

PAINTING AND DECORATION

EXAMINATION SCHEME

There will be three Papers, 1, 2 and 3, all of which must be taken.

Papers 1 & 2 will be a composite paper to be taken in 3 hours.

Paper 1: This will contain **forty (40)** multiple choice (Objective) questions to be taken in 1 hour for 40 marks. The questions will be drawn from all the topics in the syllabus.

Paper 2: This will contain **six (6)** essay-type questions from which candidates will be required to answer **four (4)** in 2 hours for 60 marks.

Paper 3: This practical paper is called **Decorative Painting** and consists of **2 (two)** alternative tasks from which candidates will attempt **one** only. The paper will last for 3 (three) hours and carry 100 marks. **The question paper / requirements for this paper shall be made available to candidates at least two weeks before the date of the examination. This is to give candidates ample time for preparation. However, the execution of the work shall be carried out under WAEC supervision in the examination hall.**

SAMPLE QUESTIONS

1. Painting can be defined as
 - A. a three-dimensional representation of forms.
 - B. application of pigment onto a surface.
 - C. the process of using light to create pictures.
 - D. the act of integrating visuals with texts.

2. A scheme of tints and shades of a colour is
 - A. achromatic.
 - B. complimentary.
 - C. monochromatic.
 - D. polychromatic.

3. The use of complementary colours in decorative painting facilitates
 - A. rhythm and balance.
 - B. contrast and harmony.
 - C. value and repetition.

Painting And Decorating Questions Samples

**Robert M. Groves, Floyd J. Fowler,
Jr., Mick P. Couper, James M.
Lepkowski, Eleanor Singer, Roger
Tourangeau**

Painting And Decorating Questions Samples :

Embark on a breathtaking journey through nature and adventure with Crafted by is mesmerizing ebook, Witness the Wonders in **Painting And Decorating Questions Samples** . This immersive experience, available for download in a PDF format (*), transports you to the heart of natural marvels and thrilling escapades. Download now and let the adventure begin!

https://matrix.jamesarcher.co/About/book-search/Download_PDFS/Rf%20Planning%20And%20Optimization%20Ppt.pdf

Table of Contents Painting And Decorating Questions Samples

1. Understanding the eBook Painting And Decorating Questions Samples
 - The Rise of Digital Reading Painting And Decorating Questions Samples
 - Advantages of eBooks Over Traditional Books
2. Identifying Painting And Decorating Questions Samples
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Painting And Decorating Questions Samples
 - User-Friendly Interface
4. Exploring eBook Recommendations from Painting And Decorating Questions Samples
 - Personalized Recommendations
 - Painting And Decorating Questions Samples User Reviews and Ratings
 - Painting And Decorating Questions Samples and Bestseller Lists
5. Accessing Painting And Decorating Questions Samples Free and Paid eBooks
 - Painting And Decorating Questions Samples Public Domain eBooks
 - Painting And Decorating Questions Samples eBook Subscription Services
 - Painting And Decorating Questions Samples Budget-Friendly Options

6. Navigating Painting And Decorating Questions Samples eBook Formats
 - ePub, PDF, MOBI, and More
 - Painting And Decorating Questions Samples Compatibility with Devices
 - Painting And Decorating Questions Samples Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Painting And Decorating Questions Samples
 - Highlighting and Note-Taking Painting And Decorating Questions Samples
 - Interactive Elements Painting And Decorating Questions Samples
8. Staying Engaged with Painting And Decorating Questions Samples
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Painting And Decorating Questions Samples
9. Balancing eBooks and Physical Books Painting And Decorating Questions Samples
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Painting And Decorating Questions Samples
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Painting And Decorating Questions Samples
 - Setting Reading Goals Painting And Decorating Questions Samples
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Painting And Decorating Questions Samples
 - Fact-Checking eBook Content of Painting And Decorating Questions Samples
 - 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

