



SHUTER & SHOOTER PUBLISHERS (PTY) LTD is a proudly South African publishing company. Established as a bookstore almost 100 years ago, we began publishing IsiZulu novels, poetry and textbooks from the early 1930s. Since then, we have been successfully producing quality literature and educational materials in all of the South African official languages, as well as for the core schools curriculum.



SHUTER & SHOOTER PUBLISHERS (PTY) LTD publishes over 950 CAPSapproved titles on the Department of Basic Education's national textbook catalogue, as well as an extensive range of supplementary educational materials. After much research and development, we have also added e-learning to our impressive stable of learning and teaching support material.

2017 saw the launch of our exciting new study guide series – Ace It! A unique series that focuses on the different ways in which learners learn, Ace It! includes study tips for each learning style to help learners excel in their year-end exams.

In 2018 we published our first TVET title and have since produced titles in over 15 subject areas.

In 2018, Shuter & Shooter concluded a landmark transaction with the Zungu Investments Company (ZICO) which saw the company become one of the largest 100% black-owned educational publishers in South Africa.

STER & SHOOTER PUBLIS,

Bosouth AFRICAN | 100% BLA

Why Shuters e-books?

- Crisp, clear graphics
- Interactive content
- User-friendly tools
- Easy and simple to use



Compatibility

- Shuters e-books are compatible with:
 - Andı



Android Devices



Windows



SHUTERS e-books

Contact us now Customer Service – ask for e-Learning | Tel: +27(0)33 846 8721/22/23 • Fax: +27(0)33 846 8701

Email: esupport@shuter.co.za • Web: www.shuters.co.za

CONTENTS

NATED SYLLABUS

INTRODUCTORY ACCOUNTING N4	1
FINANCIAL ACCOUNTING N4,N5	2-3
FINANCIAL MANAGEMENT: FARMING N5	4
APPLIED MANAGEMENT N4, N5	5-6
COMMUNICATION N5, N6	7-8
COMMUNICATION & MANAGEMENT	
COMMUNICATION N4	9
ENTREPRENEURSHIP AND BUSINESS	
MANAGEMENT N5	10
INTRODUCTORY COMPUTER PRACTICE N4	11
COMPUTER PRACTICE N4, N5, N6	12-14
ENGINEERING SCIENCE N1, N2, N3, N4	15-18
MECHANOTECHNICS N4, N5, N6	19-21
QUANTITY SURVEYING N4, N5, N6	22-24
BUILDING ADMINISTRATION N4.	25
STRENGTH OF MATERIALS AND STRUCTURES N5	
MATHEMATICS N4, N5, N6	27-29
TRAVEL OFFICE PROCEDURES N5, N6	30-31
TRAVEL SERVICES N4	
CATERING THEORY AND PRACTICAL N4	33

1

IIIIIIIII

NC (VOCATIONAL) SYLLABUS

COMPUTER PROGRAMMING NC ^(V) 4	.34
DATA COMMUNICATION AND NETWORKING NC ^(V) 4	.35
SYSTEMS ANALYSIS AND DESIGN NC ^(V) 3	.36
SYSTEMS ANALYSIS AND DESIGN NC(V)4	.37

COMING SOON

BUILDING & STRUCTURAL CONSTRUCTION N4	8
BUILDING & STRUCTURAL SURVEYING N4	9
BUILDING ADMINISTRATION N544	0
BUILDING ADMINISTRATION N64	1
BUILDING & STRUCTURAL CONSTRUCTION N542	2

OTHER RESOURCES

ACE IT! STUDY GUIDES FOR GRADE 12	.43-45
TOP CLASSI SUBJECT DICTIONARIES	
ENGLISH LANGUAGE AND MATHEMATICS LTSM	47
LANGUAGE MENTORING (ENGLISH, ISIZULU, SETSWANA)	48
ORDER FORM	.49-50
LECTURER TRAINING INFORMATION	51
CONTACT DETAILSBac	k Cover

INTRODUCTORY **ACCOUNTING N4**

Written in line with the updated NATED syllabus, **Introductory Accounting N4**

introduces the student to the world of accounting. Using simple, relevant examples and explanations, students learn to grasp the concepts needed to master basic Accounting. A variety of activities in the Student Textbook help students to apply their theoretical knowledge in practice.

The Lecturer Guide provides the solutions to all of the activities in the Student Textbook. In addition, a photocopiable workbook is part of the Lecturer Guide, allowing lecturers to hand out templates to students to assist them in completing the activities.

Example 9.1

Date

2019 31 Balance

Details

c/d

2019.





9781485836506 INTRODUCTORY ACCOUNTING N4 LECTURER GUIDE

FINANCIAL ACCOUNTING Ν4

Shuters Financial Accounting

N4 and N5 is written in line with the updated NATED syllabus, and is aimed at students who have a basic knowledge of Accounting principles. After recap and revision of their prior knowledge, more complex concepts and calculations are learned. Exercises and activities are provided in the Student Textbook let students apply and practice their knowledge.

The Lecturer Guide provides all answers to the activities in the Student Textbook. In addition, a photocopiable workbook allows lecturers to hand out templates to students to assist them in completing the activities.

example:

OPENING BALANCE

6 534.00

Cheque 042

Opening balance

DATE DESCRIPTION

033 326 9999 [fax]

01/04/2020 Deposit

05/04/2020 Deposit

11/04/2020 EFT

13/04/2020 Deposit 16/04/2020 EFT

03/04/2020

01/04/2020 Cheque 041

06/04/2020 Cheque 043

09/04/2020 Cheque 044

info@ezw eni.co.za





Examples and explanations expand understanding.

9781485836421	FINANCIAL ACCOUNTING N4 STUDENT TEXTBOOK
9781485836735	FINANCIAL ACCOUNTING N4 LECTURER GUIDE

FINANCIAL ACCOUNTING N5



9781485838494 FINANCIAL ACCOUNTING N5 STUDENT TEXTBOOK

FINANCIAL MANAGEMENT: FARMING N5

Financial Management: Farming N5 student

textbook has been written to enable students to develop the necessary knowledge and skills which will help them to make a positive contribution as owners or managers of a farming business, with specific reference to financial management.

They will learn how to apply basic finance principles and financial analysis concepts to a farming enterprise and will be able to undertake basic financial statement calculations as they apply to the farming business environment.

Helpful activities and examples allow students to hone these skills, and the colourful pictures and user-friendly layout of the book make this subject particularly accessible.

namely:

rent (short term) liabilities, which payment period of 36 months or less, such with respect to the previous year, provisio medium and long term loans during the comi that is due to SARS on the date of balance payment of income tax for previous year, prov cell phone contracts (electronic gadgets), etc Medium term liabilities are all those debi eriod of ten years or less. These include lor instalments for vehicles, lease agreem 'um term loans from Land Bank. m liabilities, which are "a than 10 years"

Wide range of activities to practice new skills.

(rented) land	Storage
ares at the co-operative	Tools and im
K	
k of production items	Tree plantation alo
	homestead.
ractor garage	School fees paid for tv
Diesel waiting to be used during the	Value of stud cattle
harvesting season	
Value of own land	Milking equipment in th
Products ready to be sold	Commercial lambs ready
Heap of compost to be used in the field	R200 000 in a notice de
Favourable bank balance at Nedbank	Electricity account paid
ond at Land bank for land purchased	Two silos by the farm
Iking parlour	Vehicles at market v
draft account at Standard Bank	Holiday house at !
es in the field ready for harvest	Cellphone con+
ks	
one ha of land	Wool

Learning examples provide students with real-life situations.

9781779922380 FINANCIAL MANAGEMENT: FARMING N5 STUDENT TEXTBOOK



APPLIED MANAGEMENT N4



APPLIED MANAGEMENT N5

Shuters Applied Management N5 builds on the knowledge gained by students who have completed Applied Management N4. The book will assist students to navigate the content of the latest syllabus for this subject, and further their knowledge of management in a tourism and hospitality context.

Examples, case studies and activities help students understand and master the subject content, and additional e-resources help to make the subject upto-date and relevant.

THE FRONT OFF

arning Outcomes

t the end of this module students will be able to:

- Explain the various ways in which a booking contract may come into being.
 Name the points to which the express terms normally contained in a contract of book
- Name the points to which the express terms normally contained in a contract of book relate. Explain what significance a guest's contractual capacity to booking a contract if contract of the point of t
- State and explain the three ways in which a contract of booking may end
 Apply the concepts studied in this theme to situations in the front office by means o play or simulated situation.
- List the information which must be provided in the notice displaying the price.
- Compile a typical notice displaying the price in residential establishments.
 Outline the main point of law concerning the registration of guests, with reference Immigration Act (13/2002)

ice can be refused to a guest and explain ejectment g

List the information required for all guests.

xplain the common practice in the hospitality industry of overbooking.

's hotelier and innkeeper.

Legal aspects examined.

west's property.

rights of the proprietor/h.



