FORM TP 2026–092

TEST CODE 01229020

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CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

INFORMATION TECHNOLOGY

Paper 02 – General Proficiency

2 hours

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READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of FOUR questions. Answer ALL questions.
2. Write your answers in the spaces provided in this booklet.
3. Do NOT write in the margins.
4. If you need to rewrite any answer and there is not enough space to do so on the original page, you must use the extra lined page(s) provided at the back of this booklet. **Remember to draw a line through your original answer.**
5. **If you use the extra page(s), you MUST write the question number clearly in the box provided at the top of the extra page(s) and, where relevant, include the question part beside the answer.**

A022

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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Answer ALL questions.

1. (a) LT Trucking hires drivers to transport goods across the country. The company maintains a comprehensive database to efficiently track all drivers, vehicles and deliveries. All members of staff at the main office can share files and resources easily to maintain accurate records for the company.

(i) Name a device **other than** computers, that is needed on the company's network.

.....

(1 mark)

(ii) LT Trucking considered various types of computer systems, each corresponding to the features and descriptions provided in the following table. Complete column one by identifying the appropriate type of computer system next to the feature / description given.

Computer Type	Feature/Description
	Dedicated computer systems designed for specific tasks; consume very little processing power; may or may not be able to connect to the internet; found in household appliances, vehicles, digital watches etc.
	Multiple processors at GHz speed; used by single users; have GB RAM and TB hard disks; used for office work, gaming, entertainment, and internet access and email.
	Several CPUs supporting hundreds/ thousands users; very large primary and secondary storage; used by banks and government departments etc.
	Laptops, notebooks, tablets, smartphones etc.; used for entertainment, internet access and email; portable battery powered devices.

(4 marks)

(iii) All drivers are dispatched from various warehouses across the country to make the deliveries. Name the type of network that would allow effective communication between all warehouses and the main office.

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(1 mark)

(iv) LT Trucking has a web server that is located in the main office building. Outline the MAIN purpose of a web server on a network.

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(2 marks)

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(b) The following data was extracted from LT Trucking's database.

DRIVER

Driver ID	Driver	DoB	Contact	License	Hired Date
LT-0100	John Smith	1985-03-15	388-1234	DL12345	2021-02-20
LT-0101	Sarah Johnson	1990-08-22	478-5678	DL67890	2022-04-10
LT-0102	Michael Davis	1978-11-05	342-9876	DL54321	2020-11-30
LT-0103	Emily Wilson	1993-04-10	258-4321	DL13579	2021-07-15
LT-0104	David Lee	1980-09-18	755-8765	DL98765	2022-03-12

DELIVERIES

Delivery ID	Driver ID	Warehouse	Delivery Location	Delivery Date	Cargo Description	Weight (kg)	Cost per kg
101	LT-0101	A	PC Max	10/2/2023	Electronics	500	$100
102	LT-0102	B	Office Inc.	10/2/2023	Office supplies	300	$140
103	LT-0103	C	Say it Aint Sewed	10/8/2023	Clothing	700	$150
104	LT-0101	B	Shop Hop	10/9/2023	Electronics	450	$120
105	LT-0102	E	Page Turner Ltd	10/11/2023	Books	600	$90
106	LT-0103	A	Plug n Go	10/11/2023	Electronics	550	$130
107	LT-0104	G	Unsure Mechanics	10/15/2023	Furniture	800	$180
108	LT-0100	H	Brooks Haven	10/18/2023	Appliances	900	$200

(i) Identify the field from the database that would be used to link the DRIVER table and the DELIVERIES table.

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(1 mark)

(ii) State the relationship type between the DRIVER table and the DELIVERIES table.

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(1 mark)

(iii) Explain the purpose of setting relationships in a database.

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(2 marks)

(iv) A query was created with a new calculated field named FinalCost to store the final cost of delivery for each item. Write the syntax for the calculated field, if the cost of delivery is determined by the weight of the delivery and the cost per kg.

.....

.....

(3 marks)

(v) Complete the following query so that, when run, it would display the delivery date(s) and the name(s) of the driver(s) who facilitate deliveries from Warehouse A.

Field			
Table			
Criteria			

(3 marks)

(c) LT Trucking may need to use various types of software to manage their operations. State the TWO categories of software companies can use.

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(2 marks)

Total 20 marks

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2. AM&D provides legal services for its clients and handles very sensitive data which includes legal documents, contracts and confidential correspondence.

