

9

SULIT



BAHAGIAN PEPERIKSAAN DAN PENILAIAN  
JABATAN PENDIDIKAN POLITEKNIK  
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN TEKNOLOGI MAKLUMAT & KOMUNIKASI

PEPERIKSAAN AKHIR

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DFN5013 : BASIC ROUTING TECHNOLOGY

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TARIKH : 03 NOVEMBER 2017  
MASA : 8.30 PAGI - 10.30 PAGI (2 JAM)

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Kertas ini mengandungi DUA PULUH TUJUH (27) halaman bercetak.

Bahagian A: Objektif (30 soalan)

Bahagian B: Struktur (2 soalan)

Dokumen sokongan yang disertakan : Tiada

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JANGAN BUKA KERTAS SOALANINI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT



**SECTION A : 45 MARKS**  
**BAHAGIAN A : 45 MARKAH**

**INSTRUCTION:**

This section consists of THIRTY (30) objective questions. Mark your answers in the OMR form provided.

**ARAHAN :**

*Bahagian ini mengandungi TIGA PULUH (30) soalan objektif. Tandakan jawapan anda di dalam borang OMR yang disediakan.*

CLO1  
C1

1. Select the distance vector routing protocols.

*Pilih protokol 'distance vector routing':*

- A. RIP
- B. BGP
- C. OSPF
- D. IS-IS

CLO1  
C1

2. What is algorithm used by OSPF to process the neighbor and topology tables.

*Apakah algoritma yang digunakan oleh OSPF untuk memproses jadual jiran dan topologi.*

- A. Diffusing Update Algorithm (DUAL).
- B. SPF algorithm.
- C. Bellman-Ford algorithm.
- D. Distance-Vector algorithm.

CLO1

C1

3. Defined the function of security features in OSPF.

A. Support MD5 authentication.

*Menyokong pengesahan MD5.*

B. Quickly propagate network changes.

*Cepat menyebarkan perubahan rangkaian.*

C. Support VLSM and CIDR.

*Menyokong VLSM dan CIDR.*

D. Calculate the SPF cost.

*Mengira kos SPF.*

CLO1

C2

4. Identify which would be more beneficial to use static routing protocols instead of dynamic routing protocols.

*Kenalpasti manakah lebih bermanfaat menggunakan protokol 'routing' statik berbanding protokol 'routing' dinamik.*

A. On a network where dynamic updates would cause a security risk.

*pada rangkaian di mana kemas kini dinamik akan menyebabkan risiko keselamatan*

B. On a network that is expected to continually grow in size.

*pada rangkaian yang dijangka akan terus berkembang*

C. On a network that has a large amount of redundant paths.

*pada rangkaian yang mempunyai banyak laluan bertindih*

D. On a network that commonly experiences link failures.

*pada rangkaian yang biasanya mengalami kegagalan pautan*

CLO1

C2

5. Give the route that would be created when a router is activated and configured with OSPF.

*Berikan laluan yang akan dibuat apabila penghala diaktifkan dan dikonfigurasikan dengan OSPF.*

A. D 10.16.0.0/24 [90/3256] via 192.168.6.9

B. C 192.168.0.0/24 is directly connected, FastEthernet 0/0

C. S 192.168.1.0/24 is directly connected, FastEthernet 0/1

D. O 172.16.0.0/16 [110/65] via 192.168.5.1

CLO1  
C3

6.

```
R1# show ip route
<output omitted>

Gateway of last resort is not set

    172.16.0.0/16 is variably subnetted, 7 subnets, 3 masks
R      172.16.0.0/26 [120/1] via 192.168.1.1, 00:00:24, Serial0/0/0
D      172.16.0.64/26 [90/2170112] via 192.168.1.6, 00:05:56, Serial0/0/1
R      172.16.0.128/26 [120/1] via 192.168.1.1, 00:00:24, Serial0/0/0
C      172.16.0.192/27 is directly connected, GigabitEthernet0/0
L      172.16.0.193/32 is directly connected, GigabitEthernet0/0
C      172.16.0.224/27 is directly connected, GigabitEthernet0/1
L      172.16.0.225/32 is directly connected, GigabitEthernet0/1
        192.168.1.0/24 is variably subnetted, 4 subnets, 2 masks
C      192.168.1.0/30 is directly connected, Serial0/0/0
L      192.168.1.2/32 is directly connected, Serial0/0/0
C      192.168.1.4/30 is directly connected, Serial0/0/1
L      192.168.1.5/32 is directly connected, Serial0/0/1
        192.168.2.0/30 is subnetted, 1 subnets
R      192.168.2.0/30 [120/1] via 192.168.1.1, 00:00:24, Serial0/0/0
R1#
```

Diagram A1 / Rajah A1

Refer to Diagram A1. Interpret the diagram and choose the exit interface to forward a data packet with the destination IP address 172.16.0.66.

*Rujuk kepada Rajah A1. Tafsirkan rajah tersebut dan pilih antara muka keluar untuk menghantar satu paket data dengan alamat IP destinasi 172.16.0.66.*

- A. Serial0/0/0
- B. Serial0/0/1
- C. GigabitEthernet0/0
- D. GigabitEthernet0/1

CLO2  
C1

7. Select the purpose of the network command when configuring RIPv2 as the routing protocol.

*Pilih tujuan arahan rangkaian apabila mengkonfigurasi RIPv2 sebagai protokol 'routing'.*

- A. Enables RIP on all interfaces that belong to a specific network.  
*Membolehkan RIP pada semua antara muka yang dimiliki oleh rangkaian tertentu.*
- B. It specifies the remote network that now can be reached.  
*Ia menentukan rangkaian jauh yang kini boleh dicapai.*
- C. It immediately advertises the specified network to neighbor routers with a classful mask.  
*Ia segera mengiklankan rangkaian yang ditentukan kepada router jiran dengan 'classful mask'.*
- D. It populates the routing table with the network entry.  
*Ia mengisi jadual 'routing' dengan kemasukan rangkaian.*

CLO2  
C2

8. While configuring RIPv2 on an enterprise network, an engineer enter the "network 192.168.10.0" command into router configuration mode. Give the CORRECT result after entering this command.