5.5.1 Services that can be refused to a guest, the ejectment of premises

Under common law, hotels must accept guests unless there is a reasonab for rejecting a guest. Innkeepers who refuse accommodation under the fo civilly or criminally liable to any guests or liable for any fine or penalty. The innkeeper may refuse to accommodate a guest / traveller only when;

- The hotel is fully booked,
- The traveller is unwilling or unable to pay for rate quoted,
- The traveller is a minor unaccompanied by a parent or guardian,
- The traveller is disorderly,
- The traveller was previously ejected,

Rights and responsibilities of hoteliers.

visibly under the influence of drugs or alcohol or crea easonable believes that the room or facility will be u easonably believes is bringing in something that , or room or accommodation would violate t



N. DHLAMINI . N. DLAMINI . M. MTUNGWA

est travelling al requests from the guest. Up-to-date practices explained and discussed.

Specifications for good room reservation sys

Software used in hospitality establishments for reservations

otels use different software. The most ommon is OPERA.

Briefly state the features of the reservation form

ne reservation form records of all the okings made. This helps to update ilability and to keep track of occupancy expected occupancy. Each hotel has

booking.

pected occupancy. Each hotel has pown standard form which is normally electronic.

E-Mail preservations

on US/Eastern

reservation forms help to make sure that all the relevant informa

s an active checklist for receptionists and reservationists t

ats of different fact

9781776288175 APPLIED MANAGEMENT N5 STUDENT TEXTBOOK

.6.3

COMMUNICATION **N5**

Shuters Communication N5 has been designed to teach the theory behind communication principles as well as to equip the student with the skills necessary to function efficiently and professionally in the business world.

The student will learn about acceptable behaviour and business ethics that take place in the business world, and find ways to develop their own personality, skills and interpersonal relationships.

case Study 2

ing article that contains manipulative rep.

Covid Chaos on Campus!

Is your child's education in danger?

Although many Colleges have resumed lectures, it appears as though all students' lives are being put in danger by incompetence. Students are being exposed to Covid-19 on a daily basis, and nobody is doing anything about it!

Students are attending lectures with no ocial distancing and no sanitising. How n our young people's lives be put in er like this? Now is the time for all

parents and students to and demand that thing the safety of each can be guaranteed be held.

also have disadvantages, as tax neck on the reliability of the information is sent to you.



Think about all the social media advertisi. on a daily basis. What does it tell you about t and do you think you are part of their targe

ot writt

uct

Impact of information technology

ic communication can be written, in the form of What posts. These could be interpersonal (between individuals) ation on behalf of an organisation. Many companies ha stomers, and they send out SMSs or other messages ;

services.

nication Extended mpa learning offered in the 'Bright Idea' sections.

learning tools.

Case Studies

and practical

COMMUNICATION



al differences which may

mentioned before, in South Africa we live in a diverse, multicultu. dvantages, but can also cause problems when communicating in the work of obvious cultural differences that you may encounter when you enter the as you study.



A good video on cultural differences from an Australian perspective https://www.youtube.com/watch?v=TWrhWTQXI6Y

Activity 5

Natch the following video on bullying in the llow: https://www.youtube.com/watch?v=-

Links to electronic resources widen the students' experience.

w does bullying manifest itself in the workplace? impact can it have on employees' health?

> d the impact of bullying be on the reputation management of an organisation, w

kplace bullving?

9781485838364 COMMUNICATION N5 STUDENT TEXTBOOK

COMMUNICATION **N6**

Shuters Communication N6 introduces students to new communication concepts and adds greater depth to their existing knowledge gained during the study of N4 and N5. All the necessary correspondence from N4 and N5 is recapped and new correspondence is explained and practised.

Students will learn more about motivation, coping with stress in the workplace, acceptable business behaviour, and how to prepare themselves for the world of work. Real-life case studies and activities will help them gain greater self-knowledge and prepare them for their final examinations.

Activity 3

sider the following scenarios, ar eason or reasons for stress. Prepare to reinforce new skills.

Targeted activities provide opportunities

Scenario 1

Lesedi is working as a sales representative for a comp is to go out to small shops and pharmacies, to encou She spends her days on the road, travelling from place targets to meet, and will lose her bonus if they aren't and helps her where possible. Why is Lesedi stressed

enario 2

er is working as a shampooist in a hair er numbers have dropped. Wh ken mbair. When there

on of a grievance, both employer and emplo

tlines action s who break can include ault and use of ace.

of conduct

behave. Each

these rules.

behaviour that is expected of the employee. It includes obeying company rules, but also extends to job performance.

Disciplinary action is action taken by the employer to deal with an employee' iob performance or behaviour with th aim of improving it.

Discipline in the workplace is th

Easy to find Definitions assist self-study.

COMMUNICATION



or video interview

erviews that are held online using as the communication channel. actors such as distance, and recently, 9, many interviews are now being held using video software such as Skype, Zoom crosoft Teams.

Advantages

- It is cheap and convenient.
- Allows for body language and nonverbal communication to be seen.
- The interview can be recorded for future eference.
 - stressful for the interviewee, as are in their own environment.

Structured role-modelling supports practical experience.



Disadvantages

- Technical issues can at
- Not everyone may hav know-how to use the
- The applicant cann other than the offi in the backgroun
- Does not give ' organizatior

COMMUNICATION N6 STUDENT TEXTBOOK 981776314041

COMMUNICATION & MANAGEMENT COMMUNICATION N4

COMMUNICATION

AND MANAGEMENT

COMMUNICATION

Communication and Management

Communication N4 is designed to teach students the theory behind communication principles as well as to equip them with the skills necessary to function efficiently and professionally in the business world.

Theory is explained using clear, easily understood language and graphics.

This book covers the syllabus for both Communication N4 and Management Communication N4.



ENTREPRENEURSHIP AND BUSINESS MANAGEMENT N5

Shuters Entrepreneurship and Business Management N5 takes real-world cases and examples to help students understand the world of business management and the challenges and rewards of entrepreneurship in a South African context.

ENTREPRENEURSHIP AND BUSINESS MANAGEMENT

B Radomsky

as a slideshow, to help has a videshow, to help has a slideshow, to help has a slideshow the audient.

Presenting tips and techniq

The golden rule before presenting and pitchi stakeholders is that the entrepreneur knows comprehensive overview of the new venture the entrepreneur or entrepreneurial team to

tive visual aids to support the oral pr tation to interested audiences.

for delivering a suc

LECTURER GUIDE MATERIAL IS AVAILABLE TO ACCESS ELECTRONICALLY

of organisational structures

e type of organisation layout required will reflect on the type key to convey to the stakeholders of the business i.e. the workfor

Five common types of organisational structures used are listed belopresented.

1. Hierarchical organisational structure

The pyramid-shaped organisational structure is the most common type an from the top of the business (e.g., the CEO or high-level managers) down The structure defines the level of authority and responsibility and is motiv can define career paths and opportunities for promotion.

Whilst this structure brings standardisation and accountability in the decisic down innovation in a business because of the increased bureaucracy, ar more in the interest of their department than the company.

2. Functional organisational structure

Primarily the team are organised according to their specific skills an business, such as finance, marketing or manufacturing. This allows for role and higher motivation as each functional department is man manager.

important for organisations to promote inter-departme

9781779920256	SHUTERS ENTREPRENEURSHIP AND BUSINESS MANAGEMENT N5 STUDENT TEXTBOOK
9781776315437	SHUTERS ENTREPRENEURSHIP AND BUSINESS MANAGEMENT N5 LECTURER GUIDE

INTRODUCTORY COMPUTER PRACTICE N4

OMPUTER

RACTICE

Shuters Introductory Computer Practice N4

provides a solid foundation for students on which they can build their further knowledge. Students will receive a thorough grounding in basic computer concepts, network and communication technology, information management and computational thinking, internet and communication skills. Digital citizenship and current IT issues are also highlighted and help students to act responsibly in a digital world. A comprehensive guide for the lecturer is also available to assist with resources, activities and assessment.



COMPUTER PRACTICE N4

Shuters Computer Practice N4 builds on the foundation created by **Introductory Computer Practice**. It takes students to a more complex level of computer concepts, network and communication technology, information management and computational thinking, internet and communication skills and digital citizenship.

This textbook is a 'one-stop-shop' for both lecturer and student as it contains all the resources needed to successfully master the contents of this subject.

m of malware se of a computer or Global digital threats explored and discussed.



ial of service (DoS)

enial of service attacks stop users from eing able to access computer programs and websites. These illegal attacks work by making so many requests to a server for a resource that the server can't cope and stops working correctly. Hackers often use botnets and zombies to carry out DoS attacks. Hackers could use your computer in this way without your knowledge! Do you see how essential anti-virus software is?



Botnets est you understanding (Individual) carrin the following functions of an OS:

- Hardware management
- b) Memory management

ent 3

rself!

