SULIT

POLITEKNIK MALAYSIA

BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN MALAYSIA

JABATAN TEKNOLOGI MAKLUMAT & KOMUNIKASI

PEPERIKSAAN AKHIR

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DFN5013: BASIC ROUTING TECHNOLOGY

TARIKH : 03 NOVEMBER 2019
MASA : 2.30 PETANG - 4.30 PETANG (2 JAM)

Kertas ini mengandungi **DUA PULUH ENAM (26)** halaman bercetak.
Bahagian A: Objektif (30 soalan)
Bahagian B: Struktur (2 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

1C

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 protocol involved in link-state Routing Protocol.
Pilih protokol yang terlibat di dalam protokol routing link-state.

A. RIP

B. IGRP

C. OSPF

D. EIGRP

CLO1
C1

2. Identify the main component of dynamic routing protocols.
Kenalpasti komponen utama protokol routing dinamik

A. Algorithm
Algoritma.

B. Data mining
Data mining

C. Storage
Penyimpanan

D. Administrator
Pentadbir

CLO1
C2

3. Choose the primary use of dynamic routing
Pilih kegunaan utama routing dinamik

A. Accessing a single default route.
Mengakses laluan lalai tunggal.

B. Pass packet to a network with only one default route.
Menghantar paket ke rangkaian dengan hanya satu laluan lalai.

C. Provide ease of routing table maintenance in larger networks.
Memudahkan penyelenggaraan jadual routing dalam rangkaian yang lebih besar

D. When a router has only one other router to which it is connected or a stub route
Apabila router hanya mempunyai satu lagi router yang mana ia disambungkan atau laluan rintisan.

CLO1 C3

4. Choose the **CORRECT** effect when the command line at Figure A4 is done to the interface.
*Pilih kesan yang **BETUL** apabila baris arahan pada Rajah A4 diaturkan pada antaramuka berkenaan.*

```
R1(config-router)#passive-interface g0/0
R1(config-router)#end
```

Figure A4/*Rajah A4*

A. To protect user from unwanted breach, especially from hackers.
Melindungi pengguna daripada pencerobohan, terutamanya daripada para penggodam.

B. The interface will operate efficiently to maintain network routing stability.
Antaramuka tersebut akan beroperasi lebih cekap untuk menjaga kestabilan routing rangkaian.

C. To maintain network resources, so that routing capability may perform at best possible state.
Untuk mengekalkan sumber rangkaian, supaya keupayaan prestasi routing berfungsi dalam keadaan yang baik.

D. Upgrading the network capability from previous version in order to cater higher traffic.
Meningkatkan keupayaan daripada versi sebelumnya agar boleh menampung trafik tinggi.

CLO1
C3

5. Interpret the **CORRECT** effect if the command line no auto-summary is configured at router interface.
*Tafsirkan kesan yang **BETUL** jika baris arahan* no auto-summary diatur pada antaramuka router.

A. RIP will not perform network summarization to all connected interfaces.
RIP tidak akan melakukan network summarization *pada semua antaramuka yang bersambung padanya.*

B. RIPv2 will not perform network summarization to all connected interface.
RIPv2 tidak akan melakukan network summarization *pada semua antaramuka yang bersambung padanya.*

C. EIGRP may include routing updates from all connected interface and multicast to its area only.
EIGRP akan memasukkan semua routing updates *daripada keseluruhan antaramuka yang bersambung padanya dan* multicast *pada kawasannya sahaja.*

D. OSPFv2 will try its best to broadcast the updates to its own area and maintain its area for stable routing performance.
OSPFv2 cuba sedaya upaya untuk menyebarkan updates *pada kawasannya, dan menjaga kawasannya demi prestasi* routing *yang stabil.*

CLO1
C3

6. Refer to Figure A6. Choose the exit interface to forward a data packet with the destination IP address 172.16.0.1.
Rujuk pada Rajah A6. Pilih antara muka keluar untuk mengantar satu paket data dengan alamat IP destinasi 172.16.0.1.

```
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#
```

Figure A6/*Rajah A6*

A. Serial0/0/1

B. Serial0/0/0

C. GigabitEthernet0/0

D. GigabitEthernet0/1

CLO1
C3

7. Choose the **CORRECT** match route for a packet entering a router with a destination address of 10.16.0.2.
*Pilih padanan laluan **BETUL** untuk satu paket yang memasuki router dengan alamat destinasi* 10.16.0.2.

