UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR

END OF SEMESTER EXAMINATIONS
YEAR FOUR SEMESTER ONE EXAMINATIONS

FOR THE DEGREE OF
BACHELOR OF COMPUTER SCIENCE

COURSE CODE : CSC 411

COURSE TITLE : MANAGEMENT INFORMATION SYSTEMS

DATE: 19/04/2023 **TIME:** 9:00 A.M – 11:00 A.M.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

a) Differentiate between the following terms
   i. MIS & Enterprise Resource Planning (ERP)   [2 marks]
   ii. Customer relationship management and Supply chain management?   [2 marks]
   iii. Descriptive analytics and Predictive analytics   [2 marks]

b) What are the Problems with the traditional file environment where files maintained separately by different departments? [4 marks]

c) Discuss the contributing factors to the security threat in information systems.   [6 marks]

d) Information has always been an asset, since time immemorial. But the information is vulnerable to attack, to which no system is completely immune. Why is it necessary to have an information security policy for any organization or individual?   [4 marks]

e) Discuss the following cloud computing models for Cloud Providers.
   i. Software as a Service (SaaS)   [2 marks]
   ii. Platform as a Service (Paas)   [2 marks]
   iii. Infrastructure as a Service (Iaas)   [2 marks]

f) Discuss the four characteristics of Big Data   [4 marks]

QUESTION TWO [20 MARKS]

Moore's Law applies to the semiconductor industry. The widely accepted managerial interpretation of Moore's Law states that for the same money, roughly eighteen months from now you should be able to purchase computer chips that are twice as fast or store twice as much information. Or over that same time period, chips with the speed or storage of today's chips should cost half as much as they do now. Managers must regularly study trends and trajectory in technology to recognize opportunity and avoid disruption. As a result, several questions emerge.

i. As Moore's Law advances, technology becomes increasingly accessible to the poor. Give examples of how tech has benefited those who likely would not have been able to afford the technology of a prior generation.   [4 marks]

ii. Describe why Moore's Law continues to advance and discuss the physical limitations of this advancement.   [4 marks]

iii. Name and describe various technologies that may extend the life of Moore's Law.   [4 marks]

iv. Discuss the limitations of each of these approaches.   [3 marks]

v. As chips grow smaller they generate increasing amounts of heat that needs to be dissipated. Why is keeping systems cool such a challenge? What are the implications for a firm like Yahoo! or Google? For a firm like Apple or Dell?   [5 marks]

QUESTION THREE [20 MARKS]

a) A former editor of the Harvard Business Review, Nick Carr, once published an article in that same magazine with the title "IT Doesn't Matter." In the article he also offered firms the advice: "Follow, Don't Lead." What would you tell Carr to help him improve the way he thinks about the relationship between time, technology, and competitive advantage?   [7 marks]

b) The University of Pittsburgh Medical Center (UPMC) relies on information systems to operate 19 hospitals, a network of other care sites, and international and commercial ventures. Demand for additional servers and storage technology was growing by 20 percent each year. UPMC was setting up a separate server for every application, and its servers and other computers were running a number of different operating systems, including several versions of Unix and Windows. UPMC had to manage technologies from many different vendors, including Hewlett-Packard (HP), Sun Microsystems, Microsoft, and IBM. Assess the impact of this situation on business performance. What factors and management decisions must be considered when developing a solution to this problem?

[7 marks]

c) Kenya Airways, Kenya's leading airline, faces cost pressures from high fuel prices and lower levels of global airline traffic. To remain competitive, the airline must find ways to keep costs low while providing a high level of customer service. Kenya Airways had a 30-year-old data center. Management had to decide whether to replace its IT infrastructure with newer technology or outsource it. What factors should be considered by Kenya Airways management when deciding whether to outsource? If Kenya Airways decides to outsource, list and describe points that should be addressed in a service level agreement.

[6 marks]

QUESTION FOUR [20 MARKS]

Case Study: Apple Merging Technology, Business, and Entertainment. A decade ago, Apple was on the brink of bankruptcy. Apple Computer Inc., now back from near oblivion, is blazing a trail through the digital world with innovation and creativity that has been missing from the company for the past 20 years. The unique feature of Apple's competitive advantages is that they come from customers and users, not Apple employees. That's right; the company welcomes products created by consumers to sell to consumers, a trend new to business. With millions of iPods in the hands of consumers, many people are finding ways to capitalize on the product. John Lin created a prototype of a remote control for the iPod and took his prototype to Macworld, where he found success. A few months later, Lin's company had Apple's blessing and a commitment for shelf space in its retail stores. This is how Apple supports the iPod economy. Looking at someone using an iPhone is an interesting experience because there is a good chance they are not making a phone call. They could be doing a number of things from playing a game to trading stocks, watching a TV show, or even conducting business with a mobile version of salesforce.com 's customer-management software. In a brilliant strategic move, Apple let outsiders offer software for the iPhone and in less than six months, more than 10,000 applications had been created. In fact, more than 15,000 applications are available at its app store section of iTunes, and they have been downloaded a total of 500 million times. Now, many of the iPhone apps are available for the iPad. Use the case the answer the following questions.

a) Why are data, information, business intelligence, and knowledge important to Apple? Give an example of each type in relation to the iPad.   [6 marks]

b) Explain how Apple achieved business success through the use of information, information technology, and people.   [7 marks]

c) Evaluate how Apple can gain business intelligence through the implementation of a customer relationship management system.   [7 marks]

QUESTION FIVE [20 Marks]

a) Why are information systems vulnerable to destruction, error, and abuse?   [4 marks]

b) What is the business value of security and control?   [4 marks]

c) Discuss the components of an organizational framework for security and control?   [5 marks]

d) As a chief security Officer for your company, analyze some of the most important tools and technologies for safeguarding information resources? [7 marks]