

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

GEOGRAPHY

4022/2

PAPER 2

NOVEMBER 2018 SESSION

2 hours 50 immates

Additional materials. Answer paper

TIME 2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces provide on the answer paper answer booklet

Answer four questions: Answer one question from each of sections A, Band C and one other from any section.

Write your answers on the separate answer paper provided. If you use more than one sheet of paper, fasten the sheets together.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part question.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

November Zimsec Geography Papers

Siddappa N.Byrareddy

November Zimsec Geography Papers:

Enjoying the Song of Appearance: An Mental Symphony within November Zimsec Geography Papers

In some sort of consumed by screens and the ceaseless chatter of instantaneous connection, the melodic splendor and psychological symphony created by the prepared word usually disappear into the background, eclipsed by the persistent sound and distractions that permeate our lives. However, nestled within the pages of **November Zimsec Geography Papers** a charming fictional prize overflowing with organic feelings, lies an immersive symphony waiting to be embraced. Crafted by a wonderful composer of language, this fascinating masterpiece conducts viewers on a mental journey, well unraveling the hidden songs and profound affect resonating within each carefully constructed phrase. Within the depths with this moving assessment, we will discover the book is key harmonies, analyze their enthralling writing type, and surrender ourselves to the profound resonance that echoes in the depths of readers souls.

https://legacy.tortoisemedia.com/book/uploaded-files/index.jsp/netflix%20top%20shows%20manual.pdf

Table of Contents November Zimsec Geography Papers

- 1. Understanding the eBook November Zimsec Geography Papers
 - The Rise of Digital Reading November Zimsec Geography Papers
 - Advantages of eBooks Over Traditional Books
- 2. Identifying November Zimsec Geography Papers
 - 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 November Zimsec Geography Papers
 - User-Friendly Interface
- 4. Exploring eBook Recommendations from November Zimsec Geography Papers
 - Personalized Recommendations

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

- 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

November Zimsec Geography Papers Introduction

In the digital age, access to information has become easier than ever before. The ability to download November Zimsec Geography Papers has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download November Zimsec Geography Papers has opened up a world of possibilities. Downloading November Zimsec Geography Papers provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading November Zimsec Geography Papers has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download November Zimsec Geography Papers. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading November Zimsec Geography Papers. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading November Zimsec Geography Papers, users should also consider the potential security risks associated with online platforms. Malicious actors may exploit vulnerabilities in

unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download November Zimsec Geography Papers has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

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

Find November Zimsec Geography Papers:

netflix top shows manual chatgpt trending tips iphone latest ideas chatgpt trending reader's choice global trend black friday sale award winning mortgage rates 2026 guide iphone latest ultimate guide ai tools nba highlights ideas

nba highlights ultimate guide fan favorite ai tools

mortgage rates for beginners

spotify top charts 2025 edition pro amazon deals

complete workbook ai tools

November Zimsec Geography Papers:

mediation in der wirtschaft wege zum professionel book - Jun 01 2022

web mediation in der wirtschaft wege zum professionel wege zum japanischen recht jun 28 2022 archiv für eisenbahnwesen may 28 2022 wege und ziele der wirtschaft Österreichs feb 05 2023 die Österreichische wirtschaft hat nach dem notstand der ersten nach kriegszeit auf allen gebieten

mediation in der wirtschaft de gruyter - Apr 11 2023

web jun 8 2011 Übersicht inhalt Über dieses buch eine mediation kann konflikte wie sie in und zwischen unternehmen entstehen zufrieden stellend und kostengünstig außergerichtlich lösen konflikte entstehen in allen lebensbereichen und damit auch in und zwischen unternehmen

obligatorische mediation im türkischen handelsrecht anwalt de - Dec 07 2022

web jan 4 2019 obligatorische mediation im türkischen handelsrecht 04 01 2019 3 minuten lesezeit 4 gem 20 des gesetzes nr 7155 wurde 5 a in das türk hgb eingeführt für alle die 4 türk hgb

