Reg. No. : 2000/000752/07

MAIN CAMPUS
292 SMITH STREET
DURBAN
4000

FACULTY OF INFORMATION TECHNOLOGY

BSc IN INFORMATION TECHNOLOGY

2nd YEARS

ACADEMIC YEAR 2020

ASSIGNMENT BOOKLET

Registered with the Department of Education as a Private Higher Education Institution under the Higher Education Act, 1997. Registration Certification No. 2000/HE07/008

NB:
1. **Candidates are advised to read the guide lines.**
2. **For reference use prescribed, recommended books and other source you may come across.**
3. **Correct referencing carries 10 Marks.**

GUIDELINES

The purpose of an assignment is to ensure that the Learner is able to:

- Use methods of enquiry and research in a disciplined field.
- Interpret and evaluate text.
- Have a sound understanding of key principles and theories, rules and awareness.
- Solve unfamiliar problems using correct procedures as well as investigate and critically analyse information and report thereof.
- Present and communicate information reliably and coherently.

Instructions and guidelines for writing assignments

1. Use the correct cover page provided by the institution.
2. All essay type assignments must include the following:

2.1 Table of contents

2.2 Introduction

2.3 Main body with subheadings

2.4 Conclusions and recommendations

2.5 Bibliography

3. The length of the entire assignment **must** have minimum of 5 pages. Preferably typed with font size 12

3.1 ***The quality of work submitted is more important than the number of assigned pages*.**

4. Copying is a serious offence which attracts a severe penalty and must be avoided at all costs. If any learner transgresses this rule, the lecturer will retain the assignments and ask the affected learners to resubmit a new assignment which will be capped at 50%.
5. Use the Harvard referencing method.

ASSIGNMENTS DUE DATES

Module	Due Date	Signature
INFORMATION SYSTEMS 621	22 March 2020	
DATABASE SYSTEMS 600	23 April 2020	
PROGRAMMING C++ 621	23 April 2020	
CLOUD COMPUTING 600	22 March 2020	
Elective Module (ITM) BUSINESS ANALYSIS 621	9 May 2020	
Elective Module (SD) INTERNET PROGRAMMING 621	9 May 2020	
Elective Module (SE) COMPUTER ARCHITECURE 600	9 May 2020	

RICHFIELD

FACULTY OF INFORMATION TECHNOLOGY

INFORMATION SYSTEMS 621

1ST SEMESTER ASSIGNMENT

Name & Surname: _____ ICAS No: _____

Qualification: _____ Semester: _____ Module Name: _____

Date Submitted: _____

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTEN			
QUESTION ONE	35		
QUESTION TWO	25		
QUESTION THREE	30		
TOTAL MARKS	90		
MARKS FOR TECHNICAL AS PECTS			
1. TABLE OF CONTENTS	2		
2. LAYOUT AND SPELLING	5		
3. REFERENCE	3		
TOTAL MARKS	10		
TOTAL MARKS FOR ASSIGNMENT	100		
Examiner's Comments:			
Moderator's Comments:			

QUESTION ONE (35 MARKS)

1.1 Describe the phases of the systems development life cycle. **(20)**

1.2 Compare the SDLC waterfall model to the spiral model. **(15)**

QUESTION TWO (25 MARKS)

2.1 You are an IT consultant, and you are asked to create a new system for a small real estate brokerage firm. Your only experience is with traditional data and process modelling techniques. This time, you decide to try an object-oriented approach. How will you begin? How are the tasks different from traditional structured analysis? **(15)**

2.2 Briefly explain and differentiate the following development methods: Joint application development and Rapid application development. **(10)**

QUESTION THREE (30 MARKS)

3.1 Critically analyse the difference between horizontal application software and vertical application software.

(15)

