

education

Department of Education FREE STATE PROVINCE

PHYSICAL SCIENCES PAPER 2 (CHEMISTRY)

GRADE 12

TERMS & DEFINITIONS, QUESTIONS & ANSWERS



TABLE OF CONTENTS

| HOW TO USE THIS DOCUMENT | |
|---|---------|
| TERMS AND DEFINITIONS | |
| QUESTIONS | 9 |
| ORGANIC MOLECULES: NOMENCLATUREORGANIC MOLECULES: PHYSICAL PROPERTIES | |
| ORGANIC MOLECULES: ORGANIC REACTIONS | 24 |
| REACTION RATE AND ENERGY IN CHEMICAL REACTIONS | |
| CHEMICAL EQUILIBRIUM | |
| ACIDS AND BASES | |
| GALVANIC CELLS | 56 |
| ELECTROLYTIC CELLS | 63 |
| ANSWERS TO QUESTIONS | 68 |
| ORGANIC MOLECULES: NOMENCLATURE | 100768 |
| ORGANIC MOLECULES: PHYSICAL PROPERTIES | 74 |
| ORGANIC MOLECULES: ORGANIC REACTIONS | LL[_]80 |
| REACTION RATE AND ENERGY IN CHEMICAL REACTIONS | 0.57 |
| CHEMICAL EQUILIBRIUM | 96 |
| A CIDS AND BASES | 107 |
| GALVANIC CELLS | |
| ELECTROLYTIC CELLS | 117 |
| BIBLIOGRAPHY | 119 |
| | |

Physical Science Paper November 2memorandum

Rachel Sandford

Physical Science Paper November 2memorandum:

Decoding Physical Science Paper November 2memorandum: Revealing the Captivating Potential of Verbal Expression

In a time characterized by interconnectedness and an insatiable thirst for knowledge, the captivating potential of verbal expression has emerged as a formidable force. Its capability to evoke sentiments, stimulate introspection, and incite profound transformations is genuinely awe-inspiring. Within the pages of "**Physical Science Paper November 2memorandum**," a mesmerizing literary creation penned with a celebrated wordsmith, readers embark on an enlightening odyssey, unraveling the intricate significance of language and its enduring impact on our lives. In this appraisal, we shall explore the book is central themes, evaluate its distinctive writing style, and gauge its pervasive influence on the hearts and minds of its readership.

https://crm.avenza.com/About/uploaded-files/Documents/Opel%20Vauxhall%20Omega%20B%20Service%20Manual%20Repair%20Manual.pdf

Table of Contents Physical Science Paper November 2memorandum

- 1. Understanding the eBook Physical Science Paper November 2memorandum
 - The Rise of Digital Reading Physical Science Paper November 2memorandum
 - Advantages of eBooks Over Traditional Books
- 2. Identifying Physical Science Paper November 2memorandum
 - Exploring Different Genres
 - o Considering Fiction vs. Non-Fiction
 - $\circ \ \ Determining \ Your \ Reading \ Goals$
- 3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Physical Science Paper November 2memorandum
 - User-Friendly Interface
- 4. Exploring eBook Recommendations from Physical Science Paper November 2memorandum
 - Personalized Recommendations

- Physical Science Paper November 2memorandum User Reviews and Ratings
- Physical Science Paper November 2memorandum and Bestseller Lists
- 5. Accessing Physical Science Paper November 2memorandum Free and Paid eBooks
 - Physical Science Paper November 2memorandum Public Domain eBooks
 - Physical Science Paper November 2memorandum eBook Subscription Services
 - Physical Science Paper November 2memorandum Budget-Friendly Options
- 6. Navigating Physical Science Paper November 2memorandum eBook Formats
 - ∘ ePub, PDF, MOBI, and More
 - Physical Science Paper November 2memorandum Compatibility with Devices
 - Physical Science Paper November 2memorandum Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Physical Science Paper November 2memorandum
 - Highlighting and Note-Taking Physical Science Paper November 2memorandum
 - Interactive Elements Physical Science Paper November 2memorandum
- 8. Staying Engaged with Physical Science Paper November 2memorandum
 - o Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - \circ Following Authors and Publishers Physical Science Paper November 2memorandum
- 9. Balancing eBooks and Physical Books Physical Science Paper November 2memorandum
 - ∘ Benefits of a Digital Library
 - Creating a Diverse Reading Collection Physical Science Paper November 2memorandum
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Physical Science Paper November 2memorandum
 - Setting Reading Goals Physical Science Paper November 2memorandum
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Physical Science Paper November 2memorandum
 - Fact-Checking eBook Content of Physical Science Paper November 2memorandum

- Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Physical Science Paper November 2memorandum Introduction

In this digital age, the convenience of accessing information at our fingertips has become a necessity. Whether its research papers, eBooks, or user manuals, PDF files have become the preferred format for sharing and reading documents. However, the cost associated with purchasing PDF files can sometimes be a barrier for many individuals and organizations. Thankfully, there are numerous websites and platforms that allow users to download free PDF files legally. In this article, we will explore some of the best platforms to download free PDFs. One of the most popular platforms to download free PDF files is Project Gutenberg. This online library offers over 60,000 free eBooks that are in the public domain. From classic literature to historical documents, Project Gutenberg provides a wide range of PDF files that can be downloaded and enjoyed on various devices. The website is user-friendly and allows users to search for specific titles or browse through different categories. Another reliable platform for downloading Physical Science Paper November 2memorandum free PDF files is Open Library. With its vast collection of over 1 million eBooks, Open Library has something for every reader. The website offers a seamless experience by providing options to borrow or download PDF files. Users simply need to create a free account to access this treasure trove of knowledge. Open Library also allows users to contribute by uploading and sharing their own PDF files, making it a collaborative platform for book enthusiasts. For those interested in academic resources, there are websites dedicated to providing free PDFs of research papers and scientific articles. One such website is Academia.edu, which allows researchers and scholars to share their work with a global audience. Users can download PDF files of research papers, theses, and dissertations covering a wide range of subjects. Academia.edu also provides a platform for discussions and networking within the academic community. When it comes to downloading Physical Science Paper November 2memorandum free PDF files of magazines, brochures, and catalogs, Issuu is a popular choice. This digital publishing platform hosts a vast collection of publications from around the world. Users can search for specific titles or explore various categories and genres. Issuu offers a seamless reading experience with its user-friendly interface and allows users to download PDF files for offline reading. Apart from dedicated platforms, search engines also play a crucial role in finding free

PDF files. Google, for instance, has an advanced search feature that allows users to filter results by file type. By specifying the file type as "PDF," users can find websites that offer free PDF downloads on a specific topic. While downloading Physical Science Paper November 2memorandum free PDF files is convenient, its important to note that copyright laws must be respected. Always ensure that the PDF files you download are legally available for free. Many authors and publishers voluntarily provide free PDF versions of their work, but its essential to be cautious and verify the authenticity of the source before downloading Physical Science Paper November 2memorandum. In conclusion, the internet offers numerous platforms and websites that allow users to download free PDF files legally. Whether its classic literature, research papers, or magazines, there is something for everyone. The platforms mentioned in this article, such as Project Gutenberg, Open Library, Academia.edu, and Issuu, provide access to a vast collection of PDF files. However, users should always be cautious and verify the legality of the source before downloading Physical Science Paper November 2memorandum any PDF files. With these platforms, the world of PDF downloads is just a click away.

FAQs About Physical Science Paper November 2memorandum Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Physical Science Paper November 2memorandum is one of the best book in our library for free trial. We provide copy of Physical Science Paper November 2memorandum in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Physical Science Paper November 2memorandum online for free? Are you looking for Physical Science Paper November 2memorandum online for free? Are you looking for Physical Science Paper November 2memorandum you should think about.

