



## مقدمة

## VFD-V سلسلة

DELTA عالية الأداء من VFD-V متشارك على اعتبار سلسلة

يتم تصنيعها من خلال اعتماد مكونات ومواد عالية الجودة ودمج أحدث تقنيات المعالجات الدقيقة المتقدمة

التشروع في العمل سيكون هذا الدليل مفيداً في التثبيت وإعداد المعلمات واكتشاف الأخطاء وإصلاحها والصيانة اليومية لمحركات التيار المتردد. لضمان التشغيل الآمن للمعدات، اقرأ إرشادات السلامة الدافئة قبل توصيل الطاقة بمحركات التيار المتردد. احفظ دليل التشغيل هذا في مكانك، واهم بتوزيعه على جميع المستخدمين كمرجع.



## تحذير

- VFD-V لم تطفأ قرابة هذا الدليل جيداً قبل استخدام محركات التيار المتردد من سلسلة. خطر! يجب فصل طاقة إدخال التيار المتردد قبل أي صيانة. لم توصيل أو فصل الأسلاك والموصلات أثناء توصيل الطاقة إلى الدائرة. يجب إجراء الصيانة بواسطة فنيين مؤهلين.
- حماية للغاية على لوحات التوزيع المطلوب على هذه المكونات حساسة بشكل خاص للتغيرات الساكنة لتجنب MOS حذر! توجد مكونات الأجزاء التي تعطل هذه المكونات. قد تفسد هذه المكونات أو لوحات التوزيع بالنيابة معطوبة أو يبدد العزل بين.
- خطر! قد تخلق هناك شحنة في مكثف ومصدر التيار المستمر بجهود خطيرة حتى لو تم إيقاف تشغيل الطاقة لتجنب الإصابة الشخصية. يرجى. تم إيقاف تشغيل الطاقة قبل تشغيل محرك التيار المتردد والتأكد من عدم وجود أي شيء حتى يتم تجميع المكونات إلى مستويات الجودة الآمنة.
- يجب أن تكون طريقة التثبيت. باستخدام الطور الأرضي VFD-V حذر! لم يتوافق. يتوافق مع قوانين البلد الذي سيتم تركيب محرك التيار المتردد فيه. الرجوع إلى معطى الأسلاك الأساسية.
- حذر! قد يتلف محرك التيار المتردد بشكل لا يمكن إصلاحه إذا لم توصيل كابلات غير صحيحة بالطرف الإدخال للأجزاء. لا يتم مطلقاً توصيل أطراف إدراج محرك التيار المتردد مباشرة إلى مصدر طاقة الدائرة الرئيسية للتيار المتردد. خطر! يجب أن تتوافق العيوب النهائية U/T1- V/T2- W/T3. يجب تركيب الأجزاء الحية في حاويات أو وضعها خلف حواجز عازل. (على الأقل). EN50178 لمحرك التيار المتردد مع. ويجب أن يفي السطح العلوي للحاويات أو الحائز الذي يمكن الوصول إليه بسهولة بمتطلبات نوع IP20. بمتطلبات نوع الحماية (مع هذه المتكاملة VFD-V تتوافق سلسلة). (على الأقل IP40 الحماية).
- قد ترتفع درجة حرارة المشتت الحراري إلى أكثر من 70 درجة مئوية (158 درجة فهرنهايت) أثناء التشغيل. لا. تجنب المشتت الحراري.

لرؤية تفاصيل المكونات، يرجى النظر في صفحة

# Delta V User Manual

**SA Dillow**



## **Delta V User Manual:**

When somebody should go to the ebook stores, search launch by shop, shelf by shelf, it is essentially problematic. This is why we offer the book compilations in this website. It will categorically ease you to see guide **Delta V User Manual** as you such as.

By searching the title, publisher, or authors of guide you in point of fact want, you can discover them rapidly. In the house, workplace, or perhaps in your method can be every best place within net connections. If you seek to download and install the Delta V User Manual, it is entirely easy then, previously currently we extend the member to purchase and make bargains to download and install Delta V User Manual consequently simple!