3.2 Give a detailed account on the relationship between logical and physical design **(15)**

TOTAL MARKS: 100

RICHFIELD

FACULTY OF INFORMATION TECHNOLOGY

PROGRAMMING 621 – C++

1ST SEMESTER ASSIGNMENT

Name & Surname: _____ ICAS No: _____

Qualification: _____ Semester: _____ Module Name: _____

Date Submitted: _____

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTENT			
QUESTION ONE	35		
QUESTION TWO	30		
QUESTION THREE	35		
TOTAL MARKS	**100**		
Examiner's Comments:			
Moderator's Comments:			
Signature of Examiner: **Signature of Moderator:**			

QUESTION ONE (35 MARKS)

Write a function named "reduce" that takes two positive integer arguments, call them "num" and "denom", treats them as the numerator and denominator of a fraction, and reduces the fraction. That is to say, each of the two arguments will be modified by dividing it by the greatest common divisor of the two integers. The function should return the value 0 (to indicate failure to reduce) if either of the two arguments is zero or negative, and should return the value 1 otherwise. Thus, for example, if m and n have been declared to be integer variables in a program, then

```
m = 25;          n = 15;

if (reduce(m,n))

cout << m << '/' << n << endl;     else     cout << "fraction error" << endl;
```

will produce the following output:

5/3

Note that the values of m and n were modified by the function call. Similarly,

```
m = 63;          n = 210;          if (reduce (m,n))

cout << m << '/' << n << endl;     else

cout << "fraction error" << endl;
```

will produce the following output:

3/10

Here is another example.

```
m = 25;          n = 0;

if (reduce(m,n))

cout << m << '/' << n << endl;     else     cout << "fraction error" << endl;
```

will produce the following output:

fraction error

The function reduce is allowed to make calls to other functions that you have written.

QUESTION TWO (30 MARKS)

A parking garage charges a **R12.00** minimum fee to park for up to three hours. The garage charges an additional **R0.90** per hour for each hour *or part thereof* in excess of three hours. The maximum charge for any given 24-hour period is **R20.00**. Assume that no car parks for longer than 24 hours at a time. Write a program that will calculate and print the parking charges for each of **3** customers who parked their cars in this garage yesterday. You should enter the hours parked for each customer. Your program should print the results in a neat tabular format and should calculate and print the total of yesterday's receipts. The program should use the function **calculateCharges** to determine the charge for each customer. Your outputs should appear in the following format:

```
Car       Hours       Charge
1           1.5         2.00
2           4.0         2.50
3          24.0        10.00
TOTAL      29.5        14.50
```

QUESTION THREE **(35 MARKS)**

A company is interested in implementing a payroll system for its employees. You are requested to develop such program in which you must :

- Declare the base class emp.
- Use the function called getInfo(), to get the employee details.
- Declare the derived class salary.
- Declare and define the function getSalary() to get the salary details.
- Define the function calculateNet() to find the net pay.
- Read the number of employees.
- Call the function getInfo(),getSalary() and calculateNet() to each employees.

Test the above operations by writing a complete C++ program using single inheritance.

TOTAL MARKS: 100

RICHFIELD

FACULTY OF INFORMATION TECHNOLOGY

DATABASE SYSTEMS 600

1st SEMESTER ASSIGNMENT

Name & Surname: _____ ICAS No: _____

Qualification: _____ Semester: _____ Module Name: _____

Date Submitted: _____

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTENT			
QUESTION ONE	25		
QUESTION TWO	20		
QUESTION THREE	20		
QUESTION FOUR	25		
TOTAL MARKS	90		
MARKS FOR TECHNICAL ASPECTS			
1. TABLE OF CONTENTS	2		
2. LAYOUT AND SPELLING	3		
3. REFERENCE	5		
TOTAL MARKS			
TOTAL MARKS FOR ASSIGNMENT	100		
Examiner's Comments:			
Moderator's Comments:			
Signature of Examiner:		Signature of Moderator:	

QUESTION ONE [25 MARKS]

1.1 The table shown below stores details of students and the overall grade each student obtained in different modules. The Primary Key is (StudentID, ModuleID). **(8)**

Results

StudentID	StudentName	ModuleID	ModuleName	Grade
S001	Smith	M01	Java	A
S001	Smith	M02	Databases	B
S002	Ford	M01	Java	B

(i) Which Normal Form does the above table violate and why?