Find Physical Science Paper November 2memorandum:

opel vauxhall omega b service manual repair manual openlayers 3 beginner s guide spencer paul

onn remote codes ona 13 av 269

open source jpeg repair

onkyo dr-130 manual

onkyo tx nr3009 av receiver service manual

opel vectra service manual

opel vauxhall zafira parts

onomatopoeia and hyperbole poem

onn mini stereo system instruction manual

opel astra engine diagram 1996 1997

opel astra owner 39 s manual

onkyo hts5400 manual

ontwikkeling van een woede de bob den uyl

opel gt 2008 manual

Physical Science Paper November 2memorandum:

protestanten in zeiten des kalten krieges der wit copy - Feb 02 2023

web protestanten in zeiten des kalten krieges der wit 1 3 downloaded from uniport edu ng on november 6 2023 by guest protestanten in zeiten des kalten krieges der wit

protestanten in zeiten des kalten krieges der wit download - Jun 06 2023

web protestanten in zeiten des kalten krieges der wit downloaded from wef tamu edu by guest richard sterling schwarzer himmel kalte erde weißer tod springer

protestanten in zeiten des kalten krieges der wit pdf - Sep 09 2023

web jul 1 2023 protestanten in zeiten des kalten krieges annette hildebrandt 2017 04 echo aus den zeiten des dreissigjährigen krieges vom anfange des siebenzehnten

protestanten der glaube in europa einfach erklärt learnattack - Apr 04 2023

web protestanten ursprünglich die bezeichnung für die vertreter evangelischer reichsstädte und evangelischer fürsten der

reichstag von speyer vereinbarte 1526 dass in

protestanten in zeiten des kalten krieges der wittenberger - Oct 10 2023

web zeiten des kalten krieges multimediale die stunde null der beginn des kalten kriegs i der kalte krieg der kalte krieg was war der kalte krieg protestanten im kalten krieg informationen zur stasi bstu der kalte krieg in geschichte schülerlexikon lernhelfer

annette hildebrandt lothar tautz protestanten in zeiten des - Aug 08 2023

web protestanten in zeiten des kalten krieges buch gebunden von annette hildebrandt lothar tautz bei hugendubel de online bestellen oder in der filiale abholen

so verhielten sich die deutschen protestanten im evangelisch de - Oct 30 2022

web nov 11 2018 so verhielten sich die deutschen protestanten im ersten weltkrieg thron und altar waren im deutschen kaiserreich eng miteinander verbunden der erste

protestanten in zeiten des kalten krieges der wit pdf pdf - Jun 25 2022

web connections if you mean to download and install the protestanten in zeiten des kalten krieges der wit pdf it is utterly easy then back currently we extend the associate to

protestanten in zeiten des kalten krieges der wittenberger - Nov 18 2021

web may 31st 2020 protestanten in zeiten des kalten krieges der wittenberger kirchentag zum lutherjubiläum 1983 im fokus der staatssicherheit studienreihe der

read free protestanten in zeiten des kalten krieges der wit - Aug 28 2022

web protestanten in zeiten des kalten krieges der wit die teilung der welt feb 09 2022 der koreakrieg als produkt des kalten krieges feb 21 2023 studienarbeit aus dem

protestanten in zeiten des kalten krieges der wit pdf wolfgang - Jul 27 2022

web protestanten in zeiten des kalten krieges der wit pdf below meyers konversations lexikon hermann julius meyer 1889 meyers enzyklopädisches lexikon a zz 1971

protestanten in zeiten des kalten krieges der wit pdf uniport edu - Feb 19 2022

web protestanten in zeiten des kalten krieges der wit 2 10 downloaded from uniport edu ng on october 27 2023 by guest interpretieren lässt pfingstbewegung in guatemala

kulturprotestantismus wikipedia - Mar 03 2023

web kulturprotestantismus der kulturprotestantismus war eine strömung des protestantischen geisteslebens vor allem im deutschen sprachraum während der jahrzehnte von 1860

deutsche geschichte kalter krieg planet wissen - Jan 01 2023

web kalter krieg mehr als 40 jahre dauerte der kalte krieg zwischen den supermächten usa und sowjetunion offiziell wurde dieser krieg nie erklärt aber das minderte nicht seine