*Semasa mengkonfigurasi RIPv2 pada rangkaian perusahaan, seorang jurutera memasukkan arahan "network 192.168.10.0" ke mod konfigurasi 'router'. Berikan keputusan yang BENAR selepas memasukkan arahan ini.*

- A. The interface of the 192.168.10.0 network is sending version 1 and version 2 updates.  
*Antara muka rangkaian 192.168.10.0 menghantar kemaskini versi 1 dan versi 2.*
- B. The interface of the 192.168.10.0 network is receiving version 1 and version 2 updates.  
*Antara muka rangkaian 192.168.10.0 menerima kemaskini versi 1 dan versi 2.*
- C. The interface of the 192.168.10.0 network is sending only version 2 updates.  
*Antara muka rangkaian 192.168.10.0 hanya menghantar kemas kini versi 2.*
- D. The interface of the 192.168.10.0 network is sending RIP hello messages.  
*Antara muka rangkaian 192.168.10.0 menghantar mesej hello RIP.*

CLO2  
C2

9. Give the command to enable OSPF in router R1 with the process-id value 10.

*Berikan arahan untuk membolehkan OSPF dalam 'router' R1 dengan nilai proses-id 10.*

- A. R1(config) #router 10 ospf
- B. R1(config) #router ospf 10
- C. R1(config) # ospf router 10
- D. R1(config) #router 10 ospf

CLO2  
C3

10.

```
R1# show ipv6 route
<output omitted>

D 2001:DB8:ACAD:3::/64 [90/2681856]
  via FE80::3, Serial0/0/0
D 2001:DB8:ACAD:4::/64 [90/2681856]
  via FE80::4, Serial0/0/1
D 2001:DB8:ACAD:5::/64 [90/3193856]
  via FE80::5, Serial0/0/0
C 2001:DB8:ACAD:A::/64 [0/0]
  via ::, GigabitEthernet0/0
L 2001:DB8:ACAD:A::1/128 [0/0]
  via ::, GigabitEthernet0/0
C 2001:DB8:ACAD:B::/64 [0/0]
  via ::, GigabitEthernet0/1
L 2001:DB8:ACAD:B::1/128 [0/0]
  via ::, GigabitEthernet0/1
D 2001:DB8:ACAD:C::/64 [90/2682112]
  via FE80::3, Serial0/0/0
D 2001:DB8:ACAD:D::/64 [90/2170112]
  via FE80::5, Serial0/0/1
D 2001:DB8:ACAD:E::/64 [90/2682112]
  via FE80::5, Serial0/0/1
```

Diagram A2 / Rajah A2

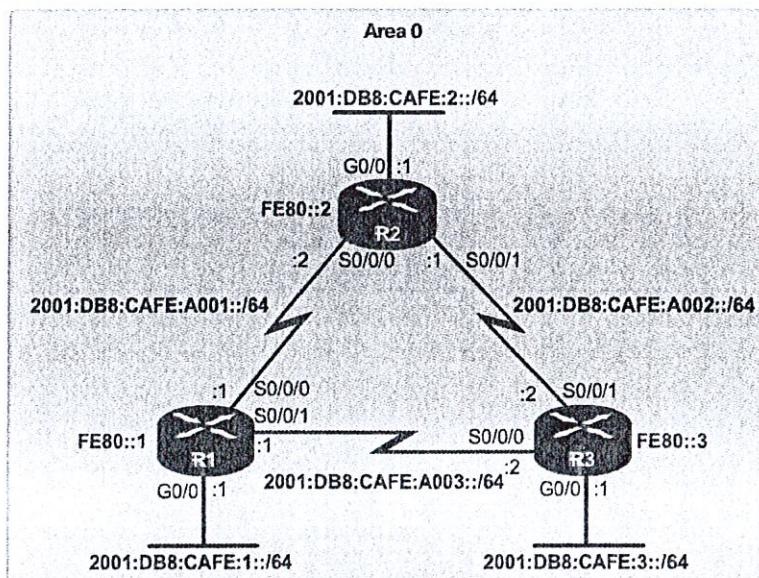
Refer to the Diagram A2. Diagram 2 shows the partial output of show ipv6 route command. Interpret the diagram and select the correct metric to forward a data packet with the IPv6 destination address 2001:DB8:ACAD:E:240:BFF:FED4:9DD2.

*Rujuk kepada Rajah A2. Rajah A2 menunjukkan sebahagian daripada output untuk dari arahan "show ipv6 route". Fahamkan gambarajah tersebut dan pilih metrik yang betul untuk menghantar paket data dengan alamat destinasi IPv6 2001: DB8: ACAD: E: 240: BFF: FED4: 9DD2.*

- A. 0
- B. 2682112
- C. 3193856
- D. 2681856

CLO2  
C3

11.



The FE80 address represents the link-local address assigned to each router.

Diagram A3 / Rajah A3

Refer to Diagram 3. Demonstrate the CORRECT command to assign Link-local address to GigabitEthernet 0/0 interface of router R1.

Rujuk Rajah 3. Demonstrasikan arahan yang BENAR untuk menetapkan alamat 'Link-local' ke antara muka GigabitEthernet 0/0 pada router R1.