(ii) Give an example of an update anomaly and an example of a delete anomaly that may occur if the table is left un-normalised. Explain the problems that are caused.

(iii) Show how you would normalise the table.

1.2 An important concept in the theory of relational databases is that of a *functional dependency*. **(8)**

(i) Explain what is meant by a functional dependency and give an example.

(ii) Identify two functional dependencies in the following table (A, B and C are the attributes):

A	B	C
a1	**b1**	**c1**
a1	**b1**	**c3**
a1	**b2**	**c1**

1.3 A company uses the table below to record details of staff. Each staff has up to three qualifications: **(8)**

StaffID	StaffName	Qualifications
S01	Victor	BSc, MSc, PhD
S02	Wiseman	Bsc, Msc
S03	Raymond	Bsc, PhD

(i) Explain why this table is not in "First Normal Form" (1NF).

(ii) Show how this table can be transformed into 1NF tables.

Give **two** possible solutions.

QUESTION TWO **[20 MARKS]**

The following is a case study describing the data requirements for a video rental company.

The video rental company has several branches throughout a country. The data held on each branch is the branch address made up of street, city, state, and zip code, and the telephone number. Each branch is given a branch number, which is unique throughout the company. Each branch is allocated a number of staff members, including a Manager. The Manager is responsible for the day-to-day running of a given branch. The data held on a member of staff is his or her name, position, and salary. Each member of staff is given a staff number, which is unique throughout the company. Each branch has a stock of videos. The data held on a video is the catalogue number, video number, title, category, daily rental, cost, status, the names of the main actors, and the director. The catalogue number uniquely identifies each video. However, in most cases, there are several copies of each video at a branch, and the individual copies are identified using the video number. A video is given a category such as Action, Adult, Children, Drama, Horror, or Sci-Fi. The status indicates whether a specific copy of a video is available for rent. Before hiring a video from the company, a customer must first register as a member of a local branch. The data held on a member is the first and last name, address, and the date that the member registered at a branch. Each member is given a member number, which is unique throughout all branches of the company. Once registered, a member is free to rent videos, up to maximum of ten at any one time. The data held on each video rented is the rental number, the full name and number of the member, the video number, title, and daily rental, and the dates the video is rented out and date returned. The rental number is unique throughout the company.

2.1.1 Identify the main entity types and relationship types of the video rental company. **(5)**

2.1.2 Identify attributes and associate them with entity or relationship types. Choose the primary key for each (strong) entity type. **(8)**

2.1.3 Describe (in one or two statements) what attributes represent in an ER model. Provide examples of simple, composite, single valued, multi-valued, and derived attributes. **(7)**

QUESTION THREE **[20 MARKS]**

3.1 Create an ERD for each of the following descriptions

3.3.1 Each of the Spar's divisions is composed of many departments. Each of those departments has many employees assigned to it, but each employee works for only one department. Each department is managed by one employee, and each of those managers can manage only one department at a time. **(5)**

3.3.2 Shoprite operates many shops. Each shop is located in a region. Each region can be "home" to many of the Shoprite shops. Each shop employs many employees, but each of those employees is employed by only one shop. **(5)**

3.2 Using practical example, discuss what SQL is and the distinction between DDL and DML as well as how SQL functions fits in both of them **(10)**

QUESTIONS FOUR **[25 MARKS]**

Using the Employee table below, write the rational schema and draw it's dependency diagram. Identify all dependencies.