A. S 10.0.0.0/8 [1/0] via 192.168.0.2

B. S 10.16.0.0/24 [1/0] via 192.168.0.9

C. S 10.16.0.0/16 is directly connected, Ethernet 0/1

D. S 10.0.0.0/16 is directly connected, Ethernet 0/0

CLO2 C1

8. Identify the X for the given OSPF configuration network 172.16.1.1 0.0.0.0 **X**.
Kenalpasti X pada konfigurasi OSPF yang diberikan network 172.16.1.1 0.0.0.0 **X**.

A. area 0

B. telnet

C. eq 443

D. overload

CLO2 C2

9. While configuring RIPv2 on an enterprise network, an engineer enters the command network 192.168.10.0 into router configuration mode. Select the **CORRECT** result after entering this command.
Semasa mengkonfigurasi RIPv2 pada rangkaian perusahaan, seorang jurutera memasukkan arahan network 192.168.10.0 *ke dalam mod konfigurasi router. Pilih hasil yang* ***BETUL*** *selepas memasukkan arahan ini.*

A. The interface of the 192.168.10.0 network is sending only version 2 updates.
Antara muka rangkaian 192.168.10.0 hanya menghantar pengemaskinian versi 2.

B. 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 pengemaskinian versi 1 dan versi 2.

C. 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.

D. 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 pengemaskinian versi 1 dan versi 2.

CLO2 C3

10. After configuring RIPng on a network topology, the network does not seem to function as intended. The suspected command line configuration that went unnoticed is ipv6 unicast-routing. Choose the **CORRECT** purpose of utilizing the particular command.
Selepas melakukan aturan RIPng *pada satu topologi rangkaian, hasilnya tidak seperti yang diharapkan. Baris arahan aturan yang disyaki terlepas adalah* ipv6 unicast-routing. Pilih tujuan yang **BETUL** untuk penggunaan arahan tersebut.

A. Cisco router is not by default support IPv6 routing technology.
Router Cisco secara lalainya tidak mendokong teknologi routing IPv6.

B. The connection on the router are combinations of serial and Ethernet interface.
Sambungan pada router merupakan kombinasi antaramuka sesiri dan Ethernet.

C. The speed of RIPng traffic is faster than IPv4 of equivalent protocol.
Trafik untuk RIPng adalah lebih laju daripada protocol IP4v yang setara.

D. Need to support dual-stack technology because the network need to support both IPv4 and IPv6 seamlessly.
Diperlukan untuk mendokong teknologi dual-stack kerana rangkaian perlu mendokong kedua – dua IPv4 *dan* IPv6 *untuk kelancaran.*

CLO2 C3

11. Refer to the Figure A11. A network administrator enters the show ipv6 protocols command on router R1 and notice the router ID is 10.1.1.1.
Choose the command to assign new router ID to the router R1 with 1.1.1.1 as the new router ID.
Merujuk kepada Rajah A11. Pentadbir rangkaian memasukkan arahan show ipv6 protocol *pada router R1 dan perhatikan ID router adalah 10.1.1.1. Pilih arahan untuk menetapkan ID router baru ke rauter R1 dengan 1.1.1.1 sebagai router ID baru.*