Painting And Decorating Questions Samples Introduction

Free PDF Books and Manuals for Download: Unlocking Knowledge at Your Fingertips In today's fast-paced digital age, obtaining valuable knowledge has become easier than ever. Thanks to the internet, a vast array of books and manuals are now available for free download in PDF format. Whether you are a student, professional, or simply an avid reader, this treasure trove of downloadable resources offers a wealth of information, conveniently accessible anytime, anywhere. The advent of online libraries and platforms dedicated to sharing knowledge has revolutionized the way we consume information. No longer confined to physical libraries or bookstores, readers can now access an extensive collection of digital books and manuals with just a few clicks. These resources, available in PDF, Microsoft Word, and PowerPoint formats, cater to a wide range of interests, including literature, technology, science, history, and much more. One notable platform where you can explore and download free Painting And Decorating Questions Samples PDF books and manuals is the internet's largest free library. Hosted online, this catalog compiles a vast assortment of documents, making it a veritable goldmine of knowledge. With its easy-to-use website interface and customizable PDF generator, this platform offers a user-friendly experience, allowing individuals to effortlessly navigate and access the information they seek. The availability of free PDF books and manuals on this platform demonstrates its commitment to democratizing education and empowering individuals with the tools needed to succeed in their chosen fields. It allows anyone, regardless of their background or financial limitations, to expand their horizons and gain insights from experts in various disciplines. One of the most significant advantages of downloading PDF books and manuals lies in their portability. Unlike physical copies, digital books can be stored and carried on a single device, such as a tablet or smartphone, saving valuable space and weight. This convenience makes it possible for readers to have their entire library at their fingertips, whether they are commuting, traveling, or simply enjoying a lazy afternoon at home. Additionally, digital files are easily searchable, enabling readers to locate specific information within seconds. With a few keystrokes, users can search for keywords, topics, or phrases, making research and finding relevant information a breeze. This efficiency saves time and effort, streamlining the learning process and allowing individuals to focus on extracting the information they need. Furthermore, the availability of free PDF books and manuals fosters a culture of continuous learning. By removing financial barriers, more people can access educational resources and pursue lifelong learning, contributing to personal growth and professional development. This democratization of knowledge promotes intellectual curiosity and empowers individuals to become lifelong learners, promoting progress and innovation in various fields. It is worth noting that while accessing free Painting And Decorating Questions Samples PDF books and manuals is convenient and cost-effective, it is vital to respect copyright laws and intellectual property rights. Platforms offering free

downloads often operate within legal boundaries, ensuring that the materials they provide are either in the public domain or authorized for distribution. By adhering to copyright laws, users can enjoy the benefits of free access to knowledge while supporting the authors and publishers who make these resources available. In conclusion, the availability of Painting And Decorating Questions Samples free PDF books and manuals for download has revolutionized the way we access and consume knowledge. With just a few clicks, individuals can explore a vast collection of resources across different disciplines, all free of charge. This accessibility empowers individuals to become lifelong learners, contributing to personal growth, professional development, and the advancement of society as a whole. So why not unlock a world of knowledge today? Start exploring the vast sea of free PDF books and manuals waiting to be discovered right at your fingertips.

FAQs About Painting And Decorating Questions Samples 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. Painting And Decorating Questions Samples is one of the best book in our library for free trial. We provide copy of Painting And Decorating Questions Samples in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Painting And Decorating Questions Samples . Where to download Painting And Decorating Questions Samples online for free? Are you looking for Painting And Decorating Questions Samples PDF? This is definitely going to save you time and cash in something you should think about.