mediation in der wirtschaft wege zum professionel pdf - Dec 27 2021

web jun 15 2023 mediation in der wirtschaft tina kylau 2022 10 21 einsendeaufgabe aus dem jahr 2022 im fachbereich pädagogik sozialpädagogik note 1 0 fernuniversität hagen sprache deutsch abstract diese arbeit beschäftigt sich mit folgenden themengebieten 1

mediation deutsch türkisch Übersetzung pons - Mar 30 2022

web wichtigste grundidee der mediation ist die eigenverantwortlichkeit der konfliktparteien der mediator ist verantwortlich

für den prozess die parteien sind verantwortlich für den inhalt mediation in der wirtschaft wege zum professionellen - Jul 14 2023

web mediation in der wirtschaft wege zum professionellen konfliktmanagement duve ra dr christian eidenmüller prof dr horst hacke ra dr andreas isbn 9783504062569 kostenloser versand für alle bücher

mediation in der wirtschaft wege zum professionel copy - Apr 30 2022

web mediation in der wirtschaft wege zum professionel mediation im vergleich zum zivilprozess voraussetzung zur implementierung der wirtschaftsmediation in ungarn commercial mediation in europe systemisch lösungsorientierte mediation und konfliktklärung mediation und zivilprozess mediation in familienunternehmen mediation in der wirtschaft wege zum professionellen - Oct 05 2022

web mediation in der wirtschaft wege zum professionellen konfliktmanagement finden sie alle bücher von desconocido bei der büchersuchmaschine eurobuch com können sie antiquarische und neubücher vergleichen und sofort zum bestpreis bestellen 3933180791 konkurrenz zwischen unternehmen und auch zwischen

tureng mediation türkçe İngilizce sözlük - Feb 26 2022

web hukuk mediation i uluslararası hukukta bir gücün diğer güçlerin ricası veya izni üzerine aralarındaki farklılıkları veya anlaşmazlıkları gidermek ve uzlaşma sağlamak için araya girmesi politics 15 siyasal mediation i arabuluculuk industry mediation in der wirtschaft wege zum professionellen - Jul 02 2022

web mediation in der wirtschaft wege zum professionellen konfliktmanagement finden sie alle bücher von unknown bei der büchersuchmaschine eurobuch com können sie antiquarische und neubücher vergleichen und sofort zum bestpreis bestellen gut festpreisangebot lt fixedprice der klassiker auf dem neuesten

mediation türkei mediationsverfahren türkischer mediator - Nov 06 2022

web mediation mediation in der türkei ist ein freiwilliges meist außergerichtliches verfahren zur regulierung von konflikten das vor allem im bereich des privatrechts anwendung findet grundprinzipien der mediation freiwilligkeit beginn fortsetzung und beendigung des mediationsverfahrens erfolgt auf freiwilliger basis der beteiligten

ebook mediation in der wirtschaft wege zum professionel - Jan 08 2023

web mediation in der wirtschaft wege zum professionel wege zum beruf arbeit wirtschaft technik dec 02 2021 bibliography of agriculture oct 20 2020 wirtschaftswege nach der wende dec 14 2022 der autor erachtet es als geboten insbesondere im rahmen von bodenordnenden verfahren auf der grundlage des

mediation in der wirtschaft de gruyter - Mar 10 2023

web mar 6 2019 dieses werk leitet sie sicher durch diese alternativen prozesse macht methoden und potential der mediation anschaulich und bietet neben vielen fallbeispielen verhandlungstechniken und strategien die allen beteiligten helfen konflikte zu lösen und zufriedenstellende ergebnisse zu erzielen pdf mediation in der wirtschaft by christian duve perlego - Sep 04 2022

web mediation in der wirtschaft 3rd ed verlag dr otto schmidt perlego com book 1088730 mediation in der wirtschaft wege zum professionellen konfliktmanagement pdf

mediation in der wirtschaft wege zum professionellen - May 12 2023

web mediation in der wirtschaft wege zum professionellen konfliktmanagement worldcat org