<https://yousky7.com/results/book-search/HomePages/bloodmoney%20a%20novel%20of%20espionage.pdf>

## **Table of Contents Delta V User Manual**

1. Understanding the eBook Delta V User Manual
  - The Rise of Digital Reading Delta V User Manual
  - Advantages of eBooks Over Traditional Books
2. Identifying Delta V User Manual
  - 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 Delta V User Manual
  - User-Friendly Interface
4. Exploring eBook Recommendations from Delta V User Manual
  - Personalized Recommendations
  - Delta V User Manual User Reviews and Ratings
  - Delta V User Manual and Bestseller Lists

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

## **Delta V User Manual Introduction**

Delta V User Manual Offers over 60,000 free eBooks, including many classics that are in the public domain. Open Library: Provides access to over 1 million free eBooks, including classic literature and contemporary works. Delta V User Manual Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Delta V User Manual : This website hosts a vast collection of scientific articles, books, and textbooks. While it operates in a legal gray area due to copyright issues, its a popular resource for finding various publications. Internet Archive for Delta V User Manual : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Delta V User Manual Offers a diverse range of free eBooks across various genres. Delta V User Manual Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Delta V User Manual Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Delta V User Manual, especially related to Delta V User Manual, might be challenging as theyre often artistic creations rather than practical blueprints. However, you can explore the following steps to search for or create your own Online Searches: Look for websites, forums, or blogs dedicated to Delta V User Manual, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Delta V User Manual books or magazines might include. Look for these in online stores or libraries. Remember that while Delta V User Manual, sharing copyrighted material without permission is not legal. Always ensure youre either creating your own or obtaining them from legitimate sources that allow sharing and downloading. Library Check if your local library offers eBook lending services. Many libraries have digital catalogs where you can borrow Delta V User Manual eBooks for free, including popular titles. Online Retailers: Websites like Amazon, Google Books, or Apple Books often sell eBooks. Sometimes, authors or publishers offer promotions or free periods for certain books. Authors Website Occasionally, authors provide excerpts or short stories for free on their websites. While this might not be the Delta V User Manual full book , it can give you a taste of the authors writing style. Subscription Services Platforms like Kindle Unlimited or Scribd offer subscription-based access to a wide range of Delta V User Manual eBooks, including some popular titles.

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

## **Find Delta V User Manual :**

~~bloodmoney a novel of espionage~~

~~blitzer 6th edition book~~

~~blood ties the destroyer book 69~~

~~blood in my pocket~~

~~blank proformas for mathematics and tally sheets~~

~~blank semester calendar~~

~~blind buck answer key punchline bridge to algebra~~

**blacksmithing guide for wow**

*blacksheep blacksheep illustrated*

**blank recipe book family recipes**

*blanks levels of questioning*

bloomberg essentials getting started exam

bloomfield 1225 owners manual

**bloodline a human genetics case answers**  
**blm times tables grids**

**Delta V User Manual :**

english workshop of poem try again standard 8 - Nov 07 2022

web english workshop of poem try again standard 8 1 the following anagrams contain words phrases from the poem guess and write what they are 2 pick out lines that convey the following from the poem

**english appreciation of the poem vocation std viii youtube** - Oct 06 2022

web aug 17 2020 english appreciation of the poem vocation std viii creative minds 107 subscribers subscribe 19 share save 764 views 3 years ago appreciation of the poem is

*24 short english poems for kids class 1 to 7th momjunction* - Mar 11 2023

web aug 18 2023 24 rhythmic english poems for kids fall in love with the magic of words reviewed by elisabeth daly msed written by wedetso chirhah ma english aug 18 2023 image shutterstock rhymes and poems are one of the first things that children learn

*1 1 a time to believe class 8 english subject poem youtube* - Dec 08 2022

web written by b j morbitzer englishpoem 8thclass std8th learnonline std8 8thclass 8thstandard 8thstdenglish class 8 english youtube com pl

**english poem for std viii book** - Feb 27 2022

web english poem for std viii when people should go to the ebook stores search initiation by shop shelf by shelf it is essentially problematic this is why we offer the book compilations in this website it will categorically ease you to look guide english poem for

*std 8 english poem 1 3 the pilgrim easy and detailed youtube* - Jul 15 2023

web aug 16 2020 std 8 english poem 1 3 the pilgrim easy and detailed explanation in english class 8 ssc board jkacademypro com 62 3k subscribers subscribe 350 share 24k views 3 years ago class 8

**unseen poem for class 8 learn cbse** - Jan 09 2023

web jan 2 2019 unseen poem for class 8 english type 1 unseen poem for class 8 poem 1 read the poems given below and answer the questions complete the statements that follow be the best if you can t be a pine on the top of the hill be a scrub in the valley but be the best little scrub by the side of the rill be a bush if you can t be a tree