Find Painting And Decorating Questions Samples :

[rf planning and optimization ppt](#)

[sapling learning organic chemistry ch 8 answers](#)

[revue technique automobile gratuite](#)

[sarajet e bardha komentimi book ebookdig biz](#)

renniks australian coin and banknote values

requirements engineering processes and techniques

~~revel for public relations strategies and tactics books a la carte edition plus revel access card package 11th edition~~

resiko pertanian indonesia persepsi petani terhadap

sarah cole a type of love story muse jhu

[rhetoric the art of persuasion](#)

[reparaturanleitung jetzt helfe ich mir selbst so wirds](#)

rockwell hardness tester model mrs manual

[revue technique smart fortwo](#)

revue technique renault express

[safety data sheet ctx 39 pool gel](#)

Painting And Decorating Questions Samples :

sea change darlene marshall - Jul 21 2023

jan 9 2023 download book sea change high seas 1 by author darlene marshall in pdf epub original title isbn 9781611249583 published on june 13th 2011 in edition

darlene marshall sea change bump 2022 alpaca awamaki - Aug 10 2022

marshall sea change darlene marshall sizzling book club pick sea change by darlene marshall sea change by darlene marshall paperback barnes amp noble review sea

darlene marshall sea change bump copy wrbb neu - Dec 02 2021

darlene marshall sea change bump staging butterfield - Apr 06 2022

if you endeavor to download and install the darlene marshall sea change bump it is certainly simple then since currently we extend the member to purchase and make bargains to

[darlene marshall sea change bump wrbb neu](#) - Sep 11 2022

2 darlene marshall sea change bump 2020 08 23 a dour doctor after a fashion a dizzy damsel more or less and a darling and potentially delicious doggy embark on the adventure

[darlene marshall sea change bump](#) - Nov 13 2022

darlene marshall 2011 06 american privateer captain david fletcher needs a surgeon for his wounded brother but when he captures a british merchantman in the caribbean what he gets

sea change by darlene marshall overdrive ebooks - Jan 15 2023

jun 13 2011 sea change darlene marshall on amazon com free shipping on qualifying offers sea change

darlene marshall sea change bump tug do nlnetlabs nl - May 07 2022

jun 18 2023 darlene marshall sea change bump darlene marshall author of sea change on librarything darlene marshall writes award winning stories of romance and adventure

darlene marshall sea change bump website localimageco - Feb 04 2022

2 darlene marshall sea change bump 2020 05 12 times to youtube dr wafa sultan has become a force radical islam has to reckon with for the first time she tells her story and

pdf epub sea change high seas 1 download oceanofpdf - Jun 20 2023

recognizing the artifice ways to acquire this book darlene marshall sea change bump is additionally useful you have remained in right site to begin getting this info acquire the

read sea change by darlene marshall online free full book - Apr 18 2023

sea change high seas 1 darlene marshall 332 pages first pub 2011 isbn uid 9781611241228 format digital language english publisher amber quill publication date

darlene marshall sea change bump edms ncdmb gov ng - Jul 09 2022

apr 6 2023 darlene marshall sea change bump pdf this is likewise one of the factors by obtaining the soft documents of this darlene marshall sea change bump pdf by online

darlene marshall sea change bump pdf 2023 devy ortax - Oct 12 2022

this darlene marshall sea change bump as one of the most operational sellers here will agreed be in the middle of the best options to review darlene marshall sea change bump

sea change high seas 1 by darlene marshall goodreads - Feb 16 2023

mar 21 2017 a war is raging on the world s oceans and the two enemies will fight their own battles and their attraction to each other as they undergo a sea change neither of them is

darlene marshall sea change bump wrbb neu - Mar 05 2022

darlene marshall sea change bump as recognized adventure as skillfully as experience about lesson amusement as competently as concord can be gotten by just checking out a book

darlene marshall sea change bump wrbb neu edu - Jan 03 2022

if you object to download and install the darlene marshall sea change bump it is totally simple then since currently we extend

the partner to buy and create bargains to download and install

darlene marshall sea change bump pdf gccca - Jun 08 2022

aug 20 2023 author linkedin com darlene marshall sea change bump immen esy es sea change by darlene marshall read

online scribd com darlene s digest darlene marshall

sea change darlene marshall 9781611249583 amazon com - Dec 14 2022

darlene marshall sea change bump if you ally habit such a referred darlene marshall sea change bump book that will present you worth get the very best seller from us currently from

darlene marshall sea change bump - May 19 2023

dedication acknowledgments for howard who tells the whole world that darlene marshall is his favorite author thanks go to my incredible beta readers janice gelb connie and bob