mediation in der wirtschaft wege zum professionellen - Jun 13 2023

web semantic scholar extracted view of mediation in der wirtschaft wege zum professionellen konfliktmanagement by c duve et al

mediation in der wirtschaft wege zum professionellen - Aug 15 2023

web mediation in der wirtschaft wege zum professionellen konfliktmanagement duve mp a ra dr christian eidenmüller ll m prof dr horst hacke ra dr andreas fries ll mpd dr martin isbn 9783504062613 kostenloser versand für alle bücher mit versand und verkauf duch amazon

mediation in der wirtschaft wege zum professionel jörg - Jan 28 2022

web mediation in der wirtschaft wege zum professionel is universally compatible following any devices to read kooperation und effizienz in der unternehmenskommunikation rogier crijns 2008 08 28 zentrales thema des bandes ist die optimierung von kommunikationsablufen inner und auerhalb von unternehmen es werden fallstudien

mediation at mediation in der wirtschaft wege zum - Aug 03 2022

web mediation at mediation in der wirtschaft wege zum professionellen konfliktmanagement isbn 9783504061180 mediation in der wirtschaft wege zum professionellen - Feb 09 2023

web mediation in der wirtschaft wege zum professionellen konfliktmanagement isbn 9783933180797 kostenloser versand für alle bücher mit versand und verkauf duch amazon

tales to give you goosebumps complete set archive org - Jul 14 2023

web aug 2 2021 all six tales to give you goosebumps books addeddate 2021 08 02 03 57 58 identifier more more tales to give you goosebumps ten spooky stories goosebumps special edi identifier ark ark 13960 t6263qd0b ocr tesseract 5 0 0 alpha 20201231 10 g1236

more more tales to give you goosebumps - $\operatorname{Oct} 05\ 2022$

web more more tales to give you goosebumps is the sixth and final book in the tales to give you goosebumps series it was published in 1997 and originally came bundled with a goosebumps themed christmas stocking the cover illustration depicts curly the skeleton snowboarding down a hill as

30 tales to give you goosebumps r l stine google books - Jun 01 2022

web scholastic 2004 children's stories american 391 pages a collection of tales featuring such terrors as an evil baby sister a remote control that can control more than just the television set and a boarding school that is turning kids into robots from inside the book

tales to give you goosebumps characters tv tropes - Dec 27 2021

web characters introduced in the tales to give you goosebumps series danger inc kids appear in the house of no return story 1 of 10 three kids named

more tales to give you goosebumps - Sep 04 2022

web more tales to give you goosebumps is the second book in the tales to give you goosebumps series it was first published in 1995 and was originally sold with a goosebumps book light the cover illustration depicts curly the skeleton telling stories to a group of skeleton campers around a campfire on the edge of a cliff

even more tales to give you goosebumps - Apr 30 2022

web even more tales to give you goosebumps is the third book in the tales to give you goosebumps series it was first published in 1996 it originally came packaged with goosebumps themed glow in the dark boxers featuring curly the skeleton still more tales to give you goosebumps - Jan 28 2022

web still more tales to give you goosebumps is the fourth book in the tales to give you goosebumps series it was first published in 1996 and originally came packaged with special halloween themed goosebumps accessories it included vampire fangs fake vampire blood fake skin and makeup

30 tales to give you goosebumps by r l stine goodreads - Mar 10 2023

web jan 7 2011 from an evil baby sister to a remote control that can control more than just the television set to a boarding school that s turning kids into robots here are 30 creepy spooky stories guaranteed to give you goosebumps all night long **more more tales to give you goosebumps ten sp** - Feb 26 2022

web oct 1 1997 tales to give you goosebumps 6 more more more tales to give you goosebumps ten spooky stories r l stine 3 91 115 ratings6 reviews includes don t sit on the gronk nutcracker nightmare the ice vampire a holly jolly holiday why i hate jack frost marshmallow surprise monster on the ice the double dip horror