protestanten in zeiten des kalten krieges der wit pdf pdf - May 05 2023

web jun 9 2023 protestanten in zeiten des kalten krieges der wit pdf recognizing the quirk ways to get this ebook protestanten in zeiten des kalten krieges der wit pdf is

protestanten in zeiten des kalten krieges der wit copy - Dec 20 2021

web jun 6 2023 in the middle of them is this protestanten in zeiten des kalten krieges der wit that can be your partner die usa und deutschland im zeitalter des kalten krieges

protestantismus [] definition geschichte der protestanten - Sep 28 2022

web aug 25 2023 der begriff des protestantismus entstand aufgrund eines protestschreibens welches 1529 von 6 deutschen fürsten und 14 oberhäuptern freier reichsstädte verfasst

protestanten in zeiten des kalten krieges der wit uniport edu - Jan 21 2022

web jul 10 2023 protestanten in zeiten des kalten krieges der wit 2 12 downloaded from uniport edu ng on july 10 2023 by guest marxismus und protestantismus in deutschland

protestanten in zeiten des kalten krieges der wittenberger - Apr 23 2022

web protestanten in zeiten des kalten krieges von lothar tautz in der zeit des kalten krieges englisch übersetzung schutzräume kalter krieg zum anfassen bunker in der

protestanten in zeiten des kalten krieges der wit pdf copy - May 25 2022

web comprehending as capably as pact even more than extra will offer each success neighboring to the pronouncement as skillfully as perception of this protestanten in

protestanten in zeiten des kalten krieges der wit franz - Jul 07 2023

web protestanten in zeiten des kalten krieges der wit recognizing the mannerism ways to acquire this ebook protestanten in zeiten des kalten krieges der wit is additionally

protestanten in zeiten des kalten krieges der wit - Nov 30 2022

web line this online statement protestanten in zeiten des kalten krieges der wit can be one of the options to accompany you with having new time it will not waste your time give a

protestanten in zeiten des kalten krieges der wit pdf - Mar 23 2022

web jun 30 2023 protestanten in zeiten des kalten krieges der wit 2 12 downloaded from uniport edu ng on june 30 2023 by guest menschen besteht dass wir wo es um gut

new market leader pre intermediate course book audio cd 1 - Feb 26 2022

web market leader is part of our connected english learning program fast track your learners progress teach with market leader assess with versant certify with pearson english

new market leader elementary tests audio sciarium - Sep 23 2021

progress test 1 market leader pre intermediate - Mar 10 2023

web в архиве дополнительные файлы к учебнику market leader 3rd edition entry test progress tests 1 4 exit test audio scripts examiner guidelines e book information

new market leader elementary tests sciarium - Aug 03 2022

web market leader intermediate test file per le scuole superiori mcgraw hill s 10 act practice tests second edition progress and prosperity in a time of brilliant

progress test 4 market leader pre intermediate pdf scribd - Sep 04 2022

web aug 23 2009 market leader is a pre intermediate level business english course for businesspeople and students of business english it consists of 12 units based on topics

new edition market leader intermediate testmaster cd rom - Nov 25 2021

web taksit seçenekleri alışveriş kredisi İptal ve İade koşulları tüm satıcılar 5 new language leader pre intermediate new language leader pre intermediate wİth

market leader pre intermediate tests rar 1ur9penf1ggo - Feb 09 2023

web market leader 3rd edition preintermediate p free download as pdf file pdf text file txt or read online for free livro de exercícios da coleção market leader nível pre

market leader upper intermediate progress test 1 worksheet - Dec 27 2021

web jan 20 2015 market leader is a pre intermediate level business english course for businesspeople and students of business english it consists of 12 units based on topics

market leader pre intermediate test master cd rom - Nov 06 2022

web market leader progress test 3 pre intermediate free download as pdf file pdf text file txt or read online for free progress test 3 of market leader pre intermediate

new market leader pre intermediate test file zip - Jun 13 2023

web it has 12 unit tests entry test 2 plasement tests progress tests end of course test and keys to all of them there are also audio scripts if you are in business the course will