EMP_NO	EMP_NAME	**CUST_NO**	CUST_NAME	CUST_PHONE	PROD_NO	PROD_NAME	DATE
215	SPHELELE	15	HUGUETTE	0834528787	10	SOAP	20/03/2012
216	BOKHOSI	16	TANDIWE	0784521635	12	BRAID	20/03/2012
217	THEMBA	16	TANDIWE	0784521635	15	PHONE	21/04/2012
218	LEFA	14	BUSISIWE	0618578542	12	PEN	22/04/2012
219	VALENTINE	14	BUSISIWE	0618578542	13	LAPTOP	22/04/2012
220	PROMISE	18	GIRLY	0829687841	13	LAPTOP	22/04/2012

4.1 Identify all dependencies. **(8)**

4.2 Using the Employee table above, write the rational schema and draw it's dependency diagram. **(9)**

4.3 Create a database whose table(s) is at least in 3rd normal form, showing the dependency diagram and the rational schema for each table. **(8)**

TOTAL: 100 MARKS

RICHFIELD

FACULTY OF INFORMATION TECHNOLOGY

BUSINESS ANALYSIS 621

1ST SEMESTER ASSIGNMENT

Name & Surname: _____ ICAS No: _____

Qualification: _____ Semester: _____ Module Name: _____

Date Submitted: _____

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTENT			
QUESTION ONE	30		
QUESTION TWO	30		
QUESTION THREE	30		
TOTAL MARKS	**90**		
MARKS FOR TECHNICAL ASPECTS			
1. TABLE OF CONTENTS Accurate numbering according to the numbering in text and page numbers.	2		
2. LAYOUT AND SPELLING Font – Calibri 12 Line Spacing – 1.0 Margin should be justified.	3		
3. REFERENCE According to the Harvard Method	5		
TOTAL MARKS	**10**		
TOTAL MARKS FOR ASSIGNMENT	**100**		
Examiner's Comments:			
Moderator's Comments:			
Signature of Examiner:	**Signature of Moderator:**		

QUESTIONS 90 MARKS

QUESTION ONE (30 MARKS)

REVIEWING REQUIREMENTS OVER A CUP OF COFFEE

Years ago, Phil was the technical team lead for a team working on an executive compensation system for top-level management. The team needed input from a small, closed community of senior and executive management customers in order to define the current and future processes. Unfortunately, his key contact from this group felt that the job of customer interface had been given to a young, up-and-coming star who didn't have a clue. This made developing a rapport with the key customer contact almost impossible. However, the project deadlines remained inflexible, as they usually do.
Taking what little input was offered and doing significant research from other sources, the team compiled their draft of the business requirements document. The document was huge. It was single-spaced and double-sided, and it filled a 3-inch binder. There was a meeting to step through it. The customer contact was there and took her place at the head of the table. Phil sat at the opposite end of the table.

During the meeting, the customer's demeanor grew increasingly agitated. She hurled the requirements document down the table along with the exclamation, "I don't do this kind of menial work." Unfortunately, Phil reacted by returning the document in the same manner. His aim wasn't quite as true, and the document slammed into her coffee cup sending a spray of hot, sugary liquid into her lap. Her color changed from the red of aggravation to the scarlet of rage. She stalked out of the room. So much for creating rapport with the customer! In the end, it all worked out. Both parties apologized, and the project (meeting the business requirements that had been approved) was delivered. But how much better things could have been if this situation had been avoided in the first place.

Technical skills and expertise are necessary on the project team, but they are not the skills and knowledge that separate effective business analysts from the pack. Superior business analysis skills are not necessarily derived from a superior set of technical skills.

QUESTIONS:

1. A business analyst is currently defining a set of changes to the current state of an organization that allows the organization to take advantage of a business opportunity. Explain what is most likely being defined? **(10)**

2. What knowledge area contains the next most logical steps after the business analyst has built a business case and gained management approval for a project? **(10)**

3. You are a business analyst measuring alternatives against objectives and identifying trade-offs to determine which possible solution is best. Discuss the factors most likely to be engaged in the various activities Discuss what are most likely engaged in what activity? **(10)**

QUESTION TWO **(30 MARKS)**

CASE STUDY: WHAT EXACTLY AM I SUPPOSED TO BE DOING?