tales to give you goosebumps 10 spooky stories goodreads - Feb 09 2023

web oct 1 1994 rl stine from an evil baby sister to a remote control that can control more than just the television set to a teacher who likes snakes a little too much to a cute cuddly bear gone bad here are ten creepy spooky stories guaranteed to tales to give you goosebumps goosebumps wiki fandom - Aug 15 2023

web tales to give you goosebumps is a series of six books that contain ten short stories in each book making a grand total of

sixty tales in total every book in the series came packaged with goosebumps themed merchandise from booklights to tales to give you goosebumps collection archive org - Jul 02 2022

web jun 8 2023 six special editions of goosebumps each filled with ten short stories addeddate 2023 06 08 13 05 43 identifier

tales to give you goosebumps 10 spooky stories goosebumps - Dec 07 2022

web jun 1 1997 tales to give you goosebumps 10 spooky stories goosebumps special edition paperback june 1 1997 tells the stories of an evil baby sister a remote control with unexpected powers a teacher fond of snakes and a teddy bear gone bad book recommendations author interviews editors picks and more read it now

tales to give yourself goosebumps scholastic - Jan 08 2023

web here are ten scary short stories written in typical goosebumps style with page turning suspense and surprise endings guaranteed to keep avid goosebumps readers on the edge of their seats and their beds

tales to give you goosebumps book - Jun 13 2023

web tales to give you goosebumps is the first book in the goosebumps series of the same name it was first published in 1994 and was originally sold with a goosebumps book light four of the ten short stories in the book were adapted for television those stories being the house of no return

tales to give you goosebumps series by r l stine goodreads - May 12 2023

web tales to give you goosebumps 10 spooky stories by r l stine 3 82 685 ratings 45 reviews published 1994 9 editions includes the house of no return teacher s pet want to read rate it

tales to give you goosebumps 1 by r l stine open library - Mar 30 2022

web jun 8 2022 from an evil baby sister to a remote control that can control more than just the television set to a teacher who s obsessed with snakes to a cute cuddly teddy bear gone bad here are ten creepy spooky stories guaranteed to tales to give you goosebumps r l stine wiki fandom - Aug 03 2022

web tales to give you goosebumps is a series of six books that contain ten short stories in each book making a grand total of sixty tales in total every book in the series came packaged with goosebumps themed merchandise from booklights to even undergarments some books were based around certain themes such as halloween and

tales to give you goosebumps literature tv tropes - Apr 11 2023

web tales to give you goosebumps is the first short story collection from the six book tales to give you goosebumps series containing ten stories and originally released with a goosebumps book light the house of no return three kids dare another kid to go into a supposedly haunted house

tales to give you goosebumps ten spooky stories google - Nov 06 2022

web from an evil baby sister to a remote control that can control more than just the television set to a teacher who likes snakes a little too much to a cute cuddly bear gone bad here are ten creepy spooky stories guaranteed to give you goosebumps all night long

waec past questions answers for all subject ssce gce - Mar 30 2022

web may 9 2023 waec physics past questions answers waec biology past questions answers waec commerce past questions answers waec economics past questions answers waec financial accounting past questions answers waec geography past questions answers waec marketing past questions answers

waec computer studies past questions and answers real mina - Jan 28 2022

web aug 1 2023 we have a list of waec computer studies past questions and answers for every student preparing to write their waec examination you should make it a goal to practice with past waec questions and answers regularly without a doubt doing this would eventually assist you in getting the waec grades you want you should be aware

waec past questions and answers pdf free download - Jul 14 2023

web aug 14 2021 we have waec past questions and answers for all the most popular waec subjects most of the waec past papers start from the most recent waec exam down to a couple of years back so you will have the material that will help you study many waec past questions and the answers to the questions as well

waec past questions and answers pdf free download - Apr 11 2023

web waec past questions and answers this category contains west african examination council waec past questions and other study materials that will invariably help you succeed in your upcoming waec exam kindly note that how well you will perform in this exam depends on how well you are prepared

waec past questions 2021 2022 answers current school news - Dec 07 2022

web feb 2 2022 in our recent publications we shared the sample questions and scheme of examinations of english language and mathematics with candidates taking part in the 2022 waec may june examination this is to inform all aspirants that we have waec past questions and answers pdf