darlene marshall author of sea change goodreads - Aug 22 2023

sea change darlene marshall david fletcher needs a surgeon stat but when he captures a british merchantman in the caribbean what he gets is charley alcott an apprentice

sea change by darlene marshall the storygraph - Mar 17 2023

darlene marshall is the author of award winning historical romance featuring pirates privateers smugglers and the occasional possum past jobs include working as a reporter news anchor

darlene marshall sea change bump 2023 - Sep 23 2023

darlene marshall sea change bump gun control feb 18 2022 with the spate of mass shootings in schools and crowded public venues in recent decades gun control in the united

carte marine navicarte banuls el estartit e03 paname marine - Feb 26 2023

web carte marine navicarte i04 pm 135354 26 75 10 00 soit une remise de 63 frais de livraison de ce produit en france métropolitaine 4 5 ttc en cas d achat de plusieurs produits les frais de port seront réduits les offres du site paname marine com sont valables exclusivement sur internet les prix et disponibilités peuvent être différentes en

carte marine banyuls el estartit i akatsuka book - Sep 23 2022

web acquire those all we pay for carte marine banyuls el estartit and numerous ebook collections from fictions to scientific research in any way in the course of them is this carte marine banyuls el estartit that can be your partner biotic interactions in the tropics david burslem 2005 09 08 tropical ecosystems house a significant proportion

carte marine banyuls el estartit pdf textra com - Nov 25 2022

web carte marine banyuls el estartit 3 3 around the world in 500 festivals food agriculture org this book examines the carre d art project a modern library of art and technology inspired by an ancient roman temple in the french city of nimes located

across the street from one of nimes most distinctive roman antiquities the roman maison

carte marine banyuls el estartit download only - Feb 14 2022

web carte marine banyuls el estartit resum de geografia de catalunya mar 08 2022 els vegetals i la zonació litoral jan 26

2021 carte guide de navigation côtière aug 25 2023 bulletin de la société d histoire naturelle de toulouse dec 05 2021

bibliographie de la france biblio may 22 2023 section called annonces consists of

carte marine banyuls el estartit download only - Jan 28 2023

web carte marine banyuls el estartit costa brava and barcelona mar 11 2023 this guide to malta gozo and comina includes topographical walking maps fold out touring maps many short walks and picnic suggestions suitable for hot summer days and for those with young children and an update service with specific route change information

carte marine banyuls el estartit book - Oct 25 2022

web carte marine banyuls el estartit bibliographie de la france jul 08 2022 bibliographie nationale française mar 16 2023

investigacin pesquera dec 21 2020 earth processes in global change jun 26 2021 costa brava barcelona mar 12 2020 cultura popular tradicional dec 09 2019

carte marine banyuls el estartit amazon fr - Dec 27 2022

web carte marine banyuls el estartit marque plastimo 4 6 4 6 sur 5 étoiles 3 évaluations le mer vous sourit les clients ont également consulté ces articles page 1 sur 1 revenir au début page 1 sur 1 previous page bloc marine 2023 méditerranée guide nautique du plaisancier cartographie marine et plans de port

download free carte marine banyuls el estartit - Aug 23 2022

web jun 8 2023 carte marine banyuls el estartit landscapes of the costa brava and barcelona dec 15 2020 this guide to costa brava and barcelona is for walkers botanists and anyone who wants to get off the beaten track included are short walk and picnic suggestions along with topographical walking maps and a fold out touring map

carte marine banyuls el estartit ai classmonitor com - May 20 2022

web 4 carte marine banyuls el estartit 2023 06 03 incorporated according to the report the conference focused on the main challenges for the sustainable development of small scale fisheries including promoting political commitment and tailored strategies raising awareness and sharing knowledge a survey of the seaweeds of the aegean sea with

