
3 102 000	+ 1 773 530	– 220 000	– 3 270 000	= R1 385 530 (9)

$$\text{Retained Income (end) } R8\,280\,000 - 5\,010\,000 = \mathbf{3\,270\,000}$$

$$\text{Repurchased } 50\,000 \times 4,40 = \mathbf{220\,000}$$

$$\begin{aligned} \text{Net profit after tax: net profit after tax/average shareholders' equity} &= 23/100 \\ &= x / (7142000 + 8280\,000) / 2 = 23/100 \\ &= x = 23 / 100 \times 7711000 \\ &= x = 177353000 / 100 \\ &= \mathbf{1\,773\,530} \end{aligned}$$

9. CONCLUDING REMARKS

This exemplar book is intended to be used as a training tool to ensure that all role players in the Accounting Examination are working from a common set of principles, concepts, tools and frameworks for assessing cognitive challenge when examinations are set, moderated and evaluated. We hope that the discussion provided and the examples of questions shown by level and type of cognitive demand and later by level of difficulty assist users of the exemplar book to achieve this goal.

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