0796 Information and Communication Technologies 2

GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination

JUNE 2026 **ADVANCED LEVEL**

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

Duration: Two and a Half 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 graded on your ability to use good English, organise information clearly and the use of specialist vocabulary where appropriate.

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

237exams.com

Turn Over

00/0796/2

©2026GCEB

Question 1

(i)	(a)	What is automatic speech recognition (ASR)? Describe one situation in which it can be used.	**(3 marks)**
	(b)	Give two advantages of ASR.	**(2 marks)**
	(c)	Give one limitation of ASR.	**(1 mark)**
(ii)		Briefly explain the activities of an operating system with regards to the following:	
	(a)	File Management.	**(2 marks)**
	(b)	Memory Management.	**(2 marks)**
(iii)		A company uses video-conference to discuss pertinent issues affecting the company.	
	(a)	What is video conferencing?	**(1 mark)**
	(b)	State TWO advantages to the company of having a video-conference.	**(2 marks)**
	(c)	What is the impact of transmission bandwidth on the system?	**(2 marks)**
(iv)		To convert a binary number to its 2's complement, do the following:	
	-	Reverse each bit.	
	-	Add 1 to the resulting number.	
	(a)	Calculate the 2's complement of 101110	**(1 mark)**
	(b)	Give one use of the 2's compliment in the computer.	**(1 mark)**

Question 2

(i)		Distinguish between the following transmission types:	
	(a)	Synchronous and Asynchronous transmission.	**(2 marks)**
	(b)	Broadband and Baseband transmission.	**(2 marks)**
	(c)	Parallel and Serial transmission.	**(2 marks)**
(ii)		(a) State TWO benefits of normalisation in a database design.	**(2 marks)**
	(b)	What is the role of Indexing data in a DBMS?	**(1 mark)**
	(c)	Which category of relationships allows data to be linked from one table to several other tables in a relational database?	**(2 marks)**
	(d)	A hospital keeps records of its patients. Give TWO rights of a patient on his personal data stored in this system.	**(2 marks)**
(iii)		Explain the mode of functioning of the following printers.	
	(a)	Laser printer.	**(2 marks)**
	(b)	Dot matrix printer.	**(2 marks)**

Question 3

(i)	(a)	What is the main function of the ALU and the Internal bus in a processor?	
	(b)	State and explain TWO stages of the instruction cycle carried out in the control unit of the CPU.	**(2 marks)**
(ii)		A school intends to create a LAN of 10 computers.	
	(a)	Describe each of the following network topologies by making a labeled diagrams:	
	▪	Star.	**(1 mark)**
	▪	Ring.	**(1 mark)**
	▪	Bus.	**(1 mark)**

237exams.com

	(b)	Name and explain TWO aspects to consider when selecting a network topology.	**(2 marks)**
	(b)	Explain TWO major advantages of using a wireless LAN instead of a cable LAN.	**(2 marks)**
(iii)		Describe the following programming concepts.	
	(a)	Compilers.	**(2 marks)**
	(b)	Interpreters.	**(2 marks)**
	(c)	Variables.	**(2 marks)**

Question 4

(i)		Explain the following as used in Internet communication:	
	(a)	URL.	**(1 mark)**
	(b)	HTTPs.	**(2 marks)**
	(c)	VoIP.	**(1 mark)**
	(d)	Telnet.	**(1 mark)**
(ii)	(a)	What is software End User License Agreement?	**(2 marks)**
	(b)	Differentiate between open source and freeware.	**(2 marks)**
	(c)	Give TWO ways that the author's right can be protected for software.	**(2 marks)**
	(d)	Give TWO ways that software piracy can be controlled.	**(2 marks)**
(iii)		Give the function of the following in a computer system:	
	(a)	ROM.	**(1 mark)**
	(b)	Register.	**(1 mark)**
	(c)	Ports.	**(1 mark)**
	(d)	Accumulator	**(1 mark)**

Question 5

(i)	(a)	What is modularisation in programming?	**(1 mark)**
	(b)	State TWO advantages of modularisation.	**(2 marks)**
(ii)		Almost all organizations have computer-based information system.	
	(a)	Identify the major components of a computer information system.	**(3 marks)**
	(b)	Give TWO advantages of an information system to a business organisation.	**(2 marks)**
(iii)		The process of downloading a file from the Internet was interrupted. Give TWO possible reasons for this interruption.	**(2 marks)**
(iv)		A software development schedule is shown in the table below.	

Task	**Duration (working days)**	**Predecessor(s)**
A	5	------
B	15	A
C	25	A
D	15	B
E	30	B
F	10	C, D
G	10	E, F
H	5	G

22exams.com

Task	Duration (working days)	Predecessor(s)
I	5	H

(a) Draw the GANTT chart for this project. **(3 marks)**

(b) State and explain one other management tool that can be used in managing this project **(2 marks)**

(c) Determine the critical path of this project. **(2 marks)**

Question 6

(i) Two types of network is client\server and peer-to-peer.

(a) Describe a client\server network. **(2 marks)**

(b) Give TWO advantages of a peer-to-peer network. **(2 marks)**

(c) Give ONE disadvantage of client\server network. **(1 mark)**

(ii) Give the function of each of the following:

(a) Router. **(2 marks)**

(b) Network Interface Card. **(2 marks)**

(c) Firmware. **(2 marks)**

(iii) (a) Describe utility software and give an example. **(2 marks)**

(b) Explain TWO roles of the operating system in managing processes. **(2 marks)**

(c) Differentiate between icon driven and command driven operating system. **(2 marks)**

Question 7

(i) (a) Describe the resolution of a monitor. **(1 mark)**

(b) Give TWO advantages of LCD monitors over CRT monitors. **(2 marks)**

(c) Give the role of graphic controllers in the resolution of a monitor. **(1 mark)**

(ii) To send documents, companies sometimes use social media, ordinary post office, or emails.

(a) Give TWO reasons why social media might be used. **(2 marks)**

(b) Give TWO reasons why ordinary post might be used. **(2 marks)**

(c) Give TWO advantages in using the above means. **(2 marks)**

(iii) Give THREE ways in which a system analyst can gather information to design a new system for an organization. **(3 marks)**

(iv) A health facility decides to use an expert system to facilitate its operations.

(a) What is an expert system? **(2 marks)**

(b) Name TWO basic elements of an expert system. **(1 mark)**

(c) Give ONE area in health where experts system is used. **(1 mark)**

Question 8

(i) A digital system is described by the equation $F = \bar{A}.B + A.\bar{B} + A.B$.

(a) Construct the truth table of the system **(2 marks)**

(b) State the TWO De Morgan's theorems. **(2 marks)**

(ii) A company uses relational database model for its business transactions.

22Exams.com

	(a)	Give TWO advantages of relational database model over Network database model.	**(2 marks)**
	(b)	Differentiate between relational database and flat file.	**(2 marks)**
	(c)	Give THREE functions of a database designer to this company.	**(3 marks)**
(iii)		Briefly describe the following algorithmic methodologies:	
	(a)	Step-wise refinement.	**(2 marks)**
	(b)	Top-down design.	**(2 marks)**
	(c)	Divide and conquer.	**(2 marks)**

DISCLAIMER

This document is a transcription of the official General Certificate of Education (GCE) Board Advanced Level Examination paper. All original content, questions, and formatting structure remain the intellectual property of the General Certificate of Education Board. This transcription is intended solely for educational purposes.

237exams.com