- A. R1 (config)# interface GigabitEthernet 0/0  
R1 (config-if)# link-local ipv6 address fe80::1  
R1 (config-if)# exit
- B. R1 (config)# interface GigabitEthernet 0/0  
R1 (config-if)# address ipv6 fe80::1 link-local  
R1 (config-if)# exit
- C. R1 (config)# interface GigabitEthernet 0/0  
R1 (config-if)# ipv6 address fe80::1 link-local  
R1 (config-if)# exit
- D. R1 (config)# interface GigabitEthernet 0/0  
R1 (config-if)# fe80::1 link-local ipv6 address  
R1 (config-if)# exit

CLO1  
C1

12. Select TWO (2) types of IPv4 Access Control Lists (ACLs).

*Pilih DUA (2) jenis 'Access Control Lists (ACLs)' untuk IPv4.*

- i. Standard
- ii. Extended
- iii. Multiple
- iv. Extra

A. i & ii

B. ii & iii

C. iii & iv

D. ii & iv

CLO1  
C1

13. Select the required address in the command syntax of a standard ACL.

*Pilih alamat yang diperlukan dalam sintaks arahan standard ACL.*

- A. Source MAC address  
*Alamat MAC sumber*
- B. Destination MAC address  
*Alamat MAC destinasi*
- C. Source IP address  
*Alamat IP destinasi*
- D. Destination IP address  
*Alamat IP destinasi*

CLO1  
C2

14. Give THREE (3) statements that are generally considered to be best practices in the placement of ACLs.

*Berikan TIGA (3) kenyataan yang dianggap sebagai amalan terbaik dalam penempatan ACL.*

- i. Place standard ACLs close to the source IP address.  
*Letakkan standard ACLs dekat dengan alamat IP sumber.*
- ii. Place extended ACLs close to the destination IP address.  
*Letakkan 'extended' ACL dekat dengan alamat IP destinasi.*
- iii. Place extended ACLs close to the source IP address.  
*Letakkan 'extended' ACL dekat dengan alamat IP sumber.*
- iv. Place standard ACLs close to the destination IP address.  
*Letakkan standard ACLs dekat dengan alamat IP destinasi.*

- A. i & ii  
B. ii & iii  
C. iii & iv  
D. ii & iv

- CLO2  
C2      15. Summarize the statement that describes the difference between the operation of inbound and outbound ACLs.

*Simpulkan pernyataan yang menerangkan perbezaan antara operasi 'inbound ACLs' dan 'outbound ACLs'.*

- A. Inbound ACLs can be used to filter packets with multiple criteria.  
*'Inbound ACLs' boleh digunakan untuk menapis paket dengan pelbagai kriteria.*
- B. Inbound ACLs can be used in both routers and switches but outbound ACLs can be used only on routers.  
*'Inbound ACLs' masuk boleh digunakan dalam kedua-dua penghala dan suis tetapi 'Outbound ACLs' boleh digunakan hanya pada 'router'.*
- C. Inbound ACLs are processed before the packets are routed while outbound ACLs are processed after the routing is completed.  
*Inbound ACL diproses sebelum paket dialihkan tetapi 'Outbound ACLs' diproses selepas routing selesai.*
- D. On a network interface, more than one inbound ACL can be configured however only one outbound ACL can be configured.  
*Di antara muka rangkaian, lebih daripada satu ACLs yang masuk boleh dikonfigurasi tetapi hanya satu 'Outbound ACLs' boleh dikonfigurasikan.*

- CLO2  
C3      16. A network administrator wants to permit all hosts from the 172.18.15.0/24 network. Choose the wildcard mask for this ACL statement.

*Seorang pentadbir rangkaian mahu membenarkan semua 'host' dari rangkaian 172.18.15.0/24. Pilih 'wildcard mask' untuk pernyataan ACL ini.*

- A. 0.0.0.255
- B. 0.255.255.255
- C. 0.0.0.0
- D. 0.0.255.255

CLO2  
C1

17. Identify which router the ‘show access-lists’ command should be executed.

*Kenalpasti router manakah arahan ‘show access-lists’ patut dilaksanakan.*

- A. On the router that routes the packet referenced in the ACL to the final destination network.

*Di ‘router’ yang mengarahkan paket yang dirujuk di ACL ke rangkaian destinasi akhir.*

- B. On the router that routes the packet referenced in the ACL from the source network.

*Di ‘router’ yang mengarahkan paket yang dirujuk di ACL dari rangkaian sumber.*

- C. On any router through which the packet referenced in the ACL travels.

*Di mana-mana ‘router’ di mana paket yang dirujuk dalam perjalanan ACL.*

- D. On the router that has the ACL configured.

*Pada ‘router’ yang telah dikonfigurasi dengan ACL.*

CLO2  
C2

18. Give the single access list statement that matches all of the following networks.

*Berikan pernyataan senarai akses tunggal yang sepadan dengan semua rangkaian berikut.*

192.168.16.0

192.168.17.0

192.168.18.0

192.168.19.0

- A. access-list 10 permits 192.168.16.0 0.0.3.255

- B. access-list 10 permit 192.168.16.0 0.0.0.255

- C. access-list 10 permit 192.168.16.0 0.0.15.255

- D. access-list 10 permit 192.168.0.0 0.0.15.255

CLO2  
C2

19. A network administrator needs to configure a standard ACL so that only the host of the administrator with the IP address 192.168.15.23 can access the virtual terminal of the main router. Summarize TWO (2) configuration commands to achieve the task.