pre intermediate market leader pearson - Aug 15 2023

web david cotton david falvey simon kent market leader 3rd edition extra offers new business skills lessons which are fully

aligned to the global scale of english gse and

market leader progress test 3 pre intermediate pdf scribd - Oct 05 2022

web 261366572 progress test 4 market leader pre intermediate free download as text file txt pdf file pdf or read online for free v dsvvs

new market leader pre intermediate test file sciarium - May 12 2023

web the edition of market leader pre intermediate includes a test master cd rom which provides an invaluable testing resource to accompany the course the tests are based

market leader intermediate business english test file david - Mar 30 2022

web jun 6 2009 new test file new text bank and test master cd rom in the teacher's resource book market leader delivers a complete teaching solution for the business

new market leader pre intermediate progress tests 2022 - Jun 01 2022

web may 11 2011 market leader is a intermediate level business english course for businesspeople and students of business english it consists of 12 units based on topics

market leader pre intermediate progress test 1 dokumen tips - Dec 07 2022

web mar 26 2012 the edition of market leader pre intermediate includes a test master cd rom which provides an invaluable testing resource to accompany the course the

newmarketleaderpreintermediateprogresstests pdf - Jul 02 2022

web 2 new market leader pre intermediate progress tests 2023 07 29 individual needs of their students with the wide range of components and specialist titles available a new

new market leader intermediate test file sciarium - Apr 30 2022

web five photocopiable tests to monitor students progress through the course contains an entry test three progress tests and an exit test which reviews the work done

market leader test file pre intermediate business english - Apr 11 2023

web the test file provides 5 photocopiable tests an entry test 3 progress tests and an exit test it includes sections which follow the format of the bec business english

market leader 3rd edition preintermediate p pdf scribd - Jan 08 2023

web market leader pre intermediate progress test 1 of 12 name

market leader 3rd edition pre intermediate test file - Jul 14 2023

web market leader 3rd edition pre intermediate test file lewis lansford pearson education 2012 juvenile nonfiction 48 pages the 3rd edition of this ever popular course

market leader adult corporate english language learning - Jan 28 2022

web jan 24 2021 market leader upper intermediate progress test 1 market leader upper intermediate progress test 1 jacek mackiewicz member for 3 years 3 months age

new language leader pre intermediate kitabı ve fiyatı - Oct 25 2021

web aug 23 2009 market leader is a pre intermediate level business english course for businesspeople and students of business english it consists of 12 units based on topics

along the healing path recovering from interstitia pdf 2023 - Oct 05 2022

web aug 30 2023 along the healing path catherine m simone 2022 04 04 compassionate and insightful along the healing path is a must read for anyone who suffers or knows someone suffering from ic or a related condition

along the healing path recovering from interstitial cystitis - Aug 15 2023

web apr 4 2022 a recovered patient herself catherine m simone is the author of three books about interstitial cystitis ic to wake in tears along the healing path and awakening through the tears diagnosed at 30 with a severe case she rejected mainstream medical s notion that there was no cure and proceeded down an alternative healing path along the healing path recovering from interstitial cystitis - Jun 13 2023

web sep 26 2000 along the healing path includes discussion of ic from a holistic perspective more specific information on herbs natural products and alternative treatments a special section on vitamins and minerals as well as many helpful tips for those looking for a more natural approach to treating their ic

along the healing path recovering from interstitia pdf - Apr 30 2022

web along the healing path recovering from interstitia 1 16 downloaded from uniport edu ng on september 1 2023 by guest along the healing path recovering from interstitia eventually you will entirely discover a supplementary experience along the healing path recovering from interstitia ci kubesail - Jan 28 2022

web 2 along the healing path recovering from interstitia 2019 12 24 along the healing path recovering from interstitia downloaded from ci kubesail com by guest whitney justice six healing questions a gentle path to facing childhood loss of a parent penguin feast famine healing addiction with grace challenges the idea that our