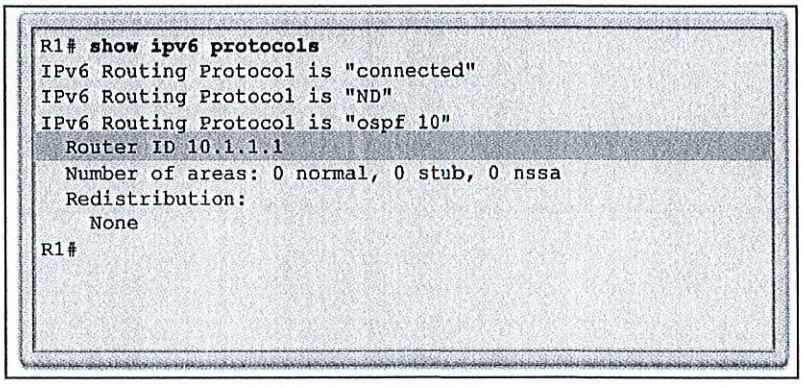

Figure A11/*Rajah A11*

A. R1 (config)# ipv6 router ospf 10
R1 (config-if)# id router-1.1.1.1
R1 (config-if)# end

B. R1 (config)# ipv6 router ospf 10
R1 (config-if)# router-id 1.1.1.1
R1 (config-if)# end

C. R1 (config)# ipv6 router ospf 10
R1 (config-if)# 1.1.1.1 router-id
R1 (config-if)# end

D. R1 (config)# ipv6 router-id 1.1.1.1
R1 (config-if)# router ospf 10
R1 (config-if)# end

CLO1
C1

12. Select the address required in the command syntax of a standard ACL.
Pilih alamat yang diperlukan dalam sintak arahan daripada ACL standard.

A. source IP address
sumber alamat IP

B. source MAC address
alamat MAC sumber

C. destination IP address
alamat IP destinasi

D. destination MAC address
alamat MAC destinasi

CLO1
C2

13. Choose the characteristic shared by both standard and extended ACLs
Pilih ciri-ciri yang dikongsi oleh ACLs standard dan ACL extended

A. Both include an implicit deny as a final ACE.
Kedua-duanya merangkumi penafian tersirat sebagai ACE muktamad.

B. Both kinds of ACLs can filter based on protocol type.
Kedua-dua jenis ACL boleh menapis berdasarkan jenis protokol.

C. Both filter packets for a specific destination host IP address
Kedua-dua paket penapis untuk destinasi alamat hos destinasi tertentu

D. Both can permit or deny specific services by port number.
Kedua-duanya boleh membenarkan atau menafikan perkhidmatan tertentu dengan nombor port.

CLO1
C3

14. Refer to Figure A14. If a network administrator has to use a Standard ACL that only allows PC-C to access SVR1, choose the router that should be configured using this ACL along with its interface configuration.
Rujuk Rajah A14. Sekiranya pentadbir rangkaian perlu menggunakan Standard ACL *yang hanya membenarkan PC-C untuk mengakses SVR1, pilih* router *yang harus dikonfigurasi menggunakan* ACL *ini berserta konfigurasi antara mukanya.*