*Pentadbir rangkaian perlu mengkonfigurasi satu ACL standard supaya hanya host pentadbir dengan alamat IP 192.168.15.23 boleh mengakses terminal maya utama router. Simpulkan DUA (2) arahan konfigurasi untuk memenuhi tugas tersebut.*

- i. Router1(config)# access-list 10 permit host 192.168.15.23
  - ii. Router1(config)# access-list 10 permit 192.168.15.23 0.0.0.0
  - iii. Router1(config)# access-list 10 permit 192.168.15.23 0.0.0.255
  - iv. Router1(config)# access-list 10 permit 192.168.15.23 255.255.255.0
  - v. Router1(config)# access-list 10 permit 192.168.15.23 255.255.255.255
- 
- A. i & ii
  - B. ii & iii
  - C. iii & iv
  - D. ii & iv

CLO1  
C1

20. Identify the benefits of NAT.

*Kenal pasti manfaat NAT.*

- A. It saves public IP addresses  
*Ia menjimatkan alamat IP awam*
- B. It increases routing performance  
*Ia meningkatkan prestasi penghalaan*
- C. It makes troubleshooting routing issues easier  
*Ia menjadikan masalah penghalaan penyelesaian masalah lebih mudah*
- D. It makes tunneling with IPsec less complicated  
*Ia menjadikan terowong dengan IPsec kurang rumit*

- CLO1 21. Determine the group of public IPv4 addresses used on NAT-enabled router.

C2

*Tentukan kumpulan alamat IPv4 awam yang digunakan pada router NAT-enabled.*

- A. Inside local addresses
- B. Inside global addresses
- C. Outside local addresses
- D. Outside global addresses

CLO1  
C3

- 22.

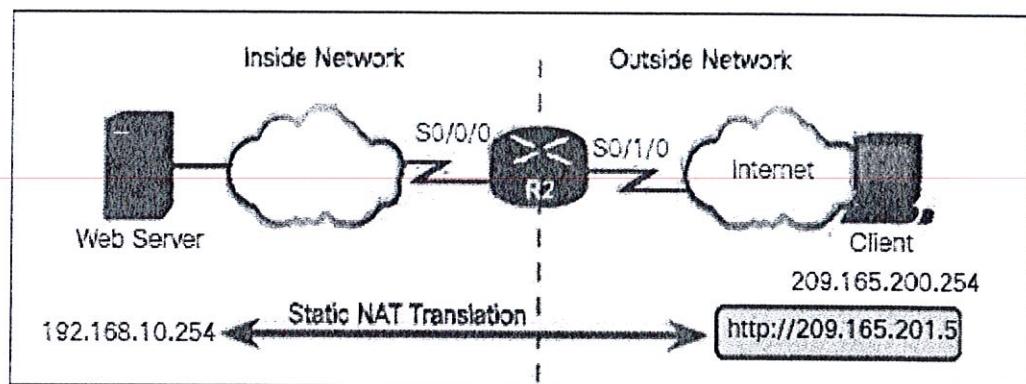


Diagram A4 / Rajah A4

Refer to Diagram A4. A technician is configuring R2 for static NAT to allow the client to access the web server. Choose the command to create a static NAT translation to map the Web Server inside address to its outside address.

*Rujuk kepada Rajah A4. Seorang juruteknik sedang mengkonfigurasi R2 untuk NAT statik bagi membolehkan pelanggan mengakses pelayan web. Pilih arahan untuk membuat terjemahan NAT statik untuk memetakan alamat pelayan Web ke alamat luarnya.*

- A. ip nat inside source static 192.168.10.254 209.165.201.5
- B. ip nat inside source static 209.165.201.5 192.168.10.254
- C. ip nat inside source static 209.165.200.254 192.168.10.254
- D. ip nat inside source static 192.168.10.254 209.165.200.254

CLO2  
C1

23. A network administrator wants to examine the active NAT translations on a border router. Which command would perform the task?

*Pentadbir rangkaian mahu memeriksa terjemahan NAT yang aktif pada router sempadan. Arahan apakah yang akan melaksanakan tugas itu?*

- A. Router# show ip nat statistics
- B. Router# clear ip nat translations
- C. Router# debug ip nat translations
- D. Router# show ip nat translations

CLO2  
C2

24.

```
R1# show ip nat translations
Pro Inside global           Inside local     Outside local      Outside global
tcp 209.165.200.225:1405 10.6.15.2:1405 209.165.202.141:80 209.165.202.141:80
tcp 209.165.200.225:1406 10.6.15.1:1406 198.51.100.3:80   198.51.100.3:80
```

Diagram A5 / Rajah A5

Determine the required steps to configure Port Address Translation (PAT).

*Tentukan langkah-langkah yang diperlukan untuk mengkonfigurasi Port Address Translation (PAT).*

- i. Define a pool of global addresses to be used for overload translation.  
*Tentukan satu kumpulan alamat global yang akan digunakan untuk terjemahan yang terlalu banyak.*
- ii. Create a standard access list to define applications that should be translated.  
*Buat access list standard untuk menentukan aplikasi yang perlu diterjemahkan.*
- iii. Define the range of source ports to be used.  
*Tentukan pelbagai port sumber untuk digunakan.*
- iv. Identify the hello and interval timers to match the adjacent neighbor router.  
*Kenal pasti hello dan selang masa untuk menyesuaikan router jiran bersebelahan.*

- A. i & ii
- B. i & iii
- C. i & iv
- D. ii & iii

CLO1 C1 25. Identify the DHCPv4 address allocation method that assigns IPv4 addresses for a limited lease period.

*Kenal pasti kaedah peruntukan alamat DHCPv4 yang memberikan alamat IPv4 untuk tempoh pajakan terhad.*

- A. Manual allocation  
*Peruntukan manual*
- B. Pre-allocation  
*Pra-peruntukan*
- C. Automatic allocation  
*Peruntukan automatik*
- D. Dynamic allocation  
*Peruntukan dinamik*

CLO1 C2 26. A company uses the SLAAC method to configure IPv6 addresses for the employee workstations. Which address will a client use as its default gateway?

*Sebuah syarikat menggunakan kaedah SLAAC untuk mengkonfigurasi alamat IPv6 untuk stesen kerja pekerja. Alamat mana yang akan digunakan oleh pelanggan sebagai default gateway?*

- A. The all-routers multicast address  
*Semua alamat router multicast*
- B. The link-local address of the router interface that is attached to the network  
*Alamat link-local antara muka router yang disambungkan pada rangkaian*

- C. The unique local address of the router interface that is attached to the network

*Alamat tempatan yang unik antara muka router yang disambungkan pada rangkaian*

- D. The global unicast address of the router interface that is attached to the network

*Alamat unicast global antara muka router yang dilampirkan pada rangkaian*

CLO1  
C3

27.