Russ discovered early in his career as a project manager that all plans are not created equal. He was a replacement for the project manager on a fairly complex data center consolidation project. Russ stepped in near the end of the first major phase of project work, which was developing the user requirements for the new data center.

One of his first tasks was to review the current project plan and evaluate the progress to date. Russ noticed that the requirements development work was shown as a single two-week task in the project plan with no additional details about the requirements process itself. Because the resulting user requirements document was shown as a completed deliverable and this task was marked as 100 percent complete, he decided to look at the new capabilities the project would provide to the business and its users. So he did.

After reading the first four pages of the document, Russ knew there was a problem. He finished reading the user requirements document, closed the file on his computer, and reached for the phone to call the lead business analyst for this effort into his office. When Mary arrived, he asked her, "What exactly is this document supposed to be? Is this just a high-level concept that we need to now go out and define?" Mary replied that the document was the final, approved user requirements document. All the business analysis team had to do now was give the document to the developers. The developers would figure out the rest.

Russ asked Mary to explain the process she and her team had gone through to produce the deliverable. She explained that she had worked in tandem with the development director to elicit, analyze, and specify the user requirements for the project. Basically, the key users had not been involved or consulted at all. As Mary was quick to point out, "That wasn't in the plan, so that wasn't how I did the work." Basically, the user requirements work had to begin all over again and had to be done correctly the second time.

Russ worked closely with his business analysis team to plan the requirements development work in far greater detail. This time around, the team gave themselves adequate time to elicit and analyze the requirements and planned the time to validate the requirements when everything was complete. Completing the rewritten user requirements took five additional weeks of work. Funnily enough, this didn't impact the scheduled end date. The original requirements would have been impossible to use for the design and construction of the data center.

Remember that your focus is on planning and monitoring the business analysis work for a project, not on planning and managing the whole project. That is the responsibility of the project manager. However, in either case, the plans need to be built and implemented at the appropriate level of detail.

QUESTIONS:

1. You are a business analyst addressing who will receive weekly business analysis status reports containing performance against actuals for your current project. Explain each task that needs to be completed **(10)**

2. Discuss what technique might be used when determining the business analysis approach on a project? **(10)**

3. When identifying business analysis performance improvements, what technique allows you to determine the metrics used for measuring performance and determining how those metrics may be tracked? **(10)**

QUESTION THREE (30 MARKS)

CASE STUDY: PALMER DIVIDE VINEYARDS—BUSINESS GOALS, OBJECTIVES, AND NEED

As you become more involved with your Palmer Divide Vineyards work, you decide that you need to take a quick look at the organization's existing business goals, objectives, and needs as part of your current state analysis. As discussed in a recent team meeting, you would like to make sure you have it right. The team is curious about how the green initiative and your IT requirements development part of it fit into the organization's strategic plan. The team likes the idea of becoming a certified Green Business. However, they would like to validate how this business goal fits with the organization's long-term strategy and make sure that the project is really worth doing.

There are many aspects to attaining green certification, and the winery has initiated this current project to help achieve this strategic goal. A business objective for this effort is to conserve 20 percent of the current energy and water resource consumption within the next 18 months. The business need triggering the project came from combining the owner's strategic plans, a desire to operate an organic winery, and a perceived market advantage from selling green-labeled organic wines to the public.