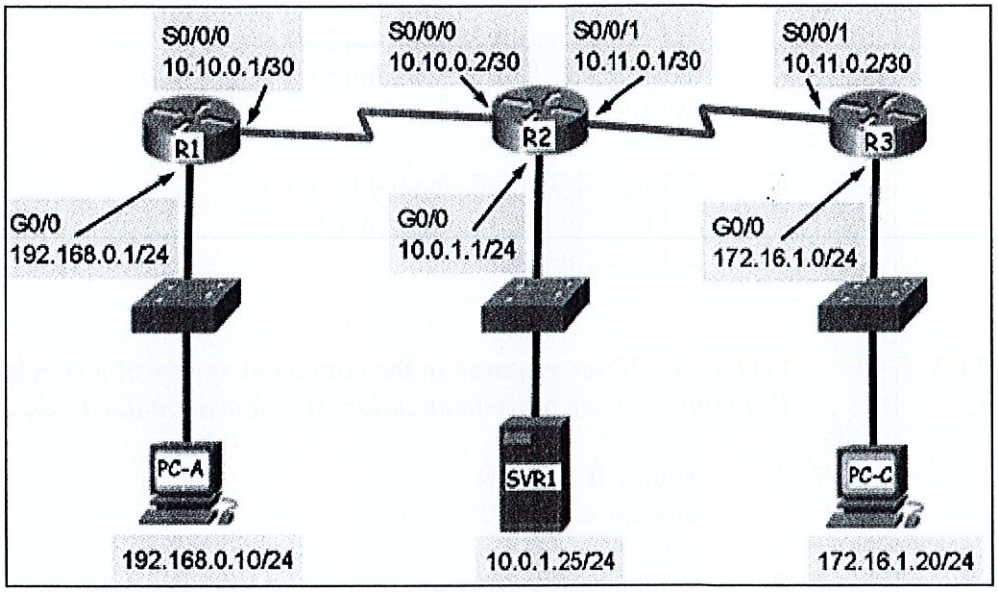

Figure A14/*Rajah A14*

A. Standard ACL on R1 with outbound configuration on G0/0 interface.
Standard ACL *pada R1 dengan konfigurasi keluar pada antara muka G0/0.*

B. Standard ACL on R2 with outbound configuration on G0/0 interface.
Standard ACL *pada R2 dengan konfigurasi keluar pada antara muka G0/0.*

C. Standard ACL on R3 with outbound configuration on G0/0 interface.
Standard ACL *pada R3 dengan konfigurasi keluar pada antara muka G0/0.*

D. Standard ACL on R3 with inbound configuration on G0/0 interface.
Standard ACL *pada R3 dengan konfigurasi masuk pada antara muka G0/0.*

CLO1
C3

15. Associate an access control list (ACL) statement that can be applied to the following networks in Figure A15.
Hubungkan satu kenyataan access control list (ACL) yang boleh digunakan untuk semua rangkaian dalam Rajah A15.

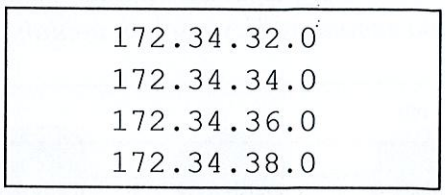

Figure A15/*Rajah A15*

A. access-list 10 permit 172.34.32.0 0.0.0.255

B. access-list 10 permit 172.34.32.0 0.0.2.255

C. access-list 10 permit 172.34.32.0 0.0.4.255

D. access-list 10 permit 172.34.32.0 0.0.6.255

CLO2
C2

16. Identify which of the following is a standard ACL configuration.
Kenalpasti yang manakah antara berikut adalah konfigurasi bagi standard ACL.

I. access-list 2 deny host 192.168.10.10
II. access-list 90 permit 192.168.10.0 0.0.0.255
III. access-list 104 permit tcp 192.168.10.0 0.0.0.255 any eq 80
IV. access-list 2 deny 192.168.10.0 0.0.0.255 192.168.11.0 0.0.0.255

A. I only
B. I and II
C. I and III
D. I, II and III

CLO2
C3

17. Referring to Figure A17, PC1 should be denied to access Server 1. Choose the command which are required to prevent only PC1 from accessing Server 1 while allowing all other traffic
Merujuk kepada Rajah A17 , PC1 tidak dibenarkan untuk mengakses Server 1. Pilih arahan yang diperlukan untuk menghalang PC1 dari mengakses Server 1 manakala semua trafik yang lain adalah dibenarkan.

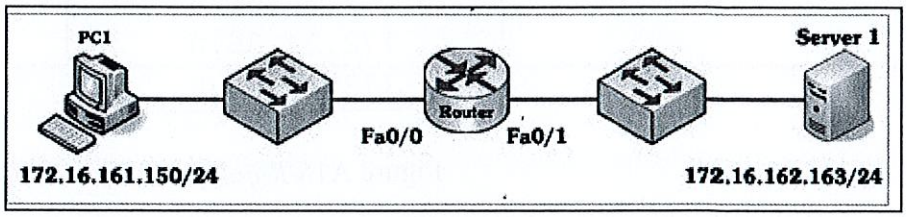

Figure A17 / *Rajah A17*

A. Router(config)# access-list 101 deny ip 172.16.161.150 0.0.0.255 172.16.162.163 0.0.0.0
Router(config)# access-list 101 permit ip any any

