

SECTION B: 70 MARKS**BAHAGIAN B: 70 MARKAH****QUESTION 1****SOALAN 1**CLO1
C1

- a. State **FOUR (4)** basic requirements of a reliable network.
Nyatakan EMPAT (4) keperluan asas rangkaian yang boleh dipercayai.

[2 marks]

[2 markah]

CLO1
C2

- b. Give **TWO (2)** characteristics of Digital Subscriber Line (DSL) and Dial-up telephone in Small Office/ Home Office (SOHO) connection.
Berikan DUA (2) ciri-ciri a 'Digital Subscriber Line (DSL)' dan telefon 'Dial-up' dalam sambungan 'Small Office/ Home Office (SOHO)'.

[2 marks]

[2 markah]

CLO1
C2

- c. Describe the **TWO (2)** common networking model standards.
Terangkan DUA (2) piawai model rangkaian yang selalu digunakan.

[3 marks]

[3 markah]

CLO1
C2

- d. Explain **TWO (2)** benefits of using a layered model.
Terangkan DUA (2) faedah menggunakan model berlapis.

[3 marks]

[3 markah]

CLO1
C1

- e. Describe **TWO (2)** purposes of physical layer in OSI Model.
*Terangkan **DUA (2)** tujuan lapisan fizikal dalam Model OSI.*

[2 marks]
[2 markah]

CLO1
C2

f.

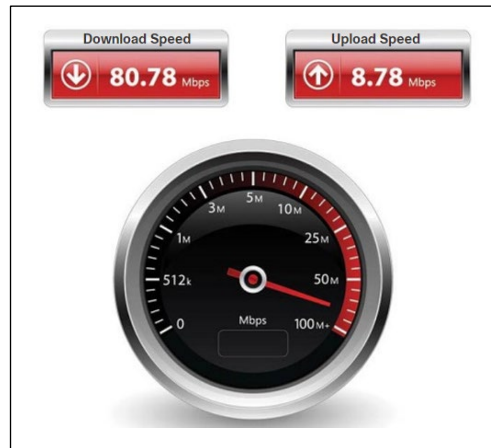


Figure B1 (f) / Rajah B1(f)

Figure B1 (f) shows one of the methods used to measure the quality of bandwidth. Differentiate between throughput and goodput.

Rajah B1 (f) menunjukkan salah satu kaedah yang digunakan untuk mengukur kualiti lebar jalur. Bezakan antara 'throughput' dan 'goodput'.

[3 marks]
[3 markah]

CLO1
C2

- g. Explain **TWO (2)** advantages of fiber optic cable over other media.
*Terangkan **DUA (2)** kelebihan kabel gentian optik berbanding media lain.*

[3 marks]
[3 markah]

- CLO1
C1
- h. State **TWO (2)** types of copper cable.
*Nyatakan **DUA (2)** jenis kabel tembaga.*
- [2 marks]
[2 markah]
- CLO1
C2
- i. Data transmission using this medium via electromagnetic signals representing binary digits using radio or microwave frequencies. Describe **TWO (2)** limitations of using this media in data transmission.
*Penghantaran data menggunakan media ini melalui isyarat elektromagnet yang mewakili digit binari menggunakan frekuensi radio atau gelombang mikro. Jelaskan **DUA (2)** batasan penggunaan media ini dalam penghantaran data.*
- [4 marks]
[4 markah]
- CLO1
C2
- j. Explain **TWO (2)** functions of the data link layer.
*Terangkan **DUA (2)** fungsi bingkai pautan data.*
- [3 marks]
[3 markah]
- CLO1
C2
- k. Explain **TWO (2)** basic functions of Address Resolution Protocol (ARP).
*Jelaskan **DUA (2)** fungsi asas 'Address Resolution Protocol (ARP)'.*
- [3 marks]
[3 markah]

QUESTION 2**SOALAN 2**CLO1
C1

- a. State **THREE (3)** methods used by IPV4 to communicate.
*Nyatakan **TIGA (3)** kaedah yang digunakan oleh IPV4 untuk berkomunikasi.*

[3 marks]

[3 markah]

IP Address: 10.82.1.16 Subnet Mask: 255.255.255.0
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CLO1
C2

- b. Based on the information, identify the network address.
Berdasarkan maklumat, kenal pasti alamat rangkaian.

[2 marks]

[2 markah]

CLO1
C2

- c. Convert the following binary to decimal numbering systems:
Tukarkan sistem penomboran binari berikut kepada perpuluhan:

- i. 00011011
- ii. 10101010
- iii. 10000001

[3 marks]

[3 markah]

CLO1
C2

- d. Identify the first and second usable IP address and subnet mask for a LAN using IP address 172.16.40.0/24.
Kenal pasti alamat IP pertama dan kedua serta subnet mask untuk Rangkaian Kawasan Setempat (LAN) dengan menggunakan alamat IP 172.16.40.0/24.

Subnet mask / *'Subnet mask'*:

First usable / *Pertama boleh diguna:*

Second Usable / *Kedua boleh diguna:*

[3 marks]

[3 markah]

CLO1
C2

- e. Based on the given IP address 172.16.10.22 and subnet mask 255.255.255.240, identify the following information with the steps to get the answer:

Berdasarkan alamat IP yang diberikan 172.16.10.22 dan subnet mask 255.255.255.240, kenal pasti maklumat yang berikut beserta jalan kira untuk mendapatkan jawapan:

- i. Subnet IP address / *Alamat IP subnet*
- ii. Broadcast IP address / *Alamat IP siaran*

[4 marks]

[4 markah]

CLO1
C2

- f.

To display "Unauthorized users are prohibited"
Untuk memaparkan "Unauthorized users are prohibited"

Express the above message in IOS command line interface (CLI) syntax command.

Nyatakan mesej di atas dalam sintaks arahan antaramuka baris arahan (CLI) IOS.

[2 marks]

[2 markah]

- CLO1
C2
- g. Rewrite an appropriate command to set up “**mainadmin**” as the secret password.
Tulis semula arahan yang sesuai untuk menetapkan "mainadmin" sebagai kata laluan rahsia.
- [2 marks]
[2 markah]
- CLO1
C2
- h. Explain **TWO (2)** benefits of Wireless network.
Terangkan DUA (2) faedah rangkaian tanpa wayar.
- [4 marks]
[4 markah]
- CLO1
C2
- i. Describe **ONE (1)** of the wireless topology modes.
Jelaskan SATU (1) daripada mod topologi tanpa wayar.
- [2 marks]
[2 markah]

QUESTION 3**SOALAN 3**CLO1
C2

- a. Explain the **TWO (2)** protocols that involved in the transport layer with the examples of their applications.

Terangkan DUA (2) protokol yang terlibat dalam lapisan pengangkutan berserta contoh aplikasi.

[6 marks]

[6 markah]

CLO1
C2

- b. Describe **TWO (2)** functions of the three-way handshake in transport layer.

Jelaskan DUA (2) fungsi jabat tangan tiga hala dalam lapisan pengangkutan.

[3 marks]

[3 markah]

CLO1
C2

- c. Simple Mail Transfer Protocol (SMTP), Post Office Protocol (POP) and Internet Message Access Protocol (IMAP) are the examples of email protocols used in application layer.

'Simple Mail Transfer Protocol (SMTP)', 'Post Office Protocol (POP)' and 'Internet Message Access Protocol (IMAP)' merupakan contoh protocol e-mel yang digunakan dalam lapisan aplikasi.

- i) Explain the Simple Mail Transfer Protocol (SMTP) process when a client sends email.

Terangkan proses 'Simple Mail Transfer Protokol (SMTP)' apabila pelanggan menghantar e-mel.

[4 marks]

[4 markah]

- ii) Differentiate the use of Simple Mail Transfer Protocol (SMTP) and Post Office Protocol (POP) operation in email protocol.

Bezakan antara 'Simple Mail Transfer Protokol (SMTP)' dan operasi 'Post Office Protocol (POP)' dalam protokol e-mel.

[2 marks]

[2 markah]

END OF QUESTIONS**SOALAN TAMAT**