(a) The following memo was sent to members of staff recently.

AM&D

MEMO

To: All Employees

From: F. Allen – Managing Partner

Subject: Security Protocol Changes

We have recently updated our security protocols aimed at enhancing the protection of our data and that of our clients. These changes are effective immediately. The following are the key changes.

1. Two-factor authentication is now mandatory when accessing any company system and data. Instructions on enabling two-factor authentication will be provided via email shortly.

2. Passwords must now be a minimum of 12 characters. Along with a combination of letters, numbers, and special characters, an uppercase letter is now required.

3. The period within which to update individual passwords has been reduced from 120 days to 90 days.

4. Access privileges will be reviewed and updated as needed. Please note that your access code should be used to access only the resources you require.

Continue to remain cautious when opening emails from unknown senders and clicking on links not recognized. Phishing attacks continue to be a serious issue; we must continue to put measures in place to prevent unauthorized access to our networks. Remember all security incidents or suspicious activities must be reported to the IT Department immediately.

Thank you for your cooperation in maintaining a secure data environment.

(i) The date is missing from the memo **on page 8.**

List, in the correct order, the steps required for inserting the date before the subject line.

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(4 marks)

(ii) Name the document formatting features that were used to insert EACH of the following.

- The company logo inside the top margin of the page

.....

- The list of security changes

.....

- The header labels (To, From, Subject)

.....

(3 marks)

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(b) AM&D wants to place the following text on the last line of the letter **on page 8**.

"Contact us by clicking HERE."

The word "HERE" is the text to display as the hyperlink to the email address ContactUS@amdlaw.org.

Complete the missing steps (2 to 4) to insert the hyperlink on the letter.

Step 1: Select the text to display ("HERE").

Step 2:

.....

Step 3:

.....

Step 4:

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Step 5: Enter the email address "ContactUS@amdlaw.org" in the Email Address field.

Step 6: Click OK

(3 marks)

(c) Using the URL https://amdlaw.org/services.docx, identify EACH of the following.

- Domain .....
- Protocol .....

(2 marks)

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(d) State TWO benefits of EACH of the following security measures.

- Biometrics

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(2 marks)

- Firewall

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(2 marks)

(e) As an additional method of security, the firm is considering the option to back up its records using a cloud storage platform. Outline TWO reasons why cloud storage should be used as a means of backup, instead of local storage.

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(4 marks)

Total 20 marks

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3. An adventure park allows customers to purchase either a day pass (armband) to access all rides, or tickets that allow access to selected rides. All customers are required to show their tickets or armbands to gain access to the rides.

(a) (i) A series of black and white lines which can be read by a machine are also printed on each ticket. Name the device that would be used to read and verify the lines on the ticket to gain entry to the park.

.....

(1 mark)

(ii) Several kiosks are placed throughout the park where customers can upgrade their tickets and purchase access to more rides. Name the MAIN input device that is likely being used on each kiosk.

.....

(1 mark)

(iii) Upon entering the park, a large coloured physical map is displayed showing the different areas of the park and where each ride is located. Name the device that would have been used to produce this map.

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(1 mark)

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(b) The management of the park has decided to hire two specialists. State TWO roles of EACH of the following specialists.

(i) Web developer

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(2 marks)

(ii) Social media specialist

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(2 marks)

(c) Other than for use in theme parks, state THREE ways in which information and communication technology (ICT) has impacted the recreational industry.

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(3 marks)

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(d) The following pseudocode was designed to calculate the price each customer paid to purchase day pass tickets.

```
1    Start
2        day_cost = 50.00
3        total_tickets_purchased = 0
4        remaining_day_passes = 50
5        Print "Enter the number of tickets purchased"
6        Read tickets
7        While tickets > 0 do
8            total_cost = tickets * day_cost
9            remaining_day_passes = remaining_day_passes − tickets
10           total_tickets_purchased = total_tickets_purchased + tickets
11           Print "Customer pays: $", total_cost
12           Print "Remaining day pass tickets:", remaining_day_passes
13           Print "Number of tickets purchased", total_tickets_purchased
14           Print "Enter the number of tickets purchased"
15           Read ticket
16       Endwhile
17   Stop
```

(i) Identify the constant used in the pseudocode.

.....

(1 mark)

(ii) Constants and variables play a key role in how programs run and manage information.