B. Router(config)# access-list 101 deny ip host 172.16.161.150 host 172.16.162.163
Router(config)# access-list 101 permit ip any any

C. Router(config)# interface fa0/1
Router(config-if)# ip access-group 101 in

D. Router(config)# interface fa0/0
Router(config-if)# ip access-group 101 out

CLO2
C3

18. A network administrator wants to add a command to an access list that will block only Telnet access by the hosts on subnet 192.168.1.128/28 to the server at 192.168.1.5. Choose the **CORRECT** construction of commands to accomplish this task.
*Pentadbir rangkaian hendak menambah arahan ke senarai akses yang akan menyekat hanya akses Telnet sahaja oleh hos pada subnet 192.168.1.128/28 ke pelayan pada 192.168.1.5. Pilih pembinaan arahan yang **BETUL** untuk menyelesaikan tugas ini.*

A. access-list 101 deny tcp 192.168.1.128 0.0.0.15 192.168.1.5 0.0.0.0 eq 23
access-list 101 permit ip any any

B. access-list 101 deny tcp 192.168.1.128 0.0.0.240 192.168.1.5 0.0.0.0 eq 23
access-list 101 permit ip any any

C. access-list 1 deny tcp 192.168.1.128 0.0.0.255 192.168.1.5 0.0.0.0 eq 21
access-list 1 permit ip any any

D. access-list 1 deny tcp 192.168.1.128 0.0.0.15 host 192.168.1.5 eq 23
access-list 1 permit ip any any

CLO2
C3

19. Refer to Figure A19. Choose the command that needs to be configured to R1 to permit a traffic from 2001:DB8:CAFÉ:11::/64
Merujuk kepada Rajah A19. Pilih arahan yang perlu diatur pada R1 untuk membenarkan trafik dari 2001:DB8:CAFÉ:11::/64