- c) Disk management
- d) Graphics User Interface (GUI) management
- e) Program management
- 2. Explain why you should always log off your computer when you are done us explanation should include the role of a user profile.
- 3. List and explain the use of three different types of operating systems

typical functions of the OS? of users and user profiles

Activity 1.7 Review (Individual) Test your knowledge regarding what you have learned so far by co the following exam paper: https://learn.mindset.africa/sites/default/files/resourcelib/e For more exercises to review what has been covered so far see here: https://drive.g open?id=16E1x7Bxlzk1SMmrfFUubqX_XGLFy-Pzb

ss computer program tem in ord

Full range of

self study and

assessment tools.

hackers (i.e. a network of zombies) to

outer or any other ICT.

ly. Computers need electricity (from the et in the wall or batteries) to work. The power plies the computer with electricity that is Desktop power supplies often have fans. This power supplies can become very hot, and if ard overheats, it can be damaged. The fan side of the desktop cool. d. The graphics card is what the monitor is controls what is displayed on the screen. may contain a GPU (Graphics Processing aphics-related processing to take some the CPU.

torage device is always measured in

often referred to as a disk.

nle that the computer ded period or permanently its, images, videos) is stored on much data a hard drive can save or capacity of the hard drive. The cample, MBs or GBs. People often use Figure 1.18 The hard drive of a comp and drive interchangeably. Therefore, a ed to store files and hardw

Figure 1.19 The



Visual aids assist student to gain a fuller understanding.

COMPUTER

PRACTICE

9781485836551 COMPUTER PRACTICE N4 STUDENT TEXTBOOK

COMPUTER PRACTICE N5

Shuters Computer Practice

N5. In N4 the different aspects of computer practice were divided into five topics. These are further explored in N5.

The final examination for this subject will consist of two sections: Section A (theory) and Section B (practical) which must be completed using a computer.

An aim of the course is to promote problem-solving skills alongside the technical abilities to use the software packages.



Measurable Practical progression, and activities extended learning nit 2 ICT and t reinforce tools throughout. student impact on the econom experience. Suggested Lesson 45 minutes time Activity 5.6 (30-45 min) sert a new page into the OneNote section and name the Practice/Activity 15 Move the page to be the last page before the Possible Exam Qu **Review time** minutes Activity 5.3 and 5.4. 3 Open the text file "Dracula.txt" by double clicking the file in Windo should open with Notepad or the associated application on your co Copy the content of the file and paste the content into a new contained finition of cybercrime contains the first few paragraphs of the 1897 novel Dracula by Bram Cybercrimes are cri 5. Do these changes: ost cases computer networks and out by means of a c a. Centre the heading "CHAPTER 1" and apply the style Heading 1 to ternet play an integral part in the b. Underline the sub-heading "JONATHAN HARKER'S JOURNAL" and that is committed. c. Format the paragraph "(_Kept in shorthand._)" to be italics shorthand.)' Cybercrime legislation d. Consider the text starting at "_3 May. Bistritz" to the end. markers (hard enters) for the text to flow properly. There r In South Africa cybercrime is addressed Apply spell checking to the whole text. Instruct the sp Communications and Transactions Act that are not found in the dictionary. act can be found at: https://www on C for a model answer that shows what

9781485838302COMPUTER PRACTICE N5 STUDENT TEXTBOOK9781485838463COMPUTER PRACTICE N5 LECTURER GUIDE

COMPUTER PRACTICE N6

Shuters Computer Practice N6 separates the Section A (theory), from Section B (practical application topics). The final mark obtained in the subject has two components – a semester mark and a final examination mark. The semester mark consists of a practical mark, a test mark and an internal examination mark.

The practical assessment task (PAT) is prescribed for the course. It consists of numerous exercises and activities embedded in a single topic or project. Each topic ends with activities directed towards the PAT.

AD SYSTEMS TECHNOLOGIES

Jule Overview

omputer Practice N4 you were introduced to computer networks. The aspects of networking nat were discussed were networking hardware, the use of networks, modes of communication, and the media used to transmit data. In N5, networks were further discussed with the content delivered in two units. The first unit focused on network architecture and concepts such as LAN, MAN, WAN, client-server and peerto-peer were discussed. The second unit focused on the use of computer networks and how they enabled the digital era. In N6 the study of networks continues with the focus on using the computer network as a communication tool in the business world. The first unit focuses on e-mails and the second unit gives a general overview of communication software in an organisation. The units are listed below with the outcomes that are prescribed by the curriculum.

Unit 1: Electronic communication

- Define the term e-communication.
- Give an overview of the purpose and uses of applications and tools that facilitate e-communication.

A website where you can publish informat

Offers real-time text, picture and video m

Allows a user access to a web server.

participants in a more formal manner.

participants in a less formal setting.

Publish and view video content.

Match the application in Column B with the type of e-communication in Colum

Allows phone calls over a computer network and the In-

Offers real-time communication over the Internet with r

Receive updates from websites without visiting them

Transfer files over a network.

Offers real-time comm

Oldest form of e-communication between two u

inication over the Internet with

Discuss e-mail as a form of e-communication

in A

FTP Instant messaging

VolP

Blogs

E-mail Web browser

10. YouTube

8. RSS

E-mail

Web browser

Chat rooms

Conferencing

List and discuss them [30 marks] Discuss the description in Column B with the type of e-common

Column B

Α.

D.

E

G.

Ε.

Н.

J.

٨

D.

B. Edge

Column B

FileZilla

Zoom

Outlook

WhatsApp

en as possible answers to th

discussions

users.

Real-life applications aid self-study.

NETWOR

<section-header>

PATs provide prescribed skills measurements.

Activity 5 (20–30 min)

Represent the activities required to complete the PA

Solution 5

- 1. Analyse the problem statement and scope of the PAT.
- 2. Plan the PAT.
- 3. Internet research:
 - a. Composition of educational YouTube videos.
 - b. Characteristics of popular educational YouTube videos (based o
 - c. Tips and procedures for creating and maintaining a YouTube cha
 - d. Tips and procedures for creating and maintaining a blog.
 - e. Find the syllabus (CAPS) for mathematics Grades 7-9.
 - f. Find free mathematics textbooks for Grades 7–9.
 - g. Find a suitable template for drafting a business plan.
 - h. Find suitable templates for the financial documents.
 - Analyse the main components of the plan to produce a reate a list of content to present on YouTube and p

an online blog site for the project.

9781776314362 COMPUTER PRACTICE N6 STUDENT TEXTBOOK 9781776314423 COMPUTER PRACTICE N6 LECTURER GUIDE

Formative

Assessments

track progression.

ENGINEERING SCIENCE N1



ENGINEERING SCIENCE N2

ENGINEERING This series covers Engineering Science for levels N1, N2, N3 and N4 was written by subject expert, SCIENCE Richard Maltby, these books contain simple and clear explanations of all Engineering Science concepts. Shuters Engineering Science N2 includes worked examples, exercises and solutions to assist students in mastering all the skills and knowledge needed to succeed in Engineering Science. 3.6 COLLISION OF BODIES dy collides with a body at rest, then they both move off a Figure 3.2 v1 v2 m1 m1 m2 **R.P. MALTBY** momentum before impact = momentum after impact $m_1 v_1 = v_2 (m_1 + m_2)$ **EXAMPLE 3.6 EXERCISE 2** moved from one position to another. A mass of 60 kg travelling at a velocity of 20 m/s, collides with s work to be done in order to move the vehicle. Calculate the common velocity after contact. shows a light horizontal beam ABCDEF of a uni Calculate the forces B and E and v rtain time, then the work done divided by the time tak $m_1 v_1 = v_2 (m_1 + m_2)$ Draw a shear force diagram and indic te all the m $v_2 = m_1 v_1$ 30 kN 15 kN m1 + m2 Figure 2.20 ce moves in the direction in which the force acts, th = 60 x 20 60 + 25oduct of the force and the distance that the force has n v2 = 14,11 m/s Work done = Force x distance D W = F x soving in opposite directions. Where: W = Work done (J) or (kJ) A beam is 4 m long and is supported at the left end and 1 m from the right end of the bear There is a uniformly distributed load of 120 N/m placed between the two supports. A point load of 300 N is placed on both ends of the beam and a 200 N load is placed in the middle of the beam. F = Force (N) or (kN)nove in the d **Tutorial material** Calculate the reactions at the supports. Draw a shear force diagram of the beam. (Use a scale of 1 cm = 0.12 m for the x-axis and 1 cm = 100 N on the y-axis) s = distance (m)is supported with worked examples. ule (J). and carries a uniformly distributed load of 10 kN/m alo kN/m along a lengt n the left end. The b gth of 3 m from the entrated load of 20 kN, 1 m fr when the point of application of a force of one newtor Make a next, labelled drawing of the beam using the given information date the reactions at the two supports and verify your answers. a shear force diagram and indicate all the main values on the diagram $1J = 1N \times 1m$ 1 J = 1 N.m Exercises test the application of **Tutorial material** knowledge at different levels. reinforces key concepts. ENGINEERING SCIENCE N2 STUDENT TEXTBOOK 9781485834274 SOLUTIONS for the Engineering Science series are available online.