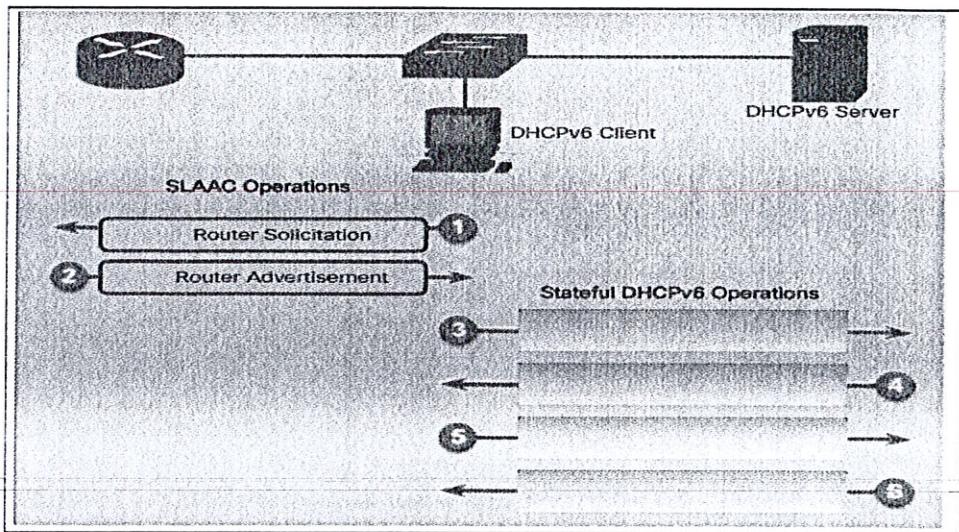


Diagram A3 / Rajah A3

Refer to Diagram A3, arrange the DHCPv6 lease origination to its appropriate order steps.

*Rujuk Rajah A3, susunkan langkah-langkah proses mesej lease origination DHCPv6 dalam turutan yang bersesuaian.*

- DHCP Acknowledgement
  - DHCP Discover
  - DCHP Request
  - DHCP Offer
- A. i, ii, iii & iv  
 B. i, iii, ii & iv  
 C. ii, iv, iii, & i  
 D. ii, iii, iv, & i

CLO1  
C3

28. A new Ethernet switch has been installed on a LAN. A network engineer has identified hosts on the LAN are not being assigned an IPv4 address from a DHCP server. Arrange the correct order of the troubleshooting task that should the network engineer take to solve the problem.

Sebuah suis Ethernet baru telah dipasang di sebuah LAN. Jurutera rangkaian telah mengenalpasti hos-hos dalam rangkaian LAN itu tidak diberikan alamat IPv4 dari pelayan DHC. Susun tugas penyelesaian masalah yang perlu jurutera rangkaian ambil untuk menyelesaikan masalah, dalam susunan yang betul .

A: Verify physical connectivity

A: Sahkan penyambungan fizikal

B: Test with a static IPv4 address

B: Uji dengan alamat IPv4 statik

C: Test from the same subnet or VLAN

C: Ujian dari subnet atau VLAN yang sama

D: Resolve address conflicts

D: Menyelesaikan konflik alamat

E: Verify switch port configuration

Tugas Menyelesaikan Masalah E: Sahkan konfigurasi port suis

- A. D, A, B, E, and C
- B. B, D, C, A and E
- C. D, B, E, C and A
- D. C, D, B A and E

CLO2  
C2

29. An administrator wants to configure hosts to automatically assign IPv6 addresses to themselves by the use of Router Advertisement messages, but also to obtain the DNS server address from a DHCPv6 server. Which address assignment method should be configured?

*Seorang pentadbir mahu mengkonfigurasi hos untuk memberikan alamat IPv6 secara automatik kepada mereka dengan menggunakan mesaj Router Advertisement, tetapi juga untuk mendapatkan alamat pelayan DNS dari pelayan DHCPv6. Kaedah tugasan alamat yang manakah harus dikonfigurasi?*

- A. SLAAC
- B. RA and EUI-64
- C. stateful DHCPv6
- D. stateless DHCPv6

CLO2  
C3

30. A company uses the method SLAAC to configure IPv6 addresses for the workstations of the employees. A network administrator configured the IPv6 address on the LAN interface of the router. What should be configured on the router that is attached to the LAN segment for the workstations to obtain the prefix and prefix length information?

*Sebuah syarikat menggunakan kaedah SLAAC untuk mengkonfigurasi alamat IPv6 untuk stesen kerja pekerja. Pentadbir rangkaian mengkonfigurasi alamat IPv6 pada antara muka LAN router. Apa yang perlu dikonfigurasi pada router yang disambungkan pada segmen LAN di stesen kerja untuk mendapatkan maklumat prefix and prefix length panjang?*

- A. R1(config-if)# ipv6 enable
- B. R1(config)# ipv6 unicast-routing
- C. R1(config-if)# ipv6 nd other-config-flag
- D. R1(config)# ipv6 dhcp pool <name of the pool

**SECTION B : 55 MARKS**  
**BAHAGIAN B : 55 MARKAH**

**INSTRUCTION:**

This section consists of TWO (2) structured questions. Answer ALL questions.

**ARAHAH:**

Bahagian ini mengandungi DUA (2) soalan berstruktur. Jawab semua soalan.