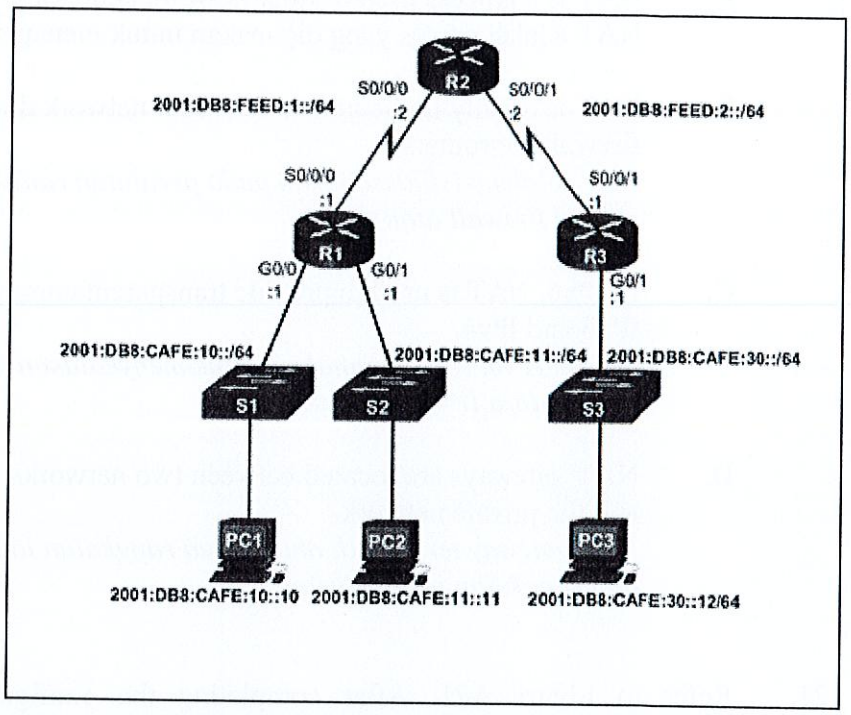

Figure A19 / *Rajah A19*

A. R1#ipv6 access-list ACCESS-1
R1#permit tcp any 2001:DB8:CAFÉ:11::/64

B. R1#ipv6 access-list ACCESS-1
R1#permit udp any 2001:DB8:CAFÉ:11::/64

C. R1#ipv6 access-list ACCESS-1
R1#deny tcp any 2001:DB8:CAFÉ:11::/64
R1#permit any any

D. R1#ipv6 access-list ACCESS-1
R1#permit tcp any 2001:DB8:CAFÉ:11::/00

CLO1
C2

20. Identify which of the following is **NOT TRUE** about Network Address Translation (NAT) characteristic.
*Kenalpasti yang manakah antara berikut adalah **TIDAK BENAR** mengenai ciri-ciri Network Address Translation (NAT).*

A. NAT is a process used to filter network addresses
NAT adalah proses yang digunakan untuk menapis alamat rangkaian

B. NAT is usually implemented at border network devices, such as firewalls or routers.
NAT selalunya dilaksanakan pada peralatan rangkaian sempadan seperti firewall atau router.

C. In IPv6, NAT is used to provide transparent communication between IPv6 and IPv4.
Dalam IPv6, NAT digunakan untuk menyediakan komunikasi yang telus antara IPv6 dan IPv4.

D. NAT gateways are located between two networks, the public network and the private network.
NAT gateway terletak di antara dua rangkaian iaitu rangkaian awam dan rangkaian persendirian.

CLO1
C3

21. Refer to Figure A21. After completing the configuration, the network administrator receives numbers of complaint from users, telling that a handful of them are able to access the Internet. Suggest the **CORRECT** solution to improve the situation.
*Merujuk kepada Rajah A21. Selepas menyiapkan aturan, pentadbir rangkaian menerima banyak aduan daripada pengguna, menyatakan segelintir saja yang boleh mengakses ke Internet. Cadangkan penyelesaian yang **BETUL** untuk memperbaiki situasi tersebut.*

```
ip nat inside source list 4 pool corp
```

Figure A21/*Rajah A21*

A. Adding the command overload at the end of the command line.
Menambahkan arahan overload *di penghujung baris arahan tersebut.*

B. Append the command DHCP-lease at the start of the command line.
Memasukkan arahan DHCP-lease *di permulaan baris arahan tersebut.*

C. Use the copy running start command after the line of command.
Menggunakan arahan copy running start *selepas baris arahan tersebut.*

D. Change the ACL number from 4 to 199 to the command line.
Menukar nombor ACL daripada 4 kepada 199 pada baris arahan tersebut.

CLO1
C3

22. Refer to Figure A22. After completing the configuration of pool of addresses and permitted number of hosts, apply the **CORRECT** command line to assign the previous configuration to the intended interface.
*Merujuk kepada Rajah A22. Selepas menyiapkan aturan senarai alamat dan hos yang dibenarkan, hasilkan baris arahan yang **BETUL** untuk meletakkan aturan tersebut kepada antaramuka yang sepatutnya.*