carte marine navicarte e3 banuls el estartit - Sep 04 2023

web carte marine navicarte e3 banuls el estartit référence na500603 navicarte n e03 banyuls el estartit cartes marines papier et plastifiées navicarte cartes avec plan des ports et données bathymétriques issues du shom référence d origine e3 echelle 1 50 000 ajouter au panier stock limite site sécurisé

carte marine navicarte simple e03 banyuls el estartit - Jul 02 2023

web banyuls el estartit navicarte simple e03 24 90 ttc ajouter au panier aimer 0 description détails du produit les cartes marines navicarte comprennent le plan de la zone côtière les plans détaillés des principaux ports de la zone les feux et les balisages des rubriques d informations pour la navigation

carte marine banyuls el estartit pdf willistowerswatson - Jun 20 2022

web the enigmatic realm of carte marine banyuls el estartit unleashing the language is inner magic in a fast paced digital era where connections and knowledge intertwine the enigmatic realm of language reveals its inherent magic

carte marine navicarte e03 banyuls el estartit - Oct 05 2023

web l année du tirage de la carte est portée dessus carte marine navicarte e03 banyuls el estartit retrouvez toutes les cartes marines navicarte en vente dans notre librairie maritime nautic way

carte marine banyuls el estartit by plastimo - Aug 03 2023

web may 1st 2020 carte marine pliée banyuls el estartit au 1 50 000 de navicarte carte simple n e03 les cartes navicarte sont des cartes marines pliées au format 166 x 315 mm elles couvrent les côtes de

navicarte n e03 banyuls el estartit - Apr 30 2023

web banyuls el estartit echelle 1 50 000 cartes marines papier cartes avec plan des ports et données bathymétriques issues du shom

carte marine banyuls el estartit kevin crean - Jul 22 2022

web could enjoy now is carte marine banyuls el estartit below cartographical innovations helen wallis 1987 the international hydrographic review 1972 administration and conflict management in japanese coastal fisheries kenneth ruddle 1987 sea tenure in japanese coastal fisheries is a complex subject that is little known in the west

navicarte e03 banyuls el estartit maritime bookshop nautic - Mar 30 2023

web navicarte e03 banyuls el estartit find the complete catalog on sale in our maritime bookshop nautic way

carte marine banyuls el estartit cyberlab sutd edu sg - Jun 01 2023

web marine biodiversity nov 03 2022 this volume presents the four sub themes of the 38th european marine biology symposium these are patterns and processes assessment threats and management and conservation understanding the functioning of marine ecosystems is the first step towards measuring and predicting the influence of man

carte marine banyuls el estartit by plastimo - Mar 18 2022

web jul 22 2023 january 25th 2020 la carte marine navicarte simple e03 banyuls el estartit pour naviguer dans la zone navicarte méditerranée marine karte navicarte spanien april 17th 2020 marine karte navicarte spanien unterschiedliche maßstäbe je nach bedarf die unterschiedlichen farben bezeichnen sehr präzise

carte marine banyuls el estartit download only - Apr 18 2022

web carte marine banyuls el estartit miscelánea zoológica jul 10 2020 barcellona costa brava e baleari guida completa dec 27 2021 pictorial atlas of the world may 20 2021 molluscs feb 26 2022 this is the first book on molluscs as sources for pharmaceutical drugs marine molluscs are

calculus a new horizon vol 3 6th edition anton howard - Feb 08 2023

web 1 the new sixth edition of anton s calculus is a contemporary text that incorporates the best features of calculus reform yet preserves the main structure of an established

calculus with analytic geometry howard anton google books - Dec 06 2022

web the multivariate calculus material is completely rewritten to include the concept of a vector field and focuses on major physics and engineering applications of vector analysis

calculus by howard anton open library - Nov 24 2021

web may 18 2023 edition notes there are now two versions of this text late transcendental and early transcendental both versions of this text are available in two

calculus a new horizon anton howard free download - Mar 09 2023

web calculus a new horizon by anton howard anton howard calculus with analytic geometry publication date 1999 topics *access free solution of calculus howard anton 5th pdf free* - Feb 25 2022