**QUESTION 1**  
**SOALAN 1**

CLO1  
C1

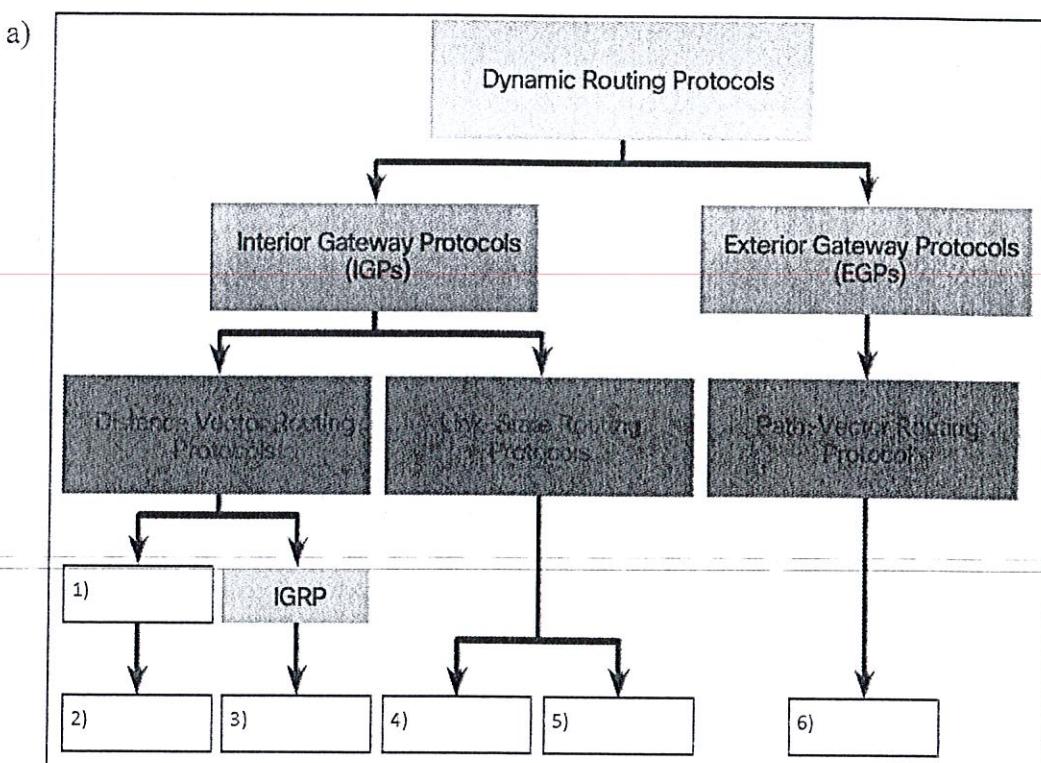


Diagram B1 / Rajah B1

Refer to Diagram B1. Write the CORRECT protocols into the Dynamic Routing Protocols fields provided.

Rujuk Rajah B1. Tulis protokol yang BENAR ke dalam medan Protokol Dinamik 'Routing' yang disediakan.

[6 marks]

[6 markah]

CLO2  
C1

b)

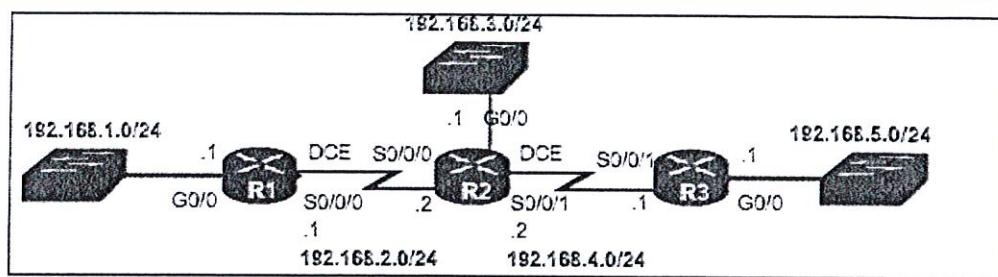


Diagram B2 / Rajah B2

Refer to Diagram B2. Write TWO (2) network addresses that need to be advertised by router R2 in RIP configuration.

*Rujuk Rajah B2. Tulis DUA (2) alamat rangkaian yang perlu disebarluaskan oleh 'router' R2 di dalam konfigurasi RIP.*

R2(config)# router rip

R2(config -router)#network \_\_\_\_\_

R2(config -router)# network \_\_\_\_\_

[4 marks]

[4 markah]

CLO1  
C2

c) Distinguish TWO (2) advantages of Static Routing and Dynamic Routing.

*Bezakan DUA (2) kelebihan 'Routing' Statik dan 'Routing' Dinamik.*

[4 marks]

[4 markah]

CLO2  
C2

d)

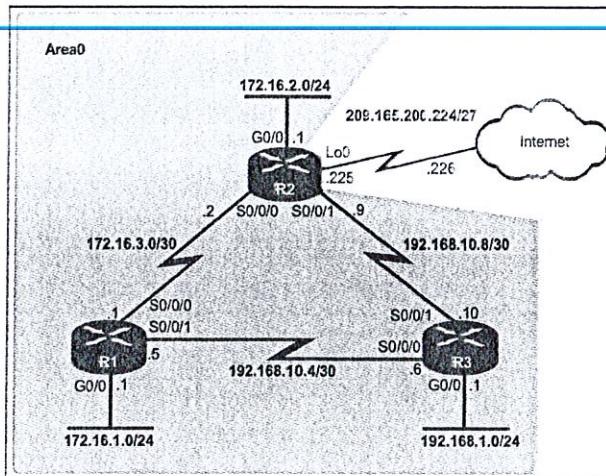


Diagram B3

Refer to Diagram B3 for question d(i) and d(ii). Write the appropriate commands to configure passive interface on router R2 and Router R3.

*Rujuk Rajah B3 untuk soalan d(i) dan d(ii). Tulis arahan yang sesuai untuk mengkonfigurasi antara muka pasif pada ‘router’ R2 dan ‘router’ R3.*

- Write a command to configure the *Gigabitethernet 0/0* interface as passive on router R2.