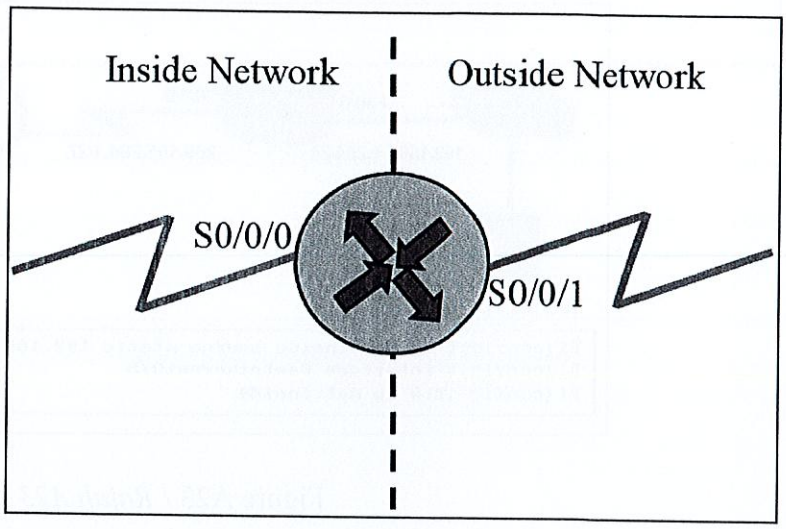

Figure A22/*Rajah A22*

A. interface S0/0/0
nat ip inside

B. interface S0/0/1
nat ip outside

C. interface S0/0/0
ip nat inside

D. interface S0/0/1
ip nat outside

CLO2
C2

23. Question 23 and Question 24 refer to Figure A23. Refer to Figure A23, when NAT is employed, identify which address type is typically used for PC1 on SMALL OFFICE LAN.
Soalan 23 dan soalan 24 merujuk kepada Rajah A23. Merujuk Rajah A23, apabila NAT digunakan, kenalpasti jenis alamat yang manakah digunakan oleh PC1 pada rangkaian SMALL OFFICE LAN

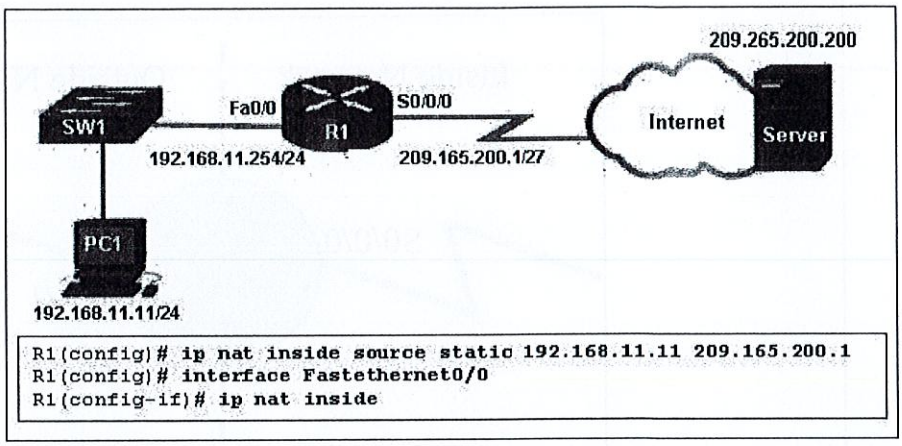

Figure A23 / *Rajah A23*

A. Both private and public IP addresses
Kedua-dua alamat IP peribadi dan awam

B. Internet-routable addresses
Alamat yang boleh melalui Internet

C. Private IP addresses
Alamat IP peribadi

D. Public IP addresses
Alamat IP awam

CLO2
C3

24. Figure A23 shows the topology and uncompleted command of NAT configuration on R1. Choose a command to complete the static NAT configuration on R1.
Rajah A23 menunjukkan topologi dan arahan konfigurasi NAT tidak lengkap pada R1. Pilih arahan untuk melengkapkan konfigurasi NAT statik pada R1.

A. R1 should be configured with the command ip nat inside source static 209.165.200.1 192.168.11.11
R1 perlu dikonfigur dengan arahan ip nat inside source static 209.165.200.1 192.168.11.11

B. R1 should be configured with the command ip nat inside source static 209.165.200.200 192.168.11.11
R1 perlu dikonfigur dengan arahan ip nat inside source Static 209.165.200.200 192.168.11.11

C. Interface S0/0/0 should be configured with the command ip nat outside.
Antaramuka S0/0/0 perlu dikonfigur dengan arahan ip nat outside

D. Interface Fa0/0 should be configured with the command no ip nat inside
Antaramuka Fa0/0 perlu dikonfigur dengan arahan no ip nat inside

CLO1
C1

25. Identify a network device which can provide IPv6 address, other than a server computer.
Kenalpasti sebuah peranti rangkaian yang berupaya untuk menyediakan alamat IPv6, selain daripada sebuah komputer pelayan.

A. Hub

B. Router

C. Switch

D. Wireless controller

CLO1
C3

26. Choose how does DHCP server dynamically assign IP address to host.
Pilih bagaimana pelayan DHCP secara dinamik memberi alamