GENERAL CERTIFICATE OF EDUCATION BOARD
General Certificate of Education Examination

Information and Communication Technologies 2
0796

JUNE 2023   **ADVANCED LEVEL**

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

Two and a half hours

Answer any SIX questions.

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

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

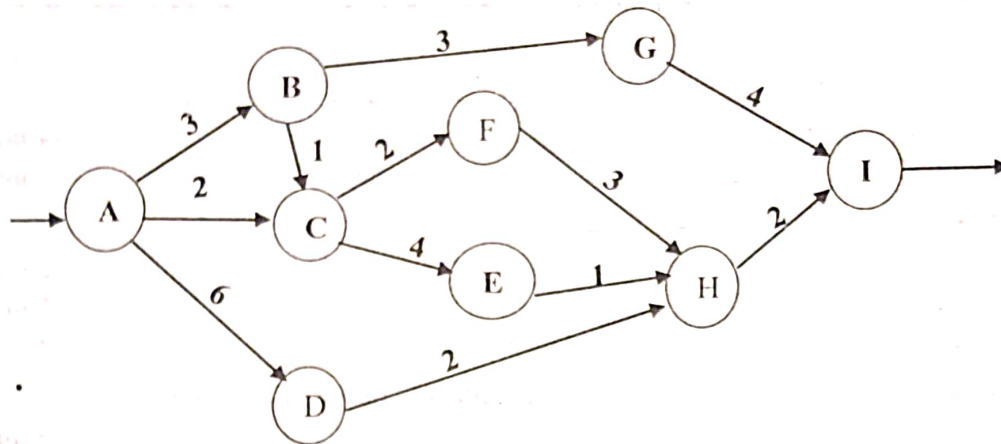*In calculations, you are advised to show all the steps in your working, giving your answer at each stage.*

1. (i) (a) Explain three components of a transaction processing system (TPS). **(3 marks)**
         (b) Give two limitations of TPS compared to Management Information System **(2 marks)**
         (c) State the purpose and the expected goal of a school information system. **(3 marks)**

    (ii) (a) Give two characteristics of each of impact printer and laser printer. **(2 marks)**
         (b) Give one advantage of each of the printers above. **(2 marks)**
         (c) Name another type of printer. **(1 mark)**

    (iii) (a) Give one characteristic of each of 1st Generation and 3rd Generation computers. **(2 marks)**
         (b) State and describe what two characteristics determine the power of a laptop **(2 marks)**

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2. (i) Describe the function of each of the following in a computer system
         (a) Motherboard. **(2 marks)**
         (b) Visual graphic card **(2 marks)**
         (c) RAM **(2 marks)**

    (ii) State a suitable type (not an example) of software for the following activities.
         (a) Sending mails **(1 mark)**
         (b) Organise files in the disk to put parts of the same files together. **(1 mark)**
         (c) Describe two important desired contents of a website. **(1 mark)**
         (d) Type a code for a programming language **(1 mark)**

    (iii) (a) Distinguish between a RAM and a ROM and state which of them is a permanent memory. **(2 marks)**
         (b) State the function of ROM in the computer. **(2 marks)**
         (c) State the full meaning of BIOS and give two components of the BIOS. **(3 marks)**

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3. (i) Device drivers and language translators are two types of system software.
         (a) Give the role of device drivers in a PC and give one examples. **(3 marks)**
         (b) Give the function of a language translator and give an example.. **(2 marks)**
         (c) Describe one other type of system software with a specific example. **(3 marks)**

    (ii) Describe the functions of the following hardware components in a network.
         (a) Multiplexer. **(2 marks)**
         (b) Router. **(2 marks)**
         (c) Ethernet card. **(2 marks)**

    (iii) State three measures that can be taken to protect data in a computer. **(3 marks)**

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4. (i) (a) What is data capture? (1 mark)
      (b) Describe the use of TWO data capture devices that can be of use to a school Secretary. (2 marks)
      (c) State or explain how EACH of the devices in (b) above is connected to the PC. (2 marks)
      (d) Explain ONE computer health related problems that is linked to the use of EACH of the devices in (b) above. (2 marks)

  (ii) (a) What is data redundancy in database? (2 marks)
      (b) Explain two types of problems caused by data redundancy. (2 marks)
      (c) Name and explain the strategy that is used to handle data redundancy. (2 marks)

  (iii) Explain the following terms as used in project management.
      (a) Critical path (2 marks)
      (b) Slack task (1 mark)
      (c) Lead task (1 mark)

5. (i) (a) What is computer ergonomics? (2 marks)
      (b) Explain TWO ergonomics advice to design a school laboratory. Your answer should state what problem it will solve. (4 marks)
      (c) Describe TWO health problems caused by prolong eye to monitor contact. (2 marks)

  (ii) Define the following as used in data security.
      (a) Data encryption. (2 marks)
      (b) Data verification. (2 marks)
      (c) Scamming. (2 marks)

  (iii) State THREE components and describe how each can influence the processing power of a computer. (3 marks)

6. (i) (a) Define the term E-Governance and describe one domain or platform of E-Governance in Cameroon (3 marks)
      (b) State two reasons why this service is not very much in use in Cameroon. (2 marks)

  (ii) Examples of memories are: ROM, Registers, RAM, EPROM, Cache
      (a) Explain the term volatile memory. (2 marks)
      (b) Group the above memories into volatile and non-volatile. (2 marks)
      (c) State where each of the above memories are located in a PC. (2 marks)

  (iii) (a) Describe three components of an information system. (3 marks)
      (b) Discuss TWO factors that determine the reliability of an information system. (2 marks)
      (c) Give ONE advantage of an expert system. (1 mark)

7. (i) Explain the following computer terms giving examples where necessary:
   (a) Social media. **(2 marks)**
   (b) Robotics. **(2 marks)**
   (c) Hacking **(2 marks)**

   (ii) (a) Discuss TWO factors that determine the reliability of an Expert system. **(2 marks)**
   (b) Explain TWO uses of an expert system. **(2 marks)**
   (c) Give TWO limitations of an expert system. **(2 marks)**

   (iii) (a) Distinguish between Simulation and Prototyping? **(2 marks)**
   (b) Identify the steps used in prototyping. **(2 marks)**
   (c) State ONE advantage of prototyping. **(1 mark)**

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8. (i) PERT chart is a tool used in project management. Below is the PERT chart of a project.

   (a) State the full meaning of the acronym PERT. **(1 mark)**
   (b) Give one advantage and one disadvantage of using PERT charts. **(2 marks)**
   (c) Calculate the critical path of the project. **(3 marks)**
   (d) State the slack time of each of the tasks B, F, and E. **(2 marks)**

   (ii) (a) Explain TWO ways you can restrict access to a database. **(2 marks)**
   (b) Describe two elements that are used to collect data in a database. **(2 marks)**
   (c) Give TWO advantages of database over flat file system. **(2 marks)**

   (iii) The price of a food item is gotten by first measuring them in bags and then multiplying the number of bags by a unit amount of 4600Frs.
   (a) Write a pseudocode for the above process. **(2 marks)**
   (b) Identify and justify the type of control structure used in your pseudocode. **(1 mark)**

GO BACK AND CHECK YOUR WORK

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