*Tuliskan arahan untuk mengkonfigur antara muka ‘Gigabitethernet 0/0’ sebagai pasif pada ‘router’ R2.*

- Write a command to configure all interface as passive on router R3.

*Tuliskan arahan untuk mengkonfigur semua antara muka sebagai pasif pada ‘router’ R3.*

[4 marks]

[4 markah]

CLO1  
C3

e)

```
R1# show ipv6 protocols
IPv6 Routing Protocol is "connected"
IPv6 Routing Protocol is "ND"
IPv6 Routing Protocol is "rip RIP-AS"
Interfaces:
  Serial0/0/0
  GigabitEthernet0/0
Redistribution:
  None
R1#
```

The output of the 'show ipv6 protocols' command is displayed in a terminal window. Two specific lines are highlighted with circles containing the numbers 1 and 2 respectively:

- Line 1: 'IPv6 Routing Protocol is "connected"
- Line 2: 'IPv6 Routing Protocol is "ND"

Diagram B4 / Rajah B4

Refer to Diagram B4. An administrator issued the `show ipv6 protocols` command on router R1. Interpret the output that is highlighted and marked with number 1 and number 2.

*Lihat Rajah B4. Seorang pentadbir mengeluarkan arahan 'show ipv6 protocols' pada 'router' R1. Terangkan output yang di 'highlight' dan ditandai dengan nombor 1 dan nombor 2.*

[2 marks]

[2 markah]

CLO1  
C1

- f) Define Access Control Lists (ACLs).

*Definisikan 'Access Control Lists' (ACLs).*

[2 marks]

[2 markah]

CLO1  
C2

- g) Describe how ACLs can;

*Terangkan bagaimana ACL boleh;*

- Provide a basic level of security for network access.

*Menyediakan tahap asas keselamatan untuk akses rangkaian.*

- Filter traffic based on traffic type.

*Tapis trafik berdasarkan jenis lalu lintas.*

[4 marks]

[4 markah]

CLO2  
C2

h)

```
R1 (config)# access-list 10 permit host 192.168.10.10
```

Diagram B5 / Rajah B5

Refer to Diagram B5. Explain the meaning of the ACL statement in the Diagram B5.

*Rujuk Rajah B5. Terangkan maksud pernyataan ACL dalam Rajah B5.*

[5 marks]

[5 markah]

CLO2  
C2

- i) Create a statement that will permit a range of IPv4 addresses in a numbered ACL 10 that permits all IPv4 addresses in the network 192.168.10.0/24.

*Bina pernyataan yang akan membenarkan rangkaian alamat IPv4 dalam ACL 10 bernombor yang membenarkan semua alamat IPv4 dalam rangkaian 192.168.10.0/24.*

[4 marks]

[4 markah]

## QUESTION 2

## SOALAN 2

CLO1  
C1

a)

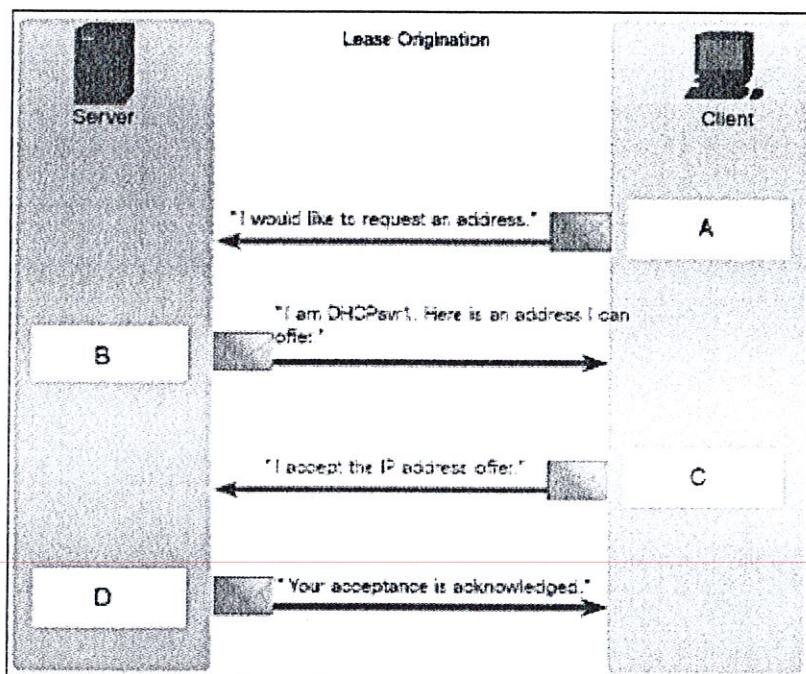


Diagram B6 / Rajah B6

What is the operation that works in client/server mode in Diagram B6?

Identify each of message in label A,B, C and D.

*Apakah operasi yang bekerja dalam mod 'client/server' dalam Rajah B6?*

*Kenalpasti setiap mesej yang berlabel A,B,C dan D.*

[2.5 marks]

[2.5 markah]

CLO2  
C1

b) What is the command to exclude specific addresses in DHCPv4?

*Apakah arahan untuk mengecualikan alamat tertentu dalam DHCPv4?*

[2 marks]

[2 markah]

- CLO1      c) A network engineer decided to configure stateless DHCPv6 on a router. Apply the steps he should take to configure a router as a DHCPv6 server.