**poems by henry viii king of england poem hunter** - Jul 03 2022

web sep 3 2023 read all poems by henry viii king of england written most popular poems of henry viii king of england



famous henry viii king of england and all 17 poems in this page

*teacher and student poems by class 8 students* - Aug 04 2022

web jul 25 2010 teacher and student poems by class 8 students july 25 2010 in hindi poetry poetry students creations by avm teachers guru gyaan by samay jain guru seva by yash chhatani and parth patel teacher and me by ronak mistry my teacher aakash and akshay o my teacher i bow to you by kenny and bhavik

*appreciation of the poem be the best std 8th english* - Apr 12 2023

web aug 7 2022 appreciation of the poem be the best std 8th english be the best title of the poem poet of the poem rhymes scheme of the poem figure of speech of the poem them

**king henry viii poems by the famous poet all poetry** - May 01 2022

web poems by king henry viii king henry viii 28 june 1491 28 january 1547 was king of england and lord of ireland later king of ireland from 21 april 1509 until his death and the legal union of england and wales henry viii was the second son of henry vii and elizabeth of york his elder brother arthur prince of wales who had first

5 english poem for class 8 for students competition - Aug 16 2023

web jan 30 2023 1 english poem for class 8 1 1 english poem for class 8 with poet name poem 1 1 1 1 geography lesson 1 2 english poem for class 8 competition poem 2 1 2 1 macavity the mystery cat 1 3 english poem for class 8 with moral poem 3 1 3 1 the last bargain 1 4 english poem for class 8 students poem 4

**be the best douglas malloch 8th standard english poem** - Feb 10 2023

web jun 24 2018 this video is created by sunil n rathod only for teachers how to teach in class and more about this rhymes has with music rhythm and song be the best do

**english poem for std viii copy rc spectrallabs** - Jan 29 2022

web english poem for std viii the history of english poetry from the close of the eleventh century to the commencement of the eighteenth century the standard english language and grammar

**unseen poem for class 8 in english latest unseen poem unseen** - May 13 2023

web reading the unseen poem for class 8 in english will help you to write better answers in your exam and improve your reading skill students who are planning to score higher marks in 8th standard english poem should practice the english poem for class 8 before attending the cbse board exam

**poem comprehension unseen poem for class 8 edumantra** - Jun 14 2023

web poem 20 killing of a tree unsolved poem 21 the fox unsolved poem 22 the cuckoo unsolved poem 23 letter from a parent unsolved poem 24 september 11 solved poem 25 break break break solved poem 26 piping down the valleys solved poem 27 the leader solved poem 28 baltimore

*henry viii king of england poetry foundation* - Jun 02 2022

web poems by henry viii king of england green groweth the holly if love now reigned as it hath been lusty youth should us ensue see all poems by henry viii king of england more about this poet region england school period renaissance poems by this poet green groweth the holly

**english poem for std viii uniport edu** - Dec 28 2021

web jul 14 2023 english poem for std viii 1 4 downloaded from uniport edu ng on july 14 2023 by guest english poem for std viii thank you definitely much for downloading english poem for std viii maybe you have knowledge that people have look numerous period for their favorite books in the manner of this english poem for std viii but

**ncert solutions for class 8 english 2019 20 book learn cbse** - Sep 05 2022

web ncert solutions for class 8 english honeydew poem poem 1 the ant and the cricket poem 2 geography lesson poem 3 macavity the mystery cat poem 4 the last bargain poem 5 the school boy poem 6 the duck and the kangaroo poem 7 when i set out for lyonesse poem 8 on the grasshopper and cricket

*english poem for std viii pdf uniport edu* - Mar 31 2022

web aug 5 2023 english poem for std viii is available in our book collection an online access to it is set as public so you can get it instantly our book servers saves in multiple countries allowing you to get the most less latency time to download

*phet simulation energy form intro heat phet contribution* - Feb 10 2023

web oct 23 2020 phet simulation energy form intro heat description physical science aligned with ngss hs standards subject chemistry physics level high school type guided activity duration 60 minutes answers included no language english keywords energy heat simulation s

**energy forms and changes simulation answer key fill out** - Jun 02 2022

web review the six main forms of energy with this physics worksheet hs guided lab physics phet energy forms and changes simulation worksheet to learn more

**energy simulation pre lab answer phet pdf pdf** - May 01 2022

web energy simulation pre lab answer phet pdf introduction energy simulation pre lab answer phet pdf pdf chemists guide to effective teaching norbert j pienta 2005 part of the prentice hall series in educational innovation for chemistry this unique book is a collection of information examples and references on

