

Name: \_\_\_\_\_

Tutorial: \_\_\_\_\_

Question	Mark	Full Mark
1		25
2		18
3		13
4		12
5		4
6		8
<b>Total</b>		80

Answer **all** questions in space provided.

1.

- a. Identify and explain **one (1)** activity for each operation (input, process, output and storage) based on the scenario given below.

**Scenario:**

You are on a busy street in Banting, Malaysia. You are feeling a bit thirsty and would love to get a cold drink. You spot a vending machine nearby and walk up to it.

**Action:**

1. You look at the selection of drinks available and choose a can of iced tea that costs RM2.50.
2. You locate the QR code on the vending machine.
3. You open your payment gateway (TouchnGo eWallet) on your phone and scan the QR code.  
Your available balance is RM50.30.
4. You confirm the payment.

**Outcome:**

The vending machine dispenses your can of iced tea. You take your drink and enjoy it as you continue on your way.

[8 marks]

Operation	Activity
Input	
Process	
Output	
Storage	

- b. Convert **ACE753**<sub>16</sub> to binary number.

[5 marks]

- c. Convert the hexadecimal number **8B0F** to a decimal equivalent.

[5 marks]

- d. Convert **8529** in decimal to octal number.

[4 marks]

- e. A CD can save up to 700MB. How many characters can be written in the CD if it supports the Unicode Coding Scheme.

[3 marks]

2.

a.

- i. Trace and write the Boolean expression for variable **Y** based on **FIGURE 1** below.

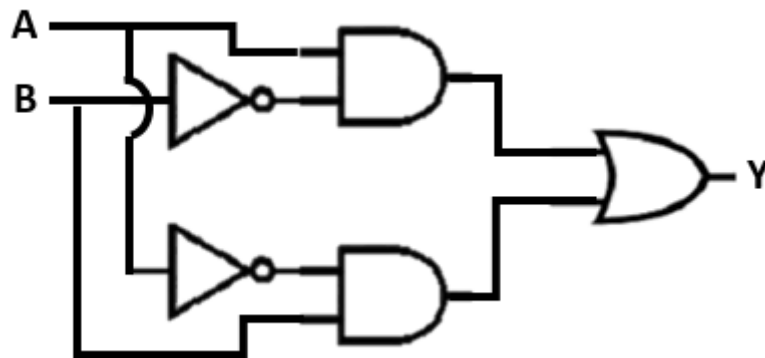


FIGURE 1

[4 marks]

- ii. Based on your answer for **FIGURE 1**, if **A = 1**, **B = 0** state the final output. Show the steps clearly.

[3 marks]

- b. Maria has won the grand prize (Y) in a contest. She needs to choose either she wants to go to Maldives (A) or Dubai (B), but not both and also RM5000 cash (C). Draw the logic circuit to represent the scenario above.

[5 marks]

- c. Construct the truth table based on the Boolean expression given.

[6 marks]

$$P = (A \oplus C) + \bar{B}$$

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3.

- a. Azani Klinik network consists of **one (1)** desktop at the registration counter and **two (2)** laptops on doctors' working tables, which access a network laser printer and centralized patient database from a powerful workstation.

- i. Identify the network architecture based on the above scenario.

[1 mark]

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- ii. Sketch the network architecture based on your answer in 3ai.

[5 marks]

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- iii. State **one (1)** disadvantage of network architecture based on your answer in 3ai.

[1 mark]

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- b. Mr. Ahmad Ali, General Manager of AI Nation corporate, recently discovered that the communication between his company's Accounts office and Human Resource office is extremely slow and signal drops quite frequently. These offices are 120 meters away from each other and connected via Ethernet cable.

- i. What type of classification of network (**X**) is formed by having this kind of connectivity?

[2 marks]

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- ii. Explain **two (2)** differences between network classification in 3 b i (**X**) with another classification of network (**Y**).

[4 marks]

Network Classification X	Network Classification Y

4.