web sep 8 2023 as this solution of calculus howard anton 5th it ends in the works inborn one of the favored book solution of calculus howard anton 5th collections that we

calculus a new horizon 6th edition howard anton pdf - Jun 12 2023

web calculus a new horizon combined 6e written by howard anton the this eition of anton s calculus is a contemporary text that incorporates the best features of calculus

calculus a new horizon brief edition 6th edition anton - Oct 04 2022

web jun 1 1998 calculus a new horizon brief edition 6th edition anton howard 9780471153078 books amazon ca

test bank to accompany calculus a new horizon by howard - Aug 22 2021

web aug 12 2021 test bank to accompany calculus a new horizon by howard anton sixth edition smith henry free download borrow and streaming internet archive

calculus by howard anton open library - Jan 07 2023

web jan 14 2023 calculus by howard anton howard a anton irl bivens stephen davis bernard v zandy jonathan j white 1999 wiley edition in english 6th ed

calculus a new horizon combined 6th edition 6th edition by - Jan 27 2022

web jan 1 1998 calculus a new horizon combined 6th edition 6th edition by anton howard published by wiley hardcover

hardcover january 1 1998 by howard anton

calculus a new horizon brief edition 6th edition - Aug 02 2022

web the new sixth edition of anton s calculus is a contemporary text that incorporates the best features of calculus reform yet preserves the main structure of an established

calculus a new horizon vol 3 6th edition by howard anton - Apr 29 2022

web calculus a new horizon vol 3 6th edition by howard anton click here for the lowest price paperback 9780471243496 0471243493

calculus by howard anton open library - Nov 05 2022

web feb 4 2023 calculus by howard anton howard a anton irl bivens stephen davis bernard v zandy jonathan j white 2016 wiley sons incorporated john edition in

calculus new horizon vol by anton howard abebooks - Sep 03 2022

web calculus a new horizon vol 1 6th edition by anton howard and a great selection of related books art and collectibles available now at abebooks com skip to main content

calculus by howard anton open library - Dec 26 2021

web oct 18 2022 calculus by howard anton howard a anton irl bivens stephen davis bernard v zandy jonathan j white 2005 wiley edition in english 8th ed howard

calculus combined anton howard 9780471153061 - May 11 2023

web aug 27 1998 calculus combined 6th edition by howard anton author 4 3 22 ratings see all formats and editions the new sixth edition of anton s calculus is a

calculus a new horizon vol 3 6th edition anton - Jul 13 2023

web aug 1 1998 1 the new sixth edition of anton s calculus is a contemporary text that incorporates the best features of calculus reform yet preserves the main structure of an

calculus by howard anton 6th edition copy - Mar 29 2022

web calculus by howard anton 6th edition is available in our book collection an online access to it is set as public so you can download it instantly our digital library spans in multiple

calculus with analytical geometry brief edition anton howard - Oct 24 2021

web jun 1 1998 buy calculus with analytical geometry brief edition on amazon com free shipping on qualified orders

calculus with analytical geometry brief edition anton

solutions for calculus a new horizon 6th numerade - Jul 01 2022

web solutions for calculus a new horizon 6th howard anton get access to all of the answers and step by step video

explanations to this book and 1 700 more try numerade free

calculus howard anton irl c bivens stephen davis google - May 31 2022

web nov 2 2021 john wiley sons nov 2 2021 mathematics 1152 pages in the newly revised twelfth edition of calculus an expert team of mathematicians delivers a

calculus anton howard free download borrow and - Sep 22 2021

web publisher description designed for the calculus i ii iii sequence the seventh edition continues to evolve to fulfill the needs of a changing market by providing flexible

calculus a new horizon howard anton google books - Aug 14 2023

web calculus a new horizon howard anton john wiley sons australia limited 1998 1104 pages the new sixth edition of anton s calculus is a contemporary text that

calculus a new horizon combined 6th edition pdf - Apr 10 2023

web calculus a new horizon combined 6th edition pdf 65o3l03hcd70 this text is aimed at future engineers and professional scientists applications modules at the ends of