**types of energy transferred worksheet phet contribution** - Dec 28 2021

web may 5 2019 types of energy transferred lab simulation pdf 738 kb download all files as a compressed zip title types of energy transferred worksheet description subject physics level middle school

*energy skate park basics 1 1 29 phet interactive simulations* - Jan 09 2023

web energy skate park basics 1 1 29 phet interactive simulations

*states of matter atomic bonding phet interactive simulations* - Feb 27 2022

web watch different types of molecules form a solid liquid or gas add or remove heat and watch the phase change change the temperature or volume of a container and see a pressure temperature diagram respond in real time relate the interaction potential to the forces between molecules

energy forms and changes phet interactive simulations - Jun 14 2023

web energy forms and changes phet interactive simulations

**sce 1010 phet energy forms and changes csm studocu** - Jul 15 2023

web this is a simulation lab assignment for sce 1010 energy forms and changes sce 1010 chapter 12 worksheet to begin choose the window to start the simulation

enerji Çeşitleri ve dönüşümleri phet interactive simulations - May 13 2023

web demir tuğla su ve zeytinyağının ısıtılması ve soğutulmasının enerjiyi nasıl artırdığını veya yok ettiğini keşfedin enerjinin nesneler arasında nasıl aktarıldığını görün enerji kaynakları dönüştürücüler ve kullanıcılarla kendi sisteminizi kurun enerjinin sisteminizde nasıl aktığını ve değiştiğini izleyin ve görselleştirin

temperature and energy teacher s guide tiss - Dec 08 2022

web questions 1 and 2 students are modeling the relationship between temperature and kinetic energy models should show molecules in the hot object moving faster than molecules in the cold object models should show the same number of molecules and depict molecules as the same size between hot and cold objects

*energy simulation pre lab answer phet download only* - Mar 31 2022

web energy simulation pre lab answer phet lab experiences for the pharmacy technician nov 05 2022 filled with practical hands on laboratory exercises this book is an ideal laboratory manual for pharmacy technician education programs it covers the laboratory skills technicians need to dispense retail prescriptions inpatient

**work and energy simulation lab phet contribution** - Nov 07 2022

web dec 23 2020 title work and energy simulation lab description in this lab students will explore the skater following a loop the loop identifying the height speed and energy requirements to make it around under conditions with and without friction and with and without the stick to track feature subject

*pendulum lab periodic motion phet interactive simulations* - Oct 06 2022

web play with one or two pendulums and discover how the period of a simple pendulum depends on the length of the string the mass of the pendulum bob the strength of gravity and the amplitude of the swing observe the energy in the system in real time and vary the amount of friction measure the period using the stopwatch or period timer

**gases intro ideal gas law phet interactive simulations** - Jan 29 2022

web pump gas molecules to a box and see what happens as you change the volume add or remove heat and more measure the temperature and pressure and discover how the properties of the gas vary in relation to each other

**work energy power phet simulations** - Apr 12 2023

web by converting our sims to html5 we make them seamlessly available across platforms and devices whether you have laptops ipads chromebooks or byod your favorite phet sims are always right at your fingertips become part of our mission today and transform the learning experiences of students everywhere

**energy forms and changes phet interactive simulations** - Aug 16 2023

web track and visualize how energy flows and changes through your system explore how heating and cooling iron brick water and olive oil adds or removes energy see how energy is transferred between objects

*phet interactive simulations phet free online physics* - Mar 11 2023

web free science and math simulations for teaching stem topics including physics chemistry biology and math from university of colorado boulder

**energy skate park simulation walkthrough phet virtual lab** - Sep 05 2022

web worksheet drive google com file d 1pac9kaxrtoasmqirww4d3zaopnuvoobw view usp sharingfull playlist of igcse physics chapter 4 energyyoutu

**phet energy skate park answer lab questions 1library** - Jul 03 2022

web use the phet simulation energy skate park to answer the questions below go to the website and search for energy skate park mechanical energy explorations with energy skatepark phet energy skate park start 1 click on wr i re at leas r 2 semences to explain your answer propose modifications to the energy skate park basics phet

energy forms and changes lab answers docx energy transfers simulation - Aug 04 2022

web no school energy transfers simulation 1 open the phet simulation energy forms and changesand the systems tab be sure to click the box with energy symbols so you can see the energy types 2 arrange the simulation to create each of the different configurations pictured below

the sages manual of flexible endoscopy amazon in - Sep 21 2022

web the sages manual of flexible endoscopy english ed the sages manual of perioperative care in minimally invasive surgery the sages atlas of robotic surgery