ENGINEERING SCIENCE N3



ENGINEERING SCIENCE N4 New updated

version

This series covers Engineering Science for levels N1, N2, N3 and N4 was written by subject expert, ENGINEERING SCIENCE Richard Maltby, these books contain simple and clear explanations of all Engineering Science concepts. Shuters Engineering Science N4 includes worked examples, exercises and solutions to assist students in mastering all the skills and knowledge needed to succeed in Engineering Science. ANGULAR MOTION **1ION** n occurs when an object moves in a circular path. Examples of angular motion drive pulleys. ing problems involving rotational movement, we use variables that are similar to linear ement, velocity, acceleration and force) but take into account the curvature of rotation or mo ve define the angle of rotation, which is the angular equivalence of distance and angular velocit angular equivalence of linear velocity. P. MALTBY radian e radian is the angle subtended at the centre of a circle by an arc equal to the length of the radius. Figure 2.1 **EXAMPLE 5.11** d SOLUTIONS EXERCISE 1.3 ighted hydraulic accumulator has a ram diameter of ulate the hydraulic pressure generated. 350 km/h p = WA = mg A $Vr^2 = 350^2 + 50^2$ mference of a circle has a length of πd or $2 \pi r$. $Vr = \sqrt{350^2 + 50^2}$ = 4 mghas an arc length of **r**, so, in a circle, the numb Vr = 353,55 km/h π d² 4 x 25 x 9,8 $n\theta = 50$ 1 circumference = $2 \pi r$ π x 0,32 350 radian = circum $\theta = 8.13^{\circ}$ p = 3466 kPa**EXAMPLE 5.12** Calculate the work that may be done by water from a dam that is 100 m ab Tutorial material pipe leading to the turbine is 1 m internal diameter. The density of wate gravitational acceleration 9,8 m/s². presented in $= \pi d^2 h$ accessible language. 4 100 m - 15 π x 1² x 100 V = 78,54 m² $m = \rho V$ $V_{CW}^2 = V_W^2 + V^2$ x 78.54 x 10-3 Worked examples show Full Solutions are provided FREE, how theory is applied. online: www.shuters.com 9781776315680 ENGINEERING SCIENCE N4 STUDENT TEXTBOOK

SOLUTIONS for the Engineering Science series are available online.

MECHANOTECHNICS N4

Shuters Mechanotechnics

N4 introduces students to workshop procedures and processes, and teaches students the basic principles of mechanical engineering.

The book is written in accessible language to help students understand the main concepts in each module, and then, through worked examples, shows them how to apply the theoretical knowledge to practical calculations.

Finally students are given exercises to complete to practise the calculations.

The *Lecturer Guide* provides a teaching plan and a lesson plan template. A list of useful e-resources are provided for each module, to assist the lecturer in planning each lesson.



Lecturer Guide provides a teaching plan and a lesson plan template.

N4. Please note that the actual teach vision of problem sections and exam



MECHANOTECHNICS N5

Shuters Mechanotechnics N5 builds on the introduction given

in **Shuters Mechanotechnics N4.** Students continue to practise workshop procedures and processes, and reinforce the basic principles of mechanical engineering.

Worked examples throughout the book shows students how to apply the theoretical knowledge to practical calculations. Progressive exercises enable students to practise concepts.

The *Lecturers Guide* provides a teaching plan and a lesson plan template. A list of useful e-resources (videos and websites for example) are provided for each module, as lesson planning aids.





MECHANOTECHNICS N6

Shuters Mechanotechnics N6

builds on the introduction given in Shuters Mechanotechnics N4 and N5. Students

continue to practise workshop procedures and processes, and reinforce the basic principles of mechanical engineering.

Worked examples throughout the book shows students how to apply the theoretical knowledge to practical calculations. Progressive exercises enable students to practise concepts.

The Lecturer's Guide contains guidance for the lecturer, sample lesson plans and answers to the activities in the Student Textbook.

and the road is 0,4.

Only the front wheels brake.

Only the back wheels brake. Both the front and back wheels brake.

heels brake:

5.11

h = 0.7 m

Find the ratio Nf:Nr when four wheels brake.

EXAMPLE 6.14

abase of 2,9 m and its centre of gravity is 700

mm above ground level. The centre of gravity is 1,2

is at a constant speed of 90 km/h on a level road and the

2

MECHANOTECHNICS



MECHANOTECHNICS



RACTION AND VE 6.1 BASIC PRINCIPLES AND FUN

namics dynamics is basically the study of a vehicle in motion. **EXERCISE ONE**

to understand what a vehicle does and what it does constit ch has 3 driving discs and 2 driven discs, i.e. 4 pairs of / modules, which are integrated and packaged into w and 120 mm internal diameter. dules are as follows; Assuming uniform pressure, calculate the total axial spring load re s of engine, gear box, drive axles.

transmit 25 kW at 1 575 r/min if the coefficient of friction between of suspension, steering, brakes, tires and wheels If there are 6 springs, each of stiffness 13 kN/m, and each of the contac to wear, calculate the maximum power that can be transmitted under the onnet, doors, roof, trims etc.

A cone clutch is designed to transmit 27 kW of power at 1 240 r/min. The clutch omes to mind is that a vehicle is used to car outer diameter of 350 mm and the semi-cone angle is 10°. Assuming the face wik must be able to carry people safely, comfo coefficient of friction is 0,24, determine the axial force required to transmit the to ion is also to listen to the driver, which hi Uniform pressure. e the minimum distance in which the vehicle can be stopped when

Uniform wear functions, the study of vehicle dynam e clutch has inner and outer radii of **122 mm** and **152,5 mm** respectively, with the vehicle under certain drive the coefficient of friction is **0,25** and the allowable uniform normal pressu, (c.) and to study and verify if the vehicle under certain drive the vehicle under certain driv e necessary axial load.

e power that can be transmitted at 1 000 r/min. opulsior plate clutch is to transmit 11.2 kW at 1 500 r/min. The inner and out ,5 mm respectively. The maximum axial spring force is restricted t 1 = 2.9 alculate the necessary number of pairs of surfaces if $\mu = 0.35$ (a) x = 1,25 That will be the necessary axial force ? v = 25

clutch has **6** pairs of contact surfaces, each having **um**. The coefficient of friction between the

Exercises test the application of knowledge at different levels.

Baseline learning reviews develop positive progression.

Worked Examples support self-study.

 $q = \mu x$

9781776288199 MECHANOTECHNICS N6 STUDENT TEXTBOOK

9781776288205 MECHANOTECHNICS N6 LECTURER GUIDE

QUANTITY SURVEYING N4

Shuters Quantity Surveying N4 is written according to the latest syllabus. Using this textbook, students will acquire a thorough grounding in the theory and practice of Quantity Surveying at an N4 level. Through the use of examples and activities, students will be able to master the skills and knowledge needed at this level. Resources for the lecturer are available online to assist with the marking of activities and lecture preparation.



QUANTITY

SURVEYING



9781485836438 QUANTITY SURVEYING N4 STUDENT TEXTBOOK

QUANTITY SURVEYING N5

Shuters Quantity Surveying N5 is written according to the latest syllabus. Using this textbook, students will acquire a thorough grounding in the theory and practice of Quantity Surveying at an N5 level. Through the use of examples and activities, students will be able to master the skills and knowledge needed at this level. Resources for the lecturer are available online to assist with the marking of activities and lecture preparation.

QUANTITIES AS A CONT

arned in the previous modules, a Bill of Quant m drawings prepared by architects and structural e ct, which makes it the most important document in a co.

have seen, each trade has its own bill and the trade bills are a given by The Standard System. The bills together comprise the

e owner/employer needs a definite agreed cost before comm reement.

o determine the cost of a building the owner obtains the servi ho prepares a detailed and itemised list of the components re e building. This list is known as the Bill of Quantities. The pe rantities is usually the quantity surveyor employed by the own ilding contractor has to prepare his own Bill of Quantities fro his case, the Bill is prepared by the building contractor's sur

the Bill is complete, the building contractors are invited to price th arrive at a total sum.

ach contractor has her own prices for the items in the P dentical. When a tender is accepted the Bill is part

in comprehensive Examples.

BUILDING CONTRACTS AMPLE 02 SOLUTION



Real-life situations are linked to the theory being taught.

Callectionstodatermineoa footing, anebrick wall & he

QUANTITY SURVEYING



1.6 EXERCISES

REQUIRED

nat is a building contract?

Describe the difference between a tender and a contract

- Give a brief summary of the various types of contracts.
- 4. Discuss briefly three methods of calling for tenders.
- 5. What roles are played by the architect and the quantity surv calling for tenders? Draw on your background knowledge to
- 6. A large building contracting firm wishes to tender for a large would it set about doing so? Explain the processes and p the beginning up to the time when the firm wants to start tender accepted.

five types of contract documents.

Exercises test the application of knowledge at different levels.

9781485838487 QUANTITY SURVEYING N5 STUDENT TEXTBOOK

QUANTITY SURVEYING N6

Shuters Quantity Surveying N6 is written according to the latest syllabus. Using this textbook, students will acquire a thorough grounding in the theory and practice of Quantity Surveying at an N6 level. The following areas are covered: Construction process (including communication processes); the Theory of quantity surveying); Measurement as it relates to plumbing, drainage, basements, etc.; and Quantities and Costing.

