FACULTY OF COMMERCE

DEPARTMENT OF FINANCE

BACHELOR OF COMMERCE HONOURS DEGREE IN FISCAL STUDIES

PART II 1ST SEMESTER FINAL EXAMINATION – DECEMBER 2015

COMPUTER APPLICATIONS IN REVENUE MANAGEMENT [CFS 2102]

TIME ALLOWED: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Answer Question **ONE (1)** and any other **THREE (3)** questions.
2. Write neatly and legibly.
3. Clearly annotate and label all diagrams, used in answering questions.

INFORMATION TO CANDIDATES

1. This paper contains **SIX (6)** Questions.
2. Question One carries a total of 40 marks, and all other questions carry a total of **20 marks** each**.**
3. This paper contains **FIVE (5)** printed pages, including the cover page.
4. Candidates may write on the question paper but shall not write in the answer booklet during reading time.
5. Businesses and persons used in this paper are intended to be fictitious.

Question 1[COMPULSORY]   **[40 marks]**

Assume that you are the Information Systems Manager at ZIMRA. You attended a conference with the Commissioner General where a presenter said:

"There has been a high level of default in tax payments by taxpayers in Zimbabwe especially the informal sector and the small businesses precisely because they are sitting well under the radar and identifying them is costly and difficult. The taxpayers know that if they sit back, ZIMRA will not know about them and will therefore not come to them, or take any action against them. Imagine a different situation, whereby ZIMRA had supernatural powers, such that if any taxpayer in the economy bought or sold something, ZIMRA would immediately get to know about it and they would confront the taxpayer with accurate information as to what they bought, where they bought it, and when they bought it. Under such circumstances, the customer would become self-compliant because they would know that ZIMRA has supernatural access to their behaviour. The challenge in our economy it to develop a concept of how ZIMRA can develop a system that would make it appear as if ZIMRA had supernatural powers (of course ZIMRA cannot possess supernatural powers), is able to cost effectively identify taxpayer transaction behaviour and track them down cost effectively, confront them with authoritative information about their transaction behaviour. If such a concept could be successfully developed, then suddenly, all taxpayers would no longer sit back and wait for ZIMRA to come to them, but they go and 'confess' their transaction behaviours themselves. Is it possible? It is possible because intelligence agencies all over the world possess information about citizens that no one can ever imagine they have, the only problem is that their systems are not cost-effective and do not fit in with the concept of economy in tax collection. On the other hand, Google has already developed a system that rivals intelligence agencies in term of its capabilities in gathering information in the form of its search engine. Yet it is much more cost effective than national intelligence agencies. This is where the answer lies. For example, you make a search on particular type of car you want to buy. The next minute all the adverts on your browser have changed and they are now adverts from car dealers from your country and city, or second hand car dealers from Japan that you have dealt with before, advertising exactly the type of cars you have been researching on."

The Commissioner General is excited by the presenter's ideas and tasks you to develop a system along similar lines.

(a)   Identify a single characteristic or factor that makes it possible for organisations like Google to be more cost-effective in gathering intelligence.   [2]

(b)   As you work on the project, which category or class of taxpayers would you target and consider as a useful start-off point in gathering information about other taxpayers? Give two reasons to justify your decision.   [3]

(c)   As you develop the concept, would you prefer a real-time or batch processing system in updating your databases at ZIMRA about customer transactions? Give two reasons to support your choice?   [3]

(d)   In your concept, how would you prefer the revenue authority to communicate with taxpayers on information about their transactions? Give two reasons to support your decision.   [3]

(e)   Once ZIMRA has gathered information about the taxpayers, decide on whether or not, the revenue authority would have to disclose to every taxpayer, all the information it knows about them, and why.   [3]

(f)   How would the system take care of purchases made over the internet and in other countries, such that before a consignment arrives at the border, or before a cross-border trader arrives at the border, ZIMRA already knows what they bought and that one way or the other, they are on the way?   [5]

(g)   Identify three decisions that you could make, to ensure that the development of the system is affordable, and for each respective decision, identify what would be the source of your inspiration.   [6]

(h)   What changes, if any, would need to be made to the monetary system to make this project possible, and why?   [5]

(i)   Identify three types and sources of information that would need to be collected to make the system possible?   [6]

(j)   Would you foresee the system being able to process the information automatically, or would it need the assistance of the human element? Give three reasons to support your view.   [4]

Question 2   **[20 marks]**

"… instead of concentrating on traditional business functions, or only supporting the internal business processes of a company, enterprise applications are focused on accomplishing fundamental business processes in concert with a company's customer, supplier, partner, and employee stakeholders. Thus, enterprise resource planning (ERP) concentrates on … . Customer relationship management (CRM) focuses on … . Partner relationship management (PRM) aims at … . Supply chain management (SCM) focuses on … . Knowledge management (KM) applications focus on … ."

(O'Brien and Marakas, 2010, 263)

(a)   Define the following terms is as far as they apply to enterprise business systems
    i.   EPR   [2]
    ii.   CRM   [2]
    iii.   PRM   [2]
    iv.   SCM   [2]
    v.   KM   [2]
    vi.   CFES   [3]

(b)   Define and distinguish between e-business and e-commerce systems.   [3]

(c)   Do you agree with the view that smaller organizations are better positioned to be more effective users of CRM than larger ones? Why or why not? Give three reasons to justify your answer.   [4]

Question 3   **[20 marks]**

(a)   What are enterprise collaboration systems?   [2]

(b)   Identify three functions of enterprise collaboration systems   [3]

(c)   Identify five tools that are used in enterprise collaboration systems   [5]

(d)   Identify five business areas in which OLAP can solve complex business problems, giving an example of how they can be deployed in each of those areas.   [10]

Question 4   **[20 marks]**

(a)   Identify five key trends that have been associated with revenue management systems in recent years?   [5]

(b)   Which three new trends do you predict to be associated with revenue management systems in the future? For each of your identified trends, give one reason why you expect trends to move in that direction in the future.   [6]

(c)   Define object-oriented programming (OOP). Identify and explain the four key features that distinguish OOP from the other approaches to programming. Give examples of three programming languages three take advantage of this approach.   [9]

Question 5 [20 marks]

(a) Define neural networks and identify three areas in the field of finance where they can be applied, and how they will help to improve revenue management. [5]

(b) Define fuzzy logic and identify three areas of business management where it is currently being explored for applications and how it is expected to benefit those areas. [5]

(c) What are genetic algorithms? How can they be deployed by investors on the stock market? [5]

(d) Identify the stages of the systems development life cycle, and explain what each of the stages entails. [5]

Question 6 [20 marks]

(a) Define object-oriented programming (OOP). [1]

(b) Identify and explain four key features that distinguish OOP from the other approaches to programming. [8]

(c) Give examples of two programming languages that take advantage of this approach. [1]

(d) The organisation that you work for had some problems with the software that it has been acquiring in the last few years. Design a scorecard that you can make use of in evaluating software that your organisation will acquire in the future. [10]

END OF EXAMINATION PAPER