**the sages manual of flexible endoscopy english ed download** - Jun 18 2022

web the sages manual of flexible endoscopy english ed downloaded from 2013 thecontemporaryaustin org by guest ford cassius the sages manual of

*the sages manual of flexible endoscopy 1st ed 2020 edition* - Feb 24 2023

web sep 25 2019 this edition of the sages manual of flexible endoscopy aligns with the current version of the new sages university masters program flexible endoscopy

the sages manuals handbooks for endoscopic and - Jan 26 2023

web about this book since its publication in 1998 the sages manual fundamentals of laparoscopic and gi endoscopy has become a true classic now in its new second

**the sages manual of flexible endoscopy springerlink** - Oct 03 2023

web about this book this book addresses all aspects of endoscopy from scope and tower basics to the more advanced interventional procedures like endoscopic retrograde

**the sages manual operating through the endoscope** - Jun 30 2023

web jan 1 2020 written by experts and thought leaders in their fields the sages manual of flexible endoscopy serves as a valuable resource for surgeons of all training and skill

**the sages manual fundamentals of laparoscopy** - Nov 23 2022

web amazon in buy the sages manual of flexible endoscopy book online at best prices in india on amazon in read the sages manual of flexible endoscopy book reviews

*the sages manual of flexible endoscopy epub softarchive* - Dec 13 2021

*ovid the sages manual of flexible endoscopy wolters kluwer* - Aug 01 2023

web this book addresses all aspects of endoscopy from scope and tower basics to the more advanced interventional procedures like endoscopic retrograde

the sages manual of flexible endoscopy 1st ed 2020 edition - Sep 02 2023

web oct 7 2019 the chapters are broken up into five parts the first part introduces the sages masters program followed by parts that cover flexible endoscopy basics flexible

the sages manual of flexible endoscopy 1st ed 2020 edition - Mar 28 2023

web the sages manuals are portable concise beautifully illustrated manuals from the world s pioneering society of minimally invasive surgery these books provide an authoritative

*sages university masters program flexible endoscopy pathway* - Dec 25 2022

web these portable handbooks cover all of the major laparoscopic and flexible endoscopic procedures in easy to read format indications patient preparation operative techniques

**the sages manual of flexible endoscopy english ed 2023** - Jul 20 2022

web changed significantly since the first edition of the manual updates in this version will include the rapidly expanding field of endoluminal bariatric procedures with a focus on

[the sages manual of flexible endoscopy researchgate](#) - May 30 2023

web sep 24 2019 amazon com the sages manual of flexible endoscopy ebook nau peter pauli eric m sandler bryan j trus thadeus l kindle store

**sages manuals sages** - Apr 28 2023

web by peter nau editor eric m pauli editor bryan j sandler editor thadeus l trus editor

*the sages manual of flexible endoscopy english ed pdf* - May 18 2022

web costs its more or less what you habit currently this the sages manual of flexible endoscopy english ed as one of the most effective sellers here will enormously be

**thesagesmanualofflexibleendoscopyenglished 2022** - Jan 14 2022

web the sages manual operating through the endoscope by matthew kroh editor kevin m reavis editor isbn 978 3 319 24145 6 this manual presents a comprehensive

**the sages manual volume 1 basic laparoscopy and** - Oct 23 2022

web this edition of the sages manual of flexible endoscopy aligns with the current version of the new sages university masters program flexible endoscopy pathway table

**the sages manual of flexible endoscopy 1st ed 2020 978 3** - Aug 21 2022

web 2 the sages manual of flexible endoscopy english ed 2023 04 17 textbook is designed to present a comprehensive and state of the art approach to the diverse applications of

[the sages manual of flexible endoscopy english ed download](#) - Mar 16 2022

web principles of flexible endoscopy for surgeons presents a comprehensive overview of past present and future flexible gastrointestinal endoscopic techniques with a focus on

**the sages manual operating through the endoscope sages** - Nov 11 2021

**the sages manual of flexible endoscopy english ed copy** - Feb 12 2022

web jan 9 2020 download the sages manual of flexible endoscopy epub or any other file from books category http download also available at fast speeds

**the sages manual of flexible endoscopy english ed download** - Apr 16 2022

web the sages manual of quality outcomes and patient safety innovative endoscopic and surgical technology in the gi tract brain rules updated and expanded the sages