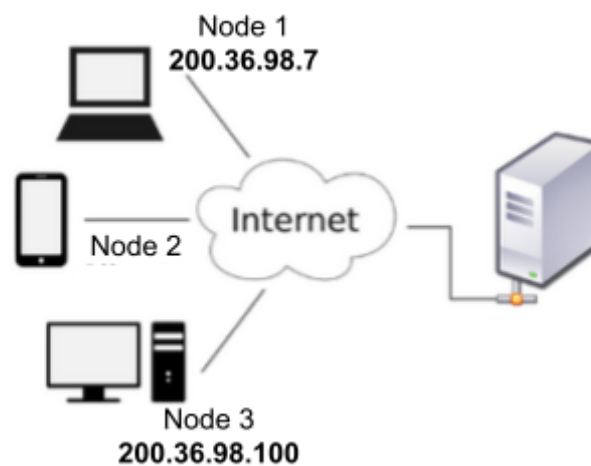
- a. Identify the network standard and the accessibility of information based on the given scenario.

[4 marks]

Scenario	Network Standard	Accessibility
Hamzah searches for a product online. He needs to identify the need, conducting research, refining the search and comparing products. By using		

various online tools and platforms, like search engines and e-commerce websites, Hamzah can find the best product that meets his needs and preferences.		
Hamzah is one of XYZ company's customers. XYZ provides Hamzah with a secure and convenient way to access information, place orders, track order status, manage his account, and get support when needed.		

b. **FIGURE 2** shows the nodes connected to a network.



**FIGURE 2**

i. Give **one (1)** characteristic of IPv4.

[1 mark]

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ii. Give **one (1)** valid example of IP address for **Node 2**.

[1 mark]

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iii. Nowadays, IPv6 is being used widely to identify the location of each node connected to the Internet. Explain **one (1)** reason why IPv6 is used instead of IPv4.

[2 marks]

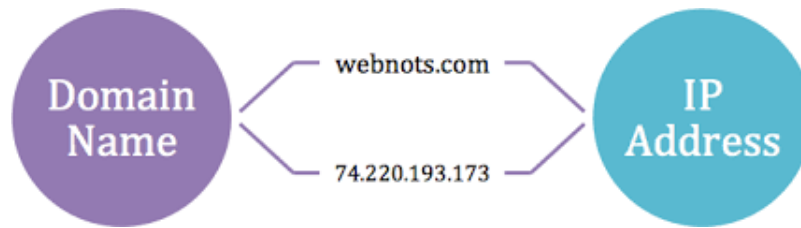
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c.

- i. **FIGURE 3** shows the relationship between IP Address and domain name.



**FIGURE 3**

Explain the relationship between both.

[2 marks]

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- ii. Below is the URL for one of the websites.

`https://sites.google.com/view/korporat/home`

Identify

[2 marks]

Top Level Domain (TLD):

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Pathname:

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5.

- a. Determine the area of computer ethics involved based on the given scenario.

[2 marks]

Scenario	Area of computer ethics
I. Sherry used a computer and network at her work place to download a movie file.	
II. Chan tries to access other students' information from the college database. The information is only accessible by the academic department of the college.	

- b. Linda received an email that made her feel happy. She wants to reply to the email and express her feelings. State **two (2) netiquette rules** she can follow when replying to the email.

[2 marks]

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6. System Development Life Cycle (SDLC) is a structured process that enables the production of high-quality, low-cost software, in the shortest possible production time.

- a. Identify the phase and the suitable deliverables for that phase based on the scenario given below.

[4 marks]

Scenario	SDLC Phase	Deliverable
"I interviewed some of the employees in the Financing Department in Company ABC to find out how their current system works."		
"For the time being, the new system will be used by our headquarters. Other branches will start using the system early 2025."		

- b. Explain **one (1)** major activity in the SDLC phase given below.

[4 marks]

SDLC Phase	Major Activity
Planning	
Support and Security	

END OF QUESTION PAPER