QUESTIONS:

1. According to the case study what output contains the results of the business analyst assessing the capability gaps between existing and new capabilities of the organization? **(10)**

2. When analyzing the current state, the business analyst looks at the scope of decision making at different levels in the organization. Explain what elements of the current state are they looking at? **(10)**

3. Which business analysis technique allows the business analyst to leverage existing materials to analyze the current state of the enterprise relative to a business need? **(10)**

TOTAL MARKS: 100

RICHFIELD

FACULTY OF COMPUTER APPLICATIONS

COMPUTER ARCHITECTURE 600

1ST SEMESTER ASSIGNMENT

Name & Surname: _____ ICAS No: _____

Qualification: _____ Semester: _____ Module Name: _____

Date Submitted: _____

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTENT			
QUESTION ONE	**5**		
QUESTION TWO	**25**		
QUESTION THREE	**20**		
QUESTION FOUR	**40**		
TOTAL MARKS	**90**		
MARKS FOR TECHNICAL ASPECTS			
1. TABLE OF CONTENTS **Accurate numbering according to the numbering in text and page numbers.**	2		
2. LAYOUT AND SPELLING **Font – Calibri 12** **Line Spacing – 1.0** **Margin should be justified.**	3		
3. REFERENCE **According to the Harvard Method**	10		
TOTAL MARKS	**10**		
TOTAL MARKS FOR ASSIGNMENT	**100**		
Examiner's Comments:			
Moderator's Comments:			
Signature of Examiner: **Signature of Moderator:**			

QUESTIONS [90 MARKS]

QUESTION ONE [5 MARKS]

Boolean expressions may be simplified by Algebraic methods or by Karnaugh maps. Describe the techniques. **(5)**

QUESTION TWO [25 MARKS]

2. Study the following advertisements and answer the questions that follow.

Device A: Samsung Galaxy Note 10.1

Cellular connectivity	GSM/3G/4G Bands 850 / 900 / 1800 / 1900 HSPA 850 / 900 / 1900 / 2100 (3G model)
Display	10.1" LCD at 1 280 × 800 149 ppi pixel density
Processor	Samsung Exynos 4 Quad 1.4 GHz quad-core
Graphics	Mali-400 MP4 GPU
RAM	2 GB
Storage	16/32/64 GB internal user storage microSDXC slot
Connectivity	Wi-Fi 802.11 b/g/n Bluetooth 4.0 Infrared
Camera	5 MP rear camera with LED flash 1.9 MP front camera
Ports	Samsung proprietary connector 3.5 mm audio jack S-Pen slot
Launch OS	Embedded Android 4.0 'Ice Cream Sandwich'

[<http://www.neowin.net/news/review-samsung-galaxy-note-101>]

Device B: The Lenovo IdeaPad Yoga 13 Convertible laptop

[<http://www.cnet.com/laptops/lenovo-ideapad-yoga-13/4505-3121_7-35477652.html>]

Processor	Intel 3rd Gen Core i5, 3 i5-3317U / 1.7 GHz, 3 MB cache, Dual-Core) [2.6 GHz Turbo boost] 64 bit
Graphics Clock Rate	850 MHz [1100 MHz Turbo boost]
Operating system	MS Windows 8
Chipset	Mobile Intel QS77 Express
Bus Speed	1 600 MHz / PC3-12800
Memory	8 GB DDR3L SDRAM
Hard drive description	128 GB SSD / Serial ATA-300
Graphics	Intel HD Graphics 4000
Audio	Stereo speakers, combo headphone / microphone jack
Data	USB 2.0, SD card reader

2.1 Device B has a chipset. Name the TWO components that usually make up a chipset. **(2)**

2.2 Examine Device A.

2.2.1 What is the frequency of the processor? **(1)**

2.2.2 By using the connectivity terminology listed in the advertisement for Device A, briefly explain TWO methods that can be used to share data between the tablet and the laptop. **(4)**

2.2.3 Give TWO input methods that can be used on Device A. **(2)**

2.2.4 Explain what 'embedded' in terms of the Operating System means in Device A. **(2)**

2.3 Refer to Device B.

2.3.1 Explain what the '64' refers to in the processor and give an advantage of a 64-bit operating system. **(2)**

2.3.2 The device has turbo boost which overclocks the CPU. Explain the difference between clock multiplication and overclocking. **(2)**