*Jurutera rangkaian memutuskan untuk mengkonfigurasi DHCPv6 stateless pada sebuah 'router'. Terapkan langkah-langkah yang perlu diambil untuk mengkonfigurasi 'router' sebagai pelayan DHCPv6.*

[2.5 marks]

[2.5markah]

- CLO2  
C3

d)

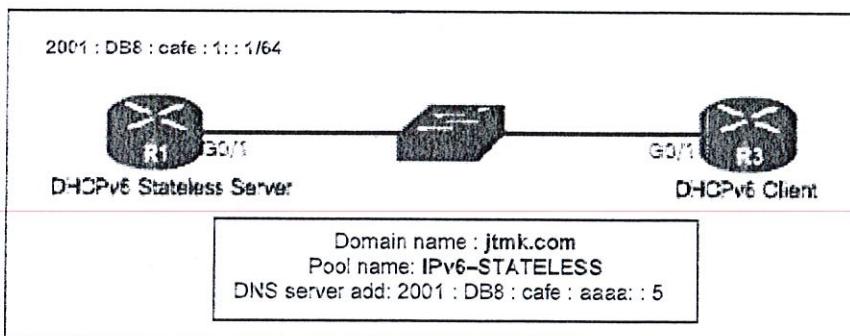


Diagram B7 / Rajah B7

Write command to configure the stateless DHCPv6 server based on Diagram B7. Your configuration should follow the step on (c).

*Tulis arahan untuk mengkonfigurasi pelayan DHCPv6 'stateless' berdasarkan Rajah B7. Konfigurasi anda harus mengikuti langkah pada (c).*

[3 marks]

[3markah]

- CLO1  
C2

- e) Explain the following NAT addresses terminology:

*Terangkan terminologi alamat NAT berikut:*

- i. Local address

*Alamat lokal*

- ii. Global address

*Alamat Global*

- iii. Inside address

*Alamat dalaman*

[3 marks]

[3markah]

i)

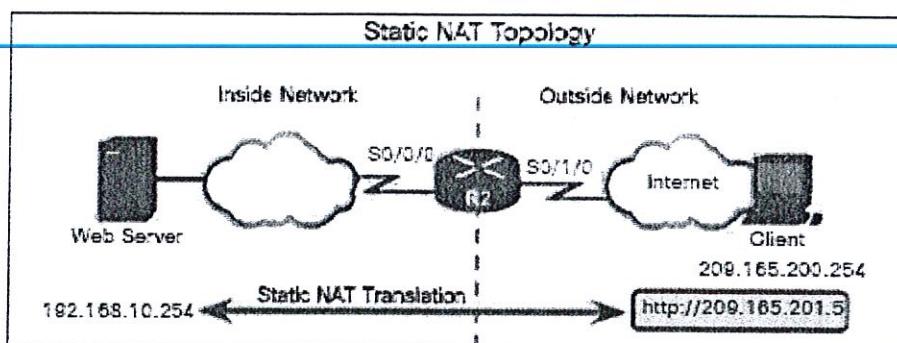


Diagram B8 / Rajah B8

Refer to Diagram B8. Classify and write the required address in table below.

*Rujuk Rajah B8. Klasifikasi dan tulis alamat yang diperlukan dalam jadual di bawah.*

**Static NAT Table/ Jadual NAT Statik**

Inside Global Address	Inside Local Address

[3 marks]

[3 markah]

CLO2  
C2

g)

```
R2(config)# ip nat pool NAT-POOL1 209.165.200.226
209.165.200.240 netmask 255.255.255.224
```

Identify the purpose of configuration command on R2 based on the output above.

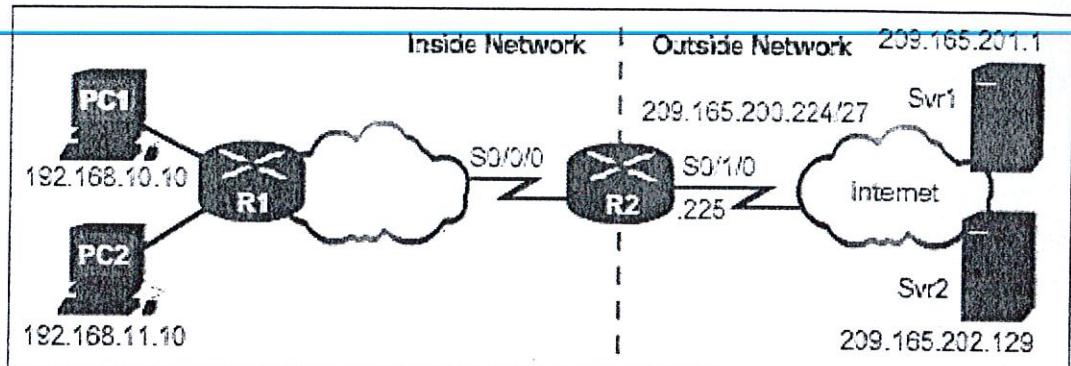
*Kenal pasti maksud arahan konfigurasi pada R2 berdasarkan kepada output di atas.*

[2 marks]

[2 markah]

CLO2  
C3

h)



Define a pool of public IPv4 addresses under the pool name NAT-POOL2.  
 R2 (config) # ip nat pool NAT-POOL2 209.165.200.226  
 209.165.200.240 netmask 255.255.255.224

Define which addresses are eligible to be translated.  
 R2 (config) # access-list 1 permit 192.168.0.0 0.0.255.255

Bind NAT-POOL2 with ACL 1.

R2 (config) #

?

Identify interface serial 0/0/0 as an inside NAT interface.  
 R2 (config) # interface Serial0/0/0  
 R2 (config-if) # ip nat inside

Diagram B9 / Rajah B9

Diagram B9 shows the configuration steps on NAT Overload. Write a configuration command to bind NAT-POOL2 with ACL1 as ? mark in the Diagram B9.

*Rajah B9 menunjukkan langkah-langkah konfigurasi pada NAT Overload.*

*Tulis arahan konfigurasi untuk mengikat NAT-POOL2 dengan ACL1 seperti pada tanda ? dalam Rajah B9.*

[2 marks]

[2 markah]

SOALAN TAMAT