along the healing path recovering from interstitial cystitis - Feb 09 2023

web in this book packed with informative resources causal explanations and connections along with treatment ideas and guidance readers will learn how to determine their own individual ic pbs ob situation and how to develop a healing plan specific to their personal needsabout cancer breast implants histamine intolerance and specific nutrient

along the healing path recovering from interstitia pdf - Mar 30 2022

web jun 10 2023 along the healing path recovering from interstitia 1 13 downloaded from uniport edu ng on june 10 2023

by guest along the healing path recovering from interstitia this is likewise one of the factors by obtaining the soft documents of this along the healing path recovering from interstitia by online you might not

along the healing path recovering from interstitial cystitis - Jul 14 2023

web mar 17 2021 a recovered patient herself catherine m simone is the author of three books about interstitial cystitis ic to wake in tears along the healing path and awakening through the tears diagnosed at 30 with a severe case she rejected mainstream medical s notion that there was no cure and proceeded down an alternative

pdf along the healing path recovering from interstitial issuu - Mar 10 2023

web may 17 2023 download pdf along the healing path recovering from interstitial cystitis by catherine m simone on audiobook full chapters along the healing path recovering from interstitial cystitis

along the healing path recovering from interstitial cystitis - Jan 08 2023

web buy along the healing path recovering from interstitial cystitis 1st by simone catherine m isbn 9780966775013 from amazon s book store everyday low prices and free delivery on eligible orders

along the healing path recovering from interstitia pdf - Jul 02 2022

web 2 along the healing path recovering from interstitia 2023 06 22 along the healing path recovering from interstitia downloaded from media bekonscot co uk by guest sanchez woodard my big book of healing beyond publishing the new york times bestseller insightful thought provoking and profound i can t recommend

along the healing path recovering from interstitia - Jun 01 2022

web along the healing path recovering from interstitia along the healing path recovering from interstitia 3 downloaded from nysm pfi org on 2021 06 19 by guest embarrassed to seek it this book looks at the variety of problems that can lead to pelvic pain and how to address the issues when they arise regulation of tissue oxygenation

along the healing path recovering from interstitial cystitis - May 12 2023

web mar 11 2022 along the healing path recovering from interstitial cystitis simone catherine m free download borrow and streaming internet archive

along the healing path recovering from interstitial cystitis goodreads - Apr 11 2023

web sep 26 2000 62 ratings8 reviews a holistic perspective of interstitial cystitis with information on various alternative treatments herbs and natural products in relation to healing from ic

along the healing path recovering from interstitia pdf - Feb 26 2022

web jun 25 2023 computer along the healing path recovering from interstitia is available in our digital library an online admission to it is set as public hence you can download it instantly our digital library saves in complex countries allowing you to get the most less latency period to download any of our books once this one merely said the along the

along the healing path recovering from interstitia pdf - Aug 03 2022

web may 21 2023 along the healing path recovering from interstitia below mechanisms of vascular disease robert fitridge 2011 new updated edition first published with cambridge university press this new edition includes 29 chapters on topics as diverse as pathophysiology of atherosclerosis vascular haemodynamics haemostasis

along the healing path recovering from interstitial cystitis - Nov 06 2022

web along the healing path includes discussion of ic from a holistic perspective more specific information on herbs natural products and alternative treatments a special section on vitamins and minerals as well as many helpful tips for those looking for a more natural approach to treating their ic

along the healing path recovering from interstitia pdf - Sep 04 2022

web sep 1 2023 you could quickly download this along the healing path recovering from interstitia pdf after getting deal so taking into consideration you require the books swiftly you can straight get it

download along the healing path recovering from interstitial - Dec 07 2022

web jun 3 2023 download pdf along the healing path recovering from interstitial cystitis catherine m simone along the healing path recovering from interstitial cystitis - Dec 27 2021

web mar 6 2022 rate your books 403101 rate this book 19 along the healing path recovering from interstitial cystitis catherine m simone the girl from glengarry dodo press ralph connor betty crocker s working woman s cookbook betty crocker the future of god and organized religion andbusiness systems of the futureselected