2.3.3 Distinguish between 'Graphic Clock Rate' and 'Bus Speed'. **(2)**

2.3.4 Which part of the FSB (Front Side Bus) dictates how much RAM can be Accessed? **(1)**

2.3.5 Define 'access time' in terms of a mechanical hard drive. **(2)**

2.3.6 One of the ways we can improve the processing speed of the CPU is by making use of a process called pipelining. Explain the pipelining process in detail. **(2)**

2.3.7 Why does a Solid State hard drive use less power than a hard drive? **(1)**

2.3.8 Give TWO other advantages of a Solid State hard drive. **(2)**

QUESTION THREE [20 MARKS]

Identify and give an explanation of the registers for a 32-bit Intel Architecture (IA) processor. Specifically, your answer should include a description of the data registers (also called general purpose registers), pointer and index registers, and the control registers. Also, give a critical description of the execution cycle and the system clock. Cite all sources used to answer this question. **(20)**

QUESTION FOUR **[40 MARKS]**

Write an essay highlighting the modern trends in computer architecture. With the aid of theory and practical examples explain how the following affect modern trends in microprocessors design and performance:

- Awareness and improvements in energy efficiency.
- High speed cache and buses.
- Continuing advances in visualization. **(40)**

TOTAL MARK: 100

RICHFIELD

FACULTY OF INFORMATION TECHNOLOGY

INTERNET PROGRAMMING 621

1ST SEMESTER ASSIGNMENT

Name & Surname: _____ ICAS No: _____

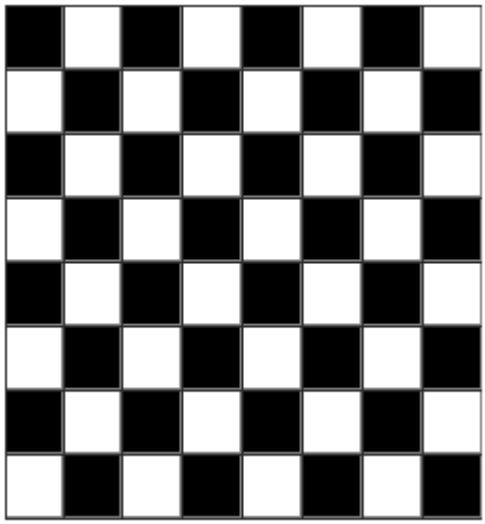
Qualification: _____ Semester: _____ Module Name: _____

Date Submitted: _____

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTENT			
QUESTION ONE	50		
QUESTION TWO	50		
TOTAL MARKS	100		
Examiner's Comments:			
Moderator's Comments:			
Signature of Examiner:		Signature of Moderator:	

QUESTION ONE **(50 MARKS)**

1.1 Write a PHP script using nested for loop that creates a chess board as shown below.
Use table width="270px" and take 30px as cell height and width. **(35)**



1.2 Write a PHP script that creates the following table (use for loops). **(15)**

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

QUESTION TWO (50 MARKS)

2.1 Using multi-dimensional arrays, create an array that will store 10 items of stock (can be any item e.g. cars,) with **brand name**, **Number of stock in Store and Quantity Sold** **(25)**

NB: Use the While loop to display array elements

Eg:

Brand name	Number of stock in Store	Quantity Sold
HP	15	28
DELL	14	16

Your output must be in tabular form as above.

2.2 Compare and contrast the ***if/elseif*** control structure with the switch control structured and provide coded examples to sustain your answer. **(10)**

2.3 Use loops and control structures create a program that grades the following list of students given the grade table below:

The list of students and marks

Name	Marks
Sauer Jeppe	75
Von Weilligh	44
Troy Commisioner	60
Paul Krugger	62
Jacob Maree	70

Marks Range	Grade
70+	Distinction
50-69	Pass
0-49	Fail

For example:
Sauer Jeppe scored a Distinction. **(15)**

TOTAL MARKS: 100