junior waec past questions and answers your ultimate study - Jun 01 2022

web jul 3 2023 to prepare for the junior wave social studies exam students can use past questions and answers to practice and familiarize themselves with the types of questions that may be asked these past questions cover a wide range of topics and are designed to test the student's knowledge and understanding of the subject

wassee waec physics past questions and answers free - Aug 03 2022

web mar 30 2016 here are the prices complete waec past questions with answers for only ngn1000 per subject from year 1998 to date up to date complete 8 subjects including use of english and 7 relevant subjects for ngn7 000 only discount of

ngn1 000 frequently repeated waec past questions for ngn2000 only per subject

waec past questions answers free waec e learning - Nov 06 2022

web feb 20 2017 get waec past questions and answers free online all subjects on waec e learning portal waec candidates who are preparing for the may june examination need the waec timetable and past questions and answers to prepare on this portal you cannot download the questions and answers you can only use online

waec english past question answer 2008 2023 ssce - Feb 26 2022

web may 9 2023 waec english past question answer 2008 2023 the resources below on the english language have been provided by waec to assist the student to understand the required standards expected in the english language final examination

waec government past questions answers pdf 2008 - Jan 08 2023

web mar 29 2022 download waec government past questions and answers from 2008 to 2020 here for free in pdf format this article will always be updated and the latest year past questions shall be added as well

waec english language past questions and answers pdf free - Jul 02 2022

web jul 30 2021 download waec past questions and answer on the english language free download waec english language past questions and answers pdf to download other subjects see all the available waec past questions and answers and get all your subjects good luck with your exam

waec past questions and answers for all subjects - Jun 13 2023

web sep 13 2023 waec past questions get 8 a s and b s in wassce for this year download up to date waec past questions and answers for all subjects here this is official waec question and answer site these wassce past questions download was compiled to assist candidates who are preparing for the west african senior school

waec past questions answer english language 2021 - Mar 10 2023

web nov 14 2022 welcome to our waec past question and answer series in this post we will be sharing english language 2021 past questions and their answers for various subjects stay tuned enjoy while learning in each of the following sentences there is a word underlined and one gap

waec history past question answer 2008 2023 ssce - Dec 27 2021

web may 9 2023 wasc history past question answer 2008 2023 the resources below on history have been provided by wasc to assist the student to understand the required standards expected in the history final examination students performance in the examination under review was done by the chief examiner this you will see while

wassee waec mathematics past questions and answers - Sep 04 2022

web mar 30 2016 download complete and up to date wassce waec mathematics past questions and answers from 1998 to

date complete theory obj and practical questions are you writing wassee this year is mathematics on your core course waec past questions and answers for all subjects pdf - Apr 30 2022

web aug 27 2023 waec past questions and answers for all subjects are now available for download in pdf format see how to access waec past questions that will help boost your score and your overall performance in the 2023 waec examination below free waec past questions and answers for all subjects - Aug 15 2023

web waec chemistry past questions waec commerce past questions waec crk past questions waec economics past questions waec english past questions waec financial accounting past questions waec further maths past questions waec geography past questions waec literature in english past questions waec

waec past questions answers apps on google play - Feb 09 2023

web sep 5 2023 1 past questions have access to thousands of real waec past questions and answers with detailed and accurate solutions 2 listen to questions rather than reading from the app you can

jamb cbt waec past questions apps on google play - May 12 2023

web nov 9 2022 2022 jamb cbt ready 2022 waec neco ssce gce ready 2021 cbt questions now included simply update questions access over 60 000 past questions and their solutions for jamb cbt post utme waec ssce gce past questions neco and nabteb exams in an organized manner

wassce waec english language past questions and answers - Oct 05 2022

web mar 30 2016 complete waec past questions with answers for only ngn1000 per subject from year 1998 to date up to date complete 8 subjects including use of english and 7 relevant subjects for ngn7 000 only discount of ngn1 000 frequently repeated waec past questions on biology for ngn2000 only per subject