Through the use of examples and activities, students will be able to master the skills and knowledge needed at this level. Resources for the lecturer are available online to assist with the marking of activities and lecture preparation.

QUANTITY SURVEYING





broaden learning experience.

WORKED EXAMPLES

The worked examples that follow are foundation column and bases, super-stareinforcement.

Worked Example 3.4 - 01

- The take-off list for Worked Example 3.4 01 could read a
- Site clearance
- Excavation
- Risk of collapse
- Concrete in bases
- Concrete in beams and slabs
- Concrete in columns
- Formwork in bases
- Formwork in columns
- Formwork to slab and beams
- Provisional sums
- Back filling

CATION:

Worked examples show how theory is applied.

9781776288137 QUANTITY SURVEYING N6 STUDENT TEXTBOOK

BUILDING ADMINISTRATION N4

Shuters Building Administration N4 aims to introduce students to the building site. They will learn how to manage and administer construction sites in a real-world situation, and will also understand and be able to adhere to the relevant safety standards and procedures.

Clear diagrams to

simplify learning.

uthority

Building inspecto

BUILDING ADMINISTRATION



non tasks, and recommend construction men

- crials are in place when the construction workers are ready to
- e that all workers and visitors on site wear the appropriate personal protect monitor the performance of the workers under their control to ensure that business of achieved
- Organise and monitor the work of subcontractors on site
- Ensure all works are carried out in line with approved method statements
- Conduct and amend risk assessments and deliver toolbox talks
- Ensure site personnel have job relevant training requirements

ACTIVITY 1 AND QUESTIONS

MODULE 6: GONST

Learning activity 1

- 1. List all the professional consultants that you have learned about in this module.
- 2. Name five duties for each consultant given in Question 1.
- Explein the meaning of 'professional consultant' in your own words, or according to your understanding.
- Prepare a line diagram to show the relationship between the members of the professional team. Discuss the functions of the following professionals in the building industry:
 - The architect
 - The building inspector
 - The quantity surveyor swer the following questions about the clerk of works:
 - Who does the clerk of works represent?
 - Who pays/employs the clerk of works?
 - Name two duties a clerk of works is responsible for carrying out.
 - May the clerk of works issue any instructions
 - xplain the function of the architect.
- Why is it necessary to involve professional consultants in a building project?
- Why is it necessary for a structural engineer to check the building plans?
- Why is it important for the electrical engineer to work closely with the architect?
- What is the function of a building inspector? Differentiate between the structural engineer and the geotechnical engineer

What Activities to test theory and practice

rson or group of people who want to erect or build a structur t and an engineer to make it reality. They work closely al, However, once the contract has been s

1.2 CLIENT/OWNER/EMPLOYER

Supplier

Clerk of works

Building Contractor

Figure 1. Shows the structure of professional consultant in a building project

Sub-contractors

in pre-contract duties, the contract stage and post-contract duties for the fol-

9781776314034 BUILDING ADMINISTRATION N4 STUDENT TEXTBOOK

Health and safety

12.

13.

What

STRENGTH OF MATERIALS AND STRUCTURES N5

Shuters Strength of Materials and Structures

N5 builds on the knowledge that students have attained from their N4 studies. It provides them with both theoretical knowledge as well as practical examples and the chance to apply their knowledge.

The Student Textbook contains extensive diagrams, explanations and worked examples to help the students understand the subject content. Exercises at the end of each Module help them to apply the theory learned.

$$F = \frac{\sigma A}{1 + \alpha (Le/k)^2}$$

o ratio (SR) = Effective length of strut Least radius of gyration SR = Le k

than 120 we call this a column and Euler's theory

we call this a strut and Rankine's theor

Leastion (parallel no.

H-section (parallel flange) as above.

EXAM TYPE QUESTION

A strut with both ends fixed has a length of safe working load on the strut is **90 kN**. Th

The Rankine constant is 1/7 500. Use a fa

- (a) The dimensions of the strut.
- (b) The safe load for Euler's equation.
- (c) The slenderness ratio when the cr

straight bar of steel **1,5 m** long of the st

The Lecturer Guide, in addition to containing the answers to the exercises, also contains lesson plans, a teaching plan, e-resources and sample examination papers to help the lecturer.

STRENGTH OF MATERIALS AND STRUCTURES



STRAIN ENERG

STRAIN ENERGY

oduction

When a deformed structure, such as a spring, stretches, then it st a type of energy known as strain energy. In many cases, this energy can be converted into other types of energy, such as kinetic energy.

Definition of strain energy

Strain energy is a type of potential energy that is stored in a structural member as a result of elastic deformation. The external work done on such a member when it is deformed from its unstressed state is transformed into, and considered equal to the strain energy stored in it.

Gradually applied loads

hen a load is gradually applied to a bar and the bar undergoe re in length, the load moves as the bar deforms and ther done by the load on the bar. Since the effect of this r, the measure of this work done is called

9781776314065	STRENGTH OF MATERIALS AND STRUCTURES N5 STUDENT TEXTBOOK
9781776316625	STRENGTH OF MATERIALS AND STRUCTURES N5 LECTURER GUIDE

MATHEMATICS N4



MATHEMATICS N5



MATHEMATICS N6

Shuters Mathematics N6 provides a foundation for many other areas of learning, particularly in the engineering fields. In this book, the focus is on understanding the strategies and processes for solving problems that engineers encounter, rather than on proofs.

> The Student Textbook builds on the foundation of mathematics work done at lower levels. It is aimed at helping students to deal with the examinations with confidence.

rses with integration proble.

e trigonometric functions

trigonometric functions raised to powers

ou have already dealt with the integration of **tri** ythagorean identities. These identities enable yo

• \sin^2 in terms of \cos^2 , and vice versa;

 $\frac{x^2}{25} + \frac{y^2}{4} = 1$

-5

tan² in terms of sec², and vice versa; and
cot² in terms of cosec², and vice versa.

manipulating the integrand in this way, yion can easily be integrated.

2

0

-2

 Δx

x = 3



Find the general solution of $\tan x \frac{dy}{dx} + 2y = x \cdot \operatorname{cosec} x$.

Solution

• Divide all terms of the equation by the coefficient of $\frac{dy}{dx}$ to get it as close to the state

M.L. Bezuidenhout

 $\frac{dy}{dx} + 2(\cot x)y = x \operatorname{cosec} x \cot x$

• The coefficient of y corresponds to P^x), which we use to construct the integrating

$$P^{x}$$
 = 2 cot x and integrating factor $I(x) = e^{\int P(x)dx}$

 $= e^{\int 2\cot x \, dx}$ $= e^{2\ln \sin x}$

HEMATICS

G.

Scott

- $= e^{2 \ln \sin x}$
- Multiply all terms of the st

$$(\sin^2 x)\frac{dy}{dx} + 2(\sin^2 x)\frac{dy}{dx}$$
$$(\sin^2 x)\frac{dy}{dx} + 2\sin x$$

The Lecturer Guide provides assistance to the lecturer, and solutions to all the calculations and self-test questions.

Change the form of the left-hand side, expressing it as the derivative of

9781779921246 SHUTERS MATHEMATICS N6 STUDENT BOOK

9781779921253 SHUTERS MATHEMATICS N6 LECTURER GUIDE

tor. th

TRAVEL OFFICE PROCEDURES N5

Travel Office Procedures N5 build on the student's knowledge of Travel Office Procedures that was gained at N4 level. They will learn about the financial aspects of a tourism business, and how to perform basic financial transaction recording. This book will teach the student how to understand the various entrepreneurial opportunities in the tourism industry and the financing relevant to these businesses.

nowing totals appeared in the books of Ashley's o Bank total in the Cash receipts Journal was R549 632,00. Bank total in the Cash Payments Journal was R291 476,00 . The Bank balance brought down from July 2020 was R92 530 **Required:** Open the Bank Account in the General Ledger of Ashley's Odyss 1. Balance the Bank Account. 2 General Ledger of Ashley's Ordessy **Balance Sheet Section** Bank Details Folio Amount Date Date

CREDIT

3 060.00

R3 030,00

1 020.0

1Y 2.7.3

Example of Credit Sales Invoice

CE531

my Fuze Tours

l: 031-451 7623 • Fax: 086 2314567 L Lima P. O. Box 951 DURBAN 4001

3

7 January 2020

1 Credit sales invoice numbe 2 Name and address of the travel agency Name and address of the customer

Descripti

CPT-PTY-CPT

HLANGA 4

Quantity 3 air tickets – RETURN

Terms: Payment within 30 da

Customer signature LDube Travel agent's signature CKhath Date

All Activities from the Student Textbook are provided in the Workbook, ready for students to complete. (bookeeping forms, petty cash and cheques, etc.)

Notated examples of a wide variety of travel industry documentation.











