CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
General Certificate of Education Examination

JUNE 2017

ADVANCED LEVEL

Subject Title	Information and Communication Technologies
Paper No.	2
Subject Code No.	0796

Two Hours

Answer any SIX questions.

All questions carry 17 marks each. For your guidance, the approximate mark for each part of a question is indicated in brackets.

You will be marked on your ability to use good English, to organize information clearly and to use specialist vocabulary where appropriate.

In calculations, you are advised to show all the steps in your working, giving your answer at each stage.

1. (i) Briefly describe the following systems as used in ICT, giving an example of each.
   (a) Monitoring system
   (b) Control system   **(6 marks)**

   (ii) The manager of a local plantation company complains that the management information system of The company is failing to provide the correct level of information.
   (a) What is management information system?   **(2 marks)**
   (b) Give four possible reasons why the system is failing.   **(4 marks)**

   (iii) (a) What is digital divide?   **(2 marks)**
   (b) Describe three causes of digital divide with respect to global communication.   **(3 marks)**

2. (i) What is ergonomics with respect to computer usage?   **(1 mark)**
   (ii) Describe two ways that can be taken to prevent,
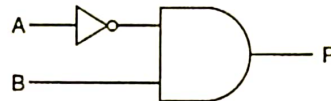   (a) Repetitive strain injury (RSI)
   (b) Eye strain   **(4 marks)**

   (iii) Distinguish between the following data transmission modes, giving an example of each.
   (a) Serial and parallel transmissions.
   (b) Broadband and baseband transmissions.
   (c) Synchronous and asynchronous transmissions.   **(6 marks)**

   (iv) Describe the following terms as used in Internet communication:
   (a) Chat room.
   (b) Instant messaging.
   (c) Web log (blog).   **(6 marks)**

3. (i) (a) Differentiate between data and information.   **(2 marks)**
   (b) Outline three characteristics that make data reasonable.   **(3 marks)**
   (c) Rearrange the following to form the Data Hierarchy System starting with the smallest unit of data to the biggest. Fields, Data warehouse, Folders, Bits, Records, Files, Bytes, Word.   **(4 marks)**

   (ii) (a) Briefly explain the term prototyping as use in software development.   **(2 marks)**
   (b) Outline four stages involved in prototyping.   **(4 marks)**
   (c) State two benefits of prototyping to the end user.   **(2 marks)**

4. (i) An organisation has decided to connect its computers to communicate in a network.
   (a) Give **four** hardware resources that will be needed in order to have Internet connection.   **(4 marks)**

   (b) Describe two responsibilities of a network administrator in this organisation.   **(2 marks)**

(ii)   (a)   Define the programming terms; syntax and semantics.   **(2 marks)**

      (b)   Describe each of the following: Algorithm, pseudo code and program.   **(3 marks)**

      (c)   Draw a flowchart to represent the following algorithm

         Start,

             Enter the radius, R

             Compute Area, $A = \pi * r * r$

             Print "A" and "R",

         Stop.   **(4 marks)**

(iii)   Give two advantages of data normalisation.   **(2 marks)**

---

5.   (i)   What is computer crime?   **(2 marks)**

   (ii)   State two weaknesses of a bank's information system that may expose it to each of the following:-

       (a) Unauthorized access to confidential data.

       (b) Illegal transfer of money.

       (c) Damage of data.   **(6 marks)**

   (iii)   Study the logic circuit diagram below:

       (a)   What is value of P?   **(2 marks)**

       (b)   Draw the truth table of the logic circuit above in (a).   **(2 marks)**

       (c)   Draw the circuit diagram for a NOR gate.   **(2 marks)**

   (iv)   Identify and describe three criteria to be used for the selection of library software.   **(3 marks)**

---

6. (i)   (a)   Discus **two** types of information systems that are useful to top level managers of an organization.   **(4 marks)**

      (b)   Name and explain **two** criteria used to judge the success of an information system in an organization.   **(4 marks)**

   (ii)   (a)   What is a project?   **(2 marks)**

      (b)   Give **three** reasons why regular reviews are necessary during all the phases of a project.   **(3 marks)**

   (iii)   Define the following giving one advantage in using them to control a project:

      (a)   Critical path

      (b)   Flow chart   **(4 marks)**

4-/0796/2/C/Q

7. (i) (a) In which phase of the SDLC is feasibility studies carried out? **(1 mark)**

(b) Name and explain three types of feasibility assessments carried out in this phase.

(3 marks)

(d) State and explain three major tasks carried out during the design phase of the SDLC. **(3 marks)**

(ii) What is e-commerce? **(2 marks)**

(iii) Describe how the following activities are accomplished in e-commerce.
(a) Purchasing
(b) Selling
(c) Transfer of funds. **(6 marks)**

(v) Describe the Boolean data type and explain a situation in which it is used. **(2 marks)**

---

8. (i) (a) What is the importance of file format? **(1 mark)**

(b) Draw the table below and classify the following file formats in the right column of file type:

.JPEG, .MDB, .PDF, .XLS .XML, .WAV, .PNG

Sound	Document	Spreadsheet	Bit-mapped		Database	Hypermedia

(4 marks)

(ii) Describe four ways in which e-government could enhance government services in Cameroon. **(4 marks)**

(iii) Describe and give an example of each of the following ICT systems. Your example may be a description of where the system is applicable.
(a) Expert system.
(b) Embedded systems. **(4 marks)**

(iv) Name and explain two data transfer checks use in data communication. **(4 marks)**

---

9. (i) (a) List and explain any two types of wireless network standards **(4 marks)**
(b) Explain two disadvantages of wireless network. **(2 marks)**
(c) Discuss how signal strength can be amplified in wireless networks. **(2 marks)**

(ii) (a) Distinguish between the Internet and the Web. **(2 marks)**
(b) Give and explain four ways in which the Internet has affected the society. **(4 marks)**

(iii) If a novel contains 2500 characters, how much storage space is required to contain an e-library with two million novels? Give your answer in gigabytes. **(3 marks)**

4-/0796/2/C/Q