- State ONE similarity between a constant and a variable.

.....

.....

(1 mark)

- Outline ONE difference between a constant and a variable.

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(2 marks)

GO ON TO THE NEXT PAGE

0 1 2 2 9 0 2 0 1 4

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(iii) Using the following input values for tickets: 3, 5, 7 and 8, complete the trace table below for the algorithm **on page 14**.

day_cost	remaining_day_passes	tickets	total_cost
50.00	50		

(4 marks)

(iv) The statement **Print "Remaining day pass tickets:", remaining_day_ passes** at line 12 is placed inside the loop versus outside the loop.

Justify the reason for placing the statement inside the loop.

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(2 marks)

(v) Construct a conditional statement that calculates a 15% discount if the number of tickets purchased is more than 10. Display the new total to be paid after the discount is calculated.

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(5 marks)

Total 25 marks

GO ON TO THE NEXT PAGE

0 1 2 2 9 0 2 0 1 5

4. In a small business, the choice of transmission media depends on the size of the network, budget, and required speed.

(a) State whether the following transmission media are wired or wireless.

- Optical fibre

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- Microwave

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- Satellite

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- Twisted pair

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- Coaxial

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(5 marks)

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Consider the following spreadsheet for a small business.

	A	B	C	D	E
1	**Profit and Loss Statement**				
2	**for 2020 – 2022**				
3	**Year**	**2020**	**2021**	**2022**	**Total**
4	**Revenues**				
5	Sales	$45 000.00	$53 000.00	$85 000.00	$183 000.00
6	Other income	$ 3 000.00	$ 1 300.00	$ 890.00	$ 5 190.00
7	**Total Revenue**	$48 000.00	$54 300.00	$85 890.00	$188 190.00
8					
9	**Expenses**				
10	Cost of goods	$32 000.00	$31 200.00	$40 000.00	$103 200.00
11	Operating expenses	$10 000.00	$13 640.00	$15 000.00	$ 38 640.00
12	Advertising costs	$ 4 500.00	$ 3 500.00	$ 6 000.00	$ 14 000.00
13	Research and development	$ 1 400.00	$ 2 000.00	$ 2 200.00	$ 5 600.00
14	Depreciation	$ 2 000.00	$ 3 310.50	$ 3 950.00	$ 9 260.00
15	Other expenses	$ 500.00	$ 646.00	$ 800.00	$ 1 946.00
16	**Total Expenses**	$50 400.00	$54 296.50	$67 950.00	$172 646.50
17					
18	Net income	$(2 400.00)	$ 3.50	$17 940.00	$ 15 543.50
19	Income tax	$ (600.00)	$ 0.88	$ 4 485.00	$ 3 885.88
20	**Net Profit/Loss**				
21					
22	**Year's Outcome**				

(b) Using the spreadsheet above, write the formula that was inserted in B18.

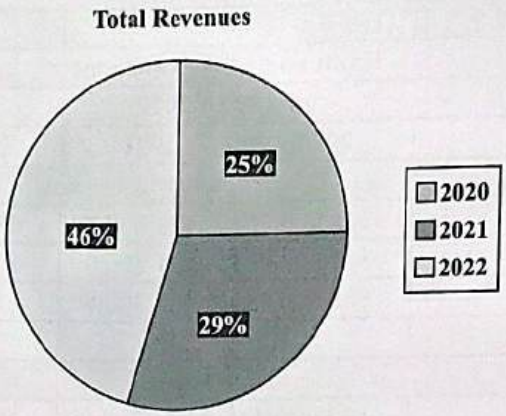
.....

.....

(3 marks)

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(c) The following chart was inserted into the spreadsheet.



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State the value range used to create the chart.

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.....

(1 mark)

(d) Write a function to calculate the average total expenses for the three years, 2020 to 2022.

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(2 marks)

(e) Write the function that would need to be inserted into Cell B22 to assess the annual outcome and state a profit when the net profit is greater that zero or state breakeven/loss if otherwise.

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(4 marks)

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(g) Complete the pseudocode design below by filling in the missing lines of code.

The pseudocode should output the profit made for three separate financial periods. The total revenue and total expenses are collected as input and the income tax is calculated at 25% of the net income.

1	Start
2	profit = 0.0
3	
4	
5	
6	
7	
8	
9	Print "End of year Profit: $", Profit
10	
11	Stop

(6 marks)

Total 25 marks

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

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