STUDENTWORKBOOK

4 Quantity and description of the sale 5 Unit price and total amount due from the custome 6 Terms of payment Signature of the customer/client re of the agent working for the

The following information appears on the credit invoice:

TRAVEL OFFICE PROCEDURES N5 STUDENT TEXTBOOK 9781485838357 9781776288229 TRAVEL OFFICE PROCEDURES N5 STUDENT WORKBOOK 9781776288212 TRAVEL OFFICE PROCEDURES N5 LECTURER GUIDE

TRAVEL OFFICE PROCEDURES N6

Travel Office Procedures N6 has been designed to build on the student's knowledge of Travel Office Procedures that was gained at N5 level. They will learn about the legal aspects of travel as well as how marketing and sales is used in this dynamic industry. Students will gain a knowledge of human resources issues in the travel industry, and explore potential career options available to them.

other hand, you may have

nnd it difficult, if not impossible, to sit for long per

al functional capacity is also used for individuals who may mited mental functioning, or intermittent brain seizure activity, ner a person can follow directions, maintain levels of concentration, or le in determining your residual functional capacity.

1.1.4 Breach of Contract

One party's failure to fulfill any of its contractual obligations is known as a

Types of breach of contract include the various ways an agreement between two parties can be broken. A breach can only occur if a valid contract exists.



Media training: how

to deal with media in a crisis: https://

www.youtube.com/ watch?v=EVujjbGvnal

Global safety council: dealing with the

media in emergency

watch?v=POwe-omj

situations. https:// www.youtube.com/

FLASHBACK: Elements of a Valid Contract

- Both written and oral contracts are valid if they include all ti An offer of value in exchange for goods or services has be
- An offer of value in exchange for goods or service:
 The offer was accepted by the other party.

on t. Also, refrain from

During an emergency, it is their job to ask que will provide them with the information that they need

wledge any negative information that might have emerge

etails on what is being done to remedy the problem or situation

ke a bad situation worse.

Each party provides consideration or an item of value consideration, it constitutes a gift, which is not enforted.

tools include on-page *Definitions* and *Bright Idea* inserts which expand specific aspects.

LTSM support

TRAVEL OFFICE PROCEDURES



following scenario then answer the questions that

e finance manager, you are asked to calculate the individual centive travel competition. The sales for the previous year was R a 10% sales increase to determine an incentives budget, and a profit n increase. Also, they allocate 40% of their profit to incentives programme

- 1. Calculate the increase in sales.
- 2. Calculate the profit earned.
- 3. Calculate the budget available for incentive travel.
- 4. Calculate the amount, per person, available for incentive travel.

Show all your calculations.

Thereafter, you contact your travel agent partner, with the amount per personal individual budget for each winner of the incentive travel competition as follows

- Promotion: 15%
- Transportation: 25%
- Accommodation: 35%
- Meals: 15%
- ther: 10%

vour calculations.

Exercises test the application of knowledge at different levels.

elop the media as a partner to serve the public. Remere relationship based upon understanding and trust

E-resources such as YouTube videos and websites are provided.

9781776314096 TRAVEL OFFICE PROCEDURES N6 STUDENT TEXTBOOK

TRAVEL SERVICES N4

Shuters Travel Services N4 will prepare students for a career in the tourism industry, with specific reference to travel. The book will give students a thorough knowledge of the terminology and components of the travel industry in South Africa. They will gain the necessary knowledge and skills to give effective passenger service, to advise clients on travel arrangements, calculate fares and complete travel documents correctly.

There is a difference between a service and a facility. A service is the action o helping or doing work for someone. A facility is a place or a piece of equip that is there to do a particular job. Parking is a facility but valet parking is a service Airport desks

Airline se

Ariport desks are the counters at which a passenger can get information. The pictogram for an information desk is often the letter 'i'. There are information desks for the airport itself and the various airlines that fly from that airport. Staff at the tourist information desks can assist passengers with questions about the airport, as well as provide general information about the city, book accommodation and recommend tours and attractions. Most airlines will have a service desk that provides information about the airline as well is help with the purchase of tickets.

furnish clients with correct information about the different travel documents and he

state conditions for issuing joint passports with reference to South African pass

nents that could be used instead of a passport from a given list of docu

read and interpret visa requirements and validity and state where to obtain visas for foreign countries, using the GSA;

se prospective tourists in simulated situations on permits required for spin n entering foreign countries;

rvice can also collect ort terminal upon arriva

B

as and permi

alth documentation

the end of this module, you will be able to

define passports as defined by IATA;

to complete the various documents correctly.

explain how and where to obtain passports;

state the validity of South African passports define visas and transit visas as defined by IATA;

read and interpret permit regulations published in the GSA;

e the World Health Organisation (WHO) as the organisa dardization of international health certificates;

accination and validity of certificates of vaccination; ad and interpret information regarding countries requiring acts from a source of information;

e regulations regarding the validity of vaccinations in simi

Outcomes are clearly described

Real-life situations are linked to the theory being taught.

d)

ventu ir first

he Ga

1933

is role. Use the GSA and this textbook to answer the questions

rave/ rance

You can also consult the website below. https://www.safarinow.com/destinations/tsitsikamma/ popularattractions/bloukrans-bridge-bungy.aspx

(2)

(2)

(1)

(1)

(1

al com

 $(4 \times 1) (4)$

TRAVE

In which province will you find the Bloukrans Bridge? Name one accommodation establishment close to the Bloukrans Bridge where the couple can stay. Remember, it is their wedding anniversary. Give the name, contact number and email address of the accommodation.

Name one company that will be able to take the couple bungee jumping. Is the company a producer or a support service? Explain why you say that. In your role play you have to execute 5 function of a travel consultant (list the

functions that you have executed). (5 × 1) (5)

route to work on Monday morning, Siyabonga was walking past Terrific Travel Agency (TTA). travel consultants were handing out pamphlets to everyone, Siyabonga happen to take one. our package was called Moroccan Madness and included all the exciting activities and cities a t can visit in Morocco should they embark on this tour. The most interesting and exciting part package is that it included discount rates on all entrance fees to all the tourist attractions.

re the roles of Terrific Travel Agency and Moroccan Madness respectively in $(2 \times 2)(4)$ el and tourism industry?

organisation would you belong to if you:

- ned a B&B in Makanda?
- rted a car rental company?

anaged an independent travel agency with an office on the main street in small town?

Had a catering company that provides food for delegates at big conferences?

ich organisation would you use if you:

(anted to find out more about what to do in South Africa on holiday?

organising a co

to invest in find out a

Exercises test the application of knowledge at different levels.

9781485836568 TRAVEL SERVICES N4 STUDENT TEXTBOOK

CATERING THEORY AND PRACTICAL N4



9781776314058 CATERING THEORY AND PRACTICAL N4 STUDENT TEXTBOOK

COMPUTER PROGRAMMING NC(V)4

Shuters Computer

Progamming NC(V)4 has been written by subject experts, in line with the new syllabus for Computer Programming NC(V) Level 4. The book uses examples and activities to teach how to design user-friendly, computerbased solutions that meet the needs of end users. Students learn how the role of Computer Programming interacts with the broader IT environment. Accessible language and relevant examples make this book easy to use.

The *Lecturer Guide* provides extensive material to assist with lecture preparation and presentation, and includes useful electronic resources.



The *Lecturer Guide* has FREE online digital resources, including Extra Activities and Past Exam papers.



DATA COMMUNICATION AND NETWORKING NC(V)4



SYSTEMS ANALYSIS AND DESIGN NC(V)3

Shuters Systems Analysis and Design NC(V)3 has been

written according to the latest syllabus.

The *Student Book*, written in clear, accessible language, provides a first introduction to organisation systems, information systems and how systems are linked together. Through examples, case studies and activities, the students become familiar with the complexities of this area of study, and develop critical thinking and problem solving skills.

The *Lecturer Guide* provides extensive material to assist lecture preparation and presentation, together with useful electronic resources.



The *Lecturer Guide* has FREE online digital resources, including Extra Activities and Past exam papers.



SYSTEMS ANALYSIS AND DESIGN NC(V)4

Shuters Systems Analysis

and Design NC(V)4 has been written according to the latest syllabus. Based on the knowledge acquired in Level 3, this *Student Textbook* expands further into the subject. Clear, accessible language and up-todate examples help students to master the subject content: how to conduct a systems analysis, and to design information systems. Using examples, case studies and activities, the students develop their critical thinking and problem solving skills.

The *Lecturer Guide* provides extensive material to assist lecture preparation and presentation, together with useful electronic resources.



The *Lecturer Guide* has FREE online digital resources, including Extra Activities and Past exam papers.



BUILDING & STRUCTURAL CONSTRUCTION N4

BUILDING AND STRUCTURAL

CONSTRUCT

Shuters Building and Structural Construction N4 gives students a thorough background of the theory and methodology used in building and structural construction. They will be exposed to real-life examples and situations in which to apply their knowledge.



Worked examples and clear diagrams explain the theory, while activities and further reading lists help students to test and expand their knowledge.

9781776314072 SHUTERS BUILDING & STRUCTURAL CONSTRUCTION N4 STUDENT TEXTBOOK

BUILDING & STRUCTURAL SURVEYING N4



BUILDING ADMINISTRATION N5

Shuters Building Administration N5 helps the student to build on the knowledge acquired at N4 level. They will gain a more comprehensive understanding of what is involved in the administration of building projects, with specific reference to South African Industry standards, and health and safety requirements.

BUILDING ADMINISTRATION

 N_{5}

N M KHUMALO L N TENZA

ne the entrepren n as a slideshow, to help i s questions that allow the audien

Presenting tips and technic

e of maintenance of equipment

tool that helps to secure reliable and satisfactory production quality, for the environment.

3 MAINTENANCE

The golden rule before presenting and pitch/ stakeholders is that the entrepreneur know maintenance is aimed at improving reliability, performance and safety, whils comprehensive overview of the new ventugevity. A well maintained plant allows for maximum output and productivity, re cost. he entrepreneur or entrepreneurial team

ce managers have a clear outline of the tive visual aids to support the oral pr tation to interested audiences

for delivering a suc

Clear diagrams and photographs

enhance the learning material, and

test modules at the end of each Module help

maintenance must be planned and executed in the least disruptive manner, and sl a matter of critical importance. The operator checks oil, grease, water, loose nuts, lso checks brakes, lights, fuel, etc.

aintenance

chine is withdrawn from its current function, and all worn parts are replaced b fully equipped workshop. This should be properly planned.

t is on site when required

nt chart is used to ensure the plant is always on site when requi stage. One copy is sent to the plant supplier (departmen learners to consolidate their understanding of the ough the supervisor is agreed upon (e.g. by phone

nd on-site plant maintenance is perfo

9781776316007 BUILDING ADMINISTRATION N5 STUDENT TEXTBOOK

subject content.

BUILDING ADMINISTRATION N6

Shuters Building Administration N6 helps the students to develop their ability to manage construction sites and to adhere safety standards and procedures. The more legal aspects of tendering, contracts and ethics are explored, as well as safety regulations, work study and staff motivation and development.

BUILDING ADMINISTRATION



= 6,7

Adjudication of tenders



Acavation

te rate for excavation = $R95/m^3$ \therefore Cost = 6,72m³ × R95 = R638.40

Step 4:

Concrete foundation

The footing = $0,7m \times 0,25m$ Volume of concrete foundation = $l \times w \times d$ = $22,32m \times 0$

 $= 3,906m^3 \Rightarrow$

ate for concrete foundation = $R1800/m^3$ \therefore Cost = $3.91m^3 \times R1800 = R703^\circ$

slab

The theory covered in the book is supported by clear explanations, examples and activities to ensure that learners master the subject content. otivation, namely:

ivation: sometimes referred to as 'internal motivation's personal factors.

nsic motivation: sometimes referred to as 'external motivation', then factors outside one's self.

ple of motivators

Intrinsic Motivation	Extrinsic Motivatio
Feeling of accomplishment	Money
Enjoyment	Promotion
Knowing you did a good job	Awards
Personal ethics	Recognition
Self-respect	Respect
Meeting a goal you set for yourself	Meeting a goal set by

s to influence motivation on site:

velop loyalty by always being fair.

vurage teamwork.

in good working conditions.

communication is a two-way process.

stion by providing job security.

9781779921475 BUILDING ADMINISTRATION N6 STUDENT TEXTBOOK

BUILDING & STRUCTURAL CONSTRUCTION N5

Shuters Building and Structural Construction N5 builds on the knowledge that students have attained from their N4 studies. It provides them with both theoretical knowledge as well as practical examples and the chance to apply their knowledge.

BUILDING AND STRUCTURAL CONSTRUCTION



Clear diagrams explain the theory, and

worked examples help students to

vars cacceptably clean

pport of top steel Cover depth

Suitability of cover blocks

dvantages of Bar Bending Schedule in Construction

- Provides better estimation of reinforcement used in each structural concre member. You can also calculate the overall reinforcement required for the construction project.
- It helps engineer in the procurement of reinforcement steel and better stock management.
- Bar Bending Schedule Provides exact estimated quantity required. So, at a construction site, wastage can be controlled by careful supervising of the contractor with the help of Bar Bending Schedule.

Bar Bending Schedule makes cutting, bending of reinforcement easy at a factory and can be directly transported to the Construction site. This will not only reduce the wastage of reinforcement steel but also help us reduce the matter of the second steel but also help us reduced by the second steel by the second

abor cost. Though, it helping in reducing the overall cost of the cons viect.

understand the concepts involved. Activities in the modules help students to apply the theory to practical examples.

9781779920263 BUILDING AND STRUCTURAL CONSTRUCTION N5 STUDENT TEXTBOOK



9781920356613	ACE IT! ACCOUNTING GR 12	
9781920356620	ACE IT! 🖓 REKENINGKUNDE GR 12 Afrikaans	
9780796093332	ACE IT! ACCOUNTING GR 12 EXERCISE BOOK	
9780796093363	ACE IT! • REKENINGKUNDE GR 12 OEFENINGBOEK Afrikaans	
9781920356422	ACE IT! AFRIKAANS FAL GR 12	
9781920356934	ACE IT! AGRICULTURAL SCIENCES GR 12	
9781920356941	ACE IT! Q LANDBOUWETENSKAPPE GR 12 Afrikaans	
9781920356675	ACE IT! BUSINESS STUDIES GR 12	
9781920356682	ACE IT! Sesigheidstudies GR 12 Afrikaans	
9780796091215	ACE IT! ECONOMICS GR 12	
9781920356378	ACE IT! ENGLISH FAL GR 12	
9781920356699	ACE IT! GEOGRAPHY GR 12	
9781920356705	ACE IT! Q GEOGRAFIE GR 12 Afrikaans	
9781920356712	ACE IT! HISTORY GR 12	
9781920356729	ACE IT! 🛇 GESKIEDENIS GR 12 Afrikaans	
9781920356903	ACE IT! ISIXHOSA (FAL) GR 12	
9781920356750	ACE IT! ISIZULU (FAL) GR 12	
9781920356767	ACE IT! LIFE SCIENCES GR 12	
9781920356774	ACE IT! Q LEWENSWETENSKAPPE GR 12 Afrikaans	
9780796091192	ACE IT! MATHEMATICAL LITERACY GR 12	
9781920356781	ACE IT! MATHEMATICS GR 12	
9781920356798	ACE IT! 🖓 WISKUNDE GR 12 Afrikaans	
9781920356804	ACE IT! PHYSICAL SCIENCES GR 12	
9781920356811	ACE IT! PHYSICAL SCIENCES GR 12 Afrikaans	
9781920356866	ACE IT! SETSWANA FAL GR 12	
9781920356873	ACE IT! SETSWANA HOME LANGUAGE GR 12	
9781920356354	ACE IT! TOURISM GR 12	
9781920356361	ACE IT! O TOERISME GR 12 Afrikaans	

www.facebook.aceitstudyguides











Non-finite verbs

Non-finite verbs do not have subject, number or tense. They do not stand alone in a sentence. You get different types of non-finite verbs: Infinitives

· Participles: past participles and present participles.

Here is a summary of these verbs: Infinitive Past Participle Present Participle Always starts with Regular verbs: simple past tense form: add **-ed**; Base word + continuous form: An infinitive must -ing have a finite verb in front of it in order to make Irregular verbs: new form These verbs follow A present participle needs an auxiliary verb in order to auxiliary verbs such as had, has, have, was, were I had walked to I want to walk. make sense in a sentence am walking the office. towards you. I have bought you a present to walk to bark walked walking barked barking to be to become been being became becoming

Notepad: Even though the participles are called *past* and *present* they do not belong in any tense. For example: *I was* studying *when you phoned*. (It took place in the past, but uses a present participle: *studying*.)

Percentages

42

A percentage is a fraction out of 100. We only write the numerator, followed by a percentage symbol: % **For example:** $\frac{23}{100} = 23\%$ and $\frac{7}{100} = 7\%$

Method to convert percentages to common fractions For example: 84%

- 1. The digits before the % sign are the numerator of the fraction. The denominator is always 100. $84\% = \frac{84}{100}$
- 2. Simplify the fraction. $84\% = \frac{84 \div 2}{100 \div 2} = \frac{42 \div 2}{50 \div 2} = \frac{21}{25}$

Method to convert common fractions to percentages

For example: $\frac{3}{20}$

- 1. Find the number that you must multiply by the denominator to make it 100. $20 \times 5 = 100$
- 2. Find an equivalent fraction for $\frac{3}{20}$ with 100 as the denominator. Multiply the numerator and denominator by 5.
- $\frac{3}{20} = \frac{3 \times 5}{20 \times 5} = \frac{15}{100}$
- 3. Write only the numerator and a percentage symbol. $\frac{3}{20} = 15\%$

SHUTERS ENGLISH QUICK HELP

This basic English language manual explains:

- Grammar,
- Sentences,
- Punctuation,
- Literary terms: words to talk about poetry, stories and plays,
- Spelling rules,
- Ways to improve your vocabulary.

SHUTERS MATHS QUICK HELP

This basic Mathematics manual provides:

- A dictionary of mathematical terms.
- Clear explanations of methods and formulae,
- Strategies for solving problems.

Uses plain, simple English and examples. Use it when learning for a test or exam or doing homework.

9780796003300 ENGLISH GRAMMAR 9781485829683 SHUTERS ENGLISH QUICK HELP 9781485832157 SHUTERS MATHS QUICK HELP



THE WRITE STYLE MOKGWA WA GO KWALA IZINDLELA ZOKUBHALA IMIBHALO YOKUXHUMANA

A hands-on reference tool and teaching aid aimed at structuring the most common writing tasks required in schools and in the business world.

Each genré has: Model text; Genré-specific criteria; Language and structural requirements; Evaluation summaries.

STRUCTURE (Cont)	FRIENDLY LETTER (Cont)	LANGUAGE (Cont)
First paragraph pives background and reason for writing: Fo give thanks for he generous gift	Thank you so much for your extremely generous gift of five hundred rand. It was such a wonderful surprise to see you and Uncle Jacob last Sunday when I was visiting Mum and Dad, and I was so glad you could both join us for my birthday lunch. You're looking younger and younger every year, and it is difficult to believe you're turning eighty in a few days time.	Informality is shown with contractions: You're Personal pronouns indicate close relationship between correspondents: I; you; your; my
Expansion on eason for writing: went to the shopping mall	It was such fun spending my birthday money from you. After a hard week at work, my friends and I went shopping at the mall on Saturday. Your money allowed me to buy a beautiful maroon jersey, which I had been admiring at Truworths for a long time. I have already worn it, and it's as soft and snuggly as it looks. The rest of the money was spent on a delicious meal at Spritzas. It really was an awesome morning. Thanks so much!	Use of colloquial expressions shows informal tone: such fun; snuggly; awesome; thanks Use of simple past tense to recount events: went; had; allowed; have worn; was spent, was Use of exclamation mark shows informality
Seneral news ind reference to common knowledge ndicates close elationship: Juncle Jacob; the Christmas period; he beach; together as a family.	I look forward to seeing you both over the Christmas period. Please do try to come to the beach with us, as this will be the last time we'll all be together as a family, since Spha and Londi are leaving for their long-awaited travels at the beginning of January – I only hope they don't get lost, after what happened last year!	Use of humour emphasises informality: I only hope they don't get lost, after what happened last year!
Concluding aragraph is brief and relates back to reason for writing: Thank you	Once again, thank you so much for your generosity.	
nformal salutation. Lots of love Vo surname is ncluded where he relationship is close. Happiness	Lots of love Happiness	
EVALUATION: The criteria fo indicated by the salutation, and more than three	r this genre have been met. The tone is rela he use of humour, contractions, and colloqu d greeting are present and correctly laid out. ee paragraphs.	ixed and informal, as ialisms. The address, The letter consists of

9780796043313	Style: Setswana) IZINDLELA ZOKUBHALA IMIBHALO YOKUXHUMANA
9780796038616	MOKGWA WA GO KWALA (The Write
9780796042262	THE WRITE STYLE



Shuters Business Park 45 Will owt on Road Will owt on Pietermaritzburg 3201 Tel: +27(0)33 8468 700 Fax: +27(0)33 8468 701 PO Box 61 Mkondeni 3212

ORDER FORM

ORDER DATE											
CUSTOMER											
DELIVERY ADDRESS											
POSTAL ADDRESS											
TELEPHONE					FAX						
EMAIL ADDRESS											
ORDER NUMBER	-							0755			
ACCOUNT NUMBER								COL	DE		
PRICES INC	LUDE 15% \	/AT. PR	ICES SL	IBJECT TO	ALTER	ΑΤΙΟ	N WITH	OUTNO	OTICE.	. E & OE •	
ITEM			- 1	ISBN				QTY	UNIT	PRICE	TOTAL
	_										
						1					
	-										
									0		
		HASE	FACU		Ε Δ\/ΔΙ				τοτα	\L	
www.shuters.co.za					DISC						
WWW.5110(C15.C0.20						TOTA	L DUE				

Customers who do not have credit facilities will be supplied on a Pro-forma basis (payment BEFORE delivery). Please note that NO PAYMENT must be made with this order.



Shuters Business Park 45 Will owt on Road Will owt on Pietermaritzburg 3201 Tel: +27(0)33 8468 700 Fax: +27(0)33 8468 701 PO Box 61 Mkondeni 3212

ORDER FORM

ORDER DATE											
CUSTOMER											
DELIVERY ADDRESS											
POSTAL ADDRESS											
TELEPHONE					FA	X	-				
EMAIL ADDRESS											
ORDER NUMBER	-							0765		- 1	
ACCOUNT NUMBER								COI	DE		
PRICES INC	LUDE 15% \	/AT. PR	ICES SL	JBJECT TO	ALTE	RATIO	N WITH	OUTN	OTICE	. E & OE •	
ITEM			- 1	ISBN				QTY	UNI	T PRICE	TOTAL
	-										
	;										
								·			
					_				-		
					_			_	-		
	-										
									0		
SECURE ONL	INE PURC	HASE	FACIL	ITIES AR	e av	AILAB	LE AT		TOT		
www.shuters.co.za				TOT	AL DUE						

Customers who do not have credit facilities will be supplied on a Pro-forma basis (payment BEFORE delivery). Please note that NO PAYMENT must be made with this order.

AUTHORISED SIGNATURE



Shuters Academy EMPOWERING TOP CLASS TEACHERS

The Shuters Academy was established in 2016 in response to the increasing need for quality Continuous Professional Teacher Development. We are an accredited training provider and our accreditation allows us to conduct either in-person or online training, depending on our client's needs.

- ETDP SETA Accreditation number ETDPS010941
- SACE Provider number PR 12058

The Shuters Academy is able to provide training in all nine provinces across South Africa. Teachers can earn SACE Continuous Professional Teacher Development points for all our training. We have in excess of 55 learning programmes/workshops available, which are delivered by well-qualified and experienced trainers/facilitators. All learning material is provided to participants during our training.

Our training focuses on most school subjects and covers teaching, learning and assessment methodology as well as effective classroom practice. We also have training programmes/workshops that focus on school and classroom management.

Besides training, the Shuters Academy also offers General Education Project Management in the following areas:

- Needs and impact analysis
- Strategic planning
- Learner support programmes
- Teacher mentoring and coaching
- Individualised training programmes according to identified needs

The following are our ETDP SETA accredited learning programmes that are offered as both in-person or online programmes:

- Conduct Outcomes-Based Assessment: Unit Standard – 115753 Level 5 (15 Credits)
- Conduct Moderation of Outcomes-Based Assessment: Unit Standard – 115759 Level 6 (10 Credits)
- Facilitate Learning Using a Variety of Given Methodologies: Unit Standard – 117871 Level 5 (10 Credits)

For more information regarding our training offering please contact:

Vickesh Thandray - (vickesh@shuters.com).

SALES CONTACTS

		<u> </u>	
Booksellers / TVET	Vaasna Parbhodeen	063 251 8566	vaasna@shuter.co.za
Eastern Cape	Sydney Nquma	083 253 6761	sydney@shuters.com
Free State	Dimakatso Makhurane	083 215 6835	dimagatso@shuters.com
Gauteng	Themba Msimanga	082 445 6435	themba@shuters.com
Kwazulu-Natal	Khanyo Cele	083 281 0849	khanyoc@shuters.com
Limpopo	Dimakatso Makhurane	083 215 6835	dimagatso@shuters.com
Mpumalanga	Dimakatso Makhurane	083 215 6835	dimagatso@shuters.com
Northern Cape	Colette van der Merwe	071 851 1814	colette@shuters.com
North West	Phemelo Maiphehlo	083 378 8725	phemelo@shuters.com
Western Cape	Colette van der Merwe	071 851 1814	colette@shuters.com
Training Academy	Vickesh Thandray	060 545 2264	vickesh@shuters.com

CUSTOMER SERVICES:

Sylvie Doarsamy	+27 (0) 33 846 8723	sylvie@shuter.co.za
Thandeka Ngcobo	+27 (0) 33 846 8724	thandeka@shuter.co.za
Zandile Mthethwa	+27 (0) 33 846 8721	zandilem@shuter.co.za
Mbali Kunene	+27 (0) 33 846 8722	mbali@shuter.co.za
Nhlanlha Zondi	+27 (0) 33846 8779	nhlanlha@shuter.co.za

HEAD OFFICE

Tel: +27 (0) 33 846 8721 / 22 / 23 / 24/79 Fax: +27 (0) 33 846 8701

$Pietermaritzburg \cdot Johannesburg \cdot Cape \ Town \cdot East \ London$



www.facebook.com/shuterandshooter
 www.facebook.com/aceitstudyguides
 www.facebook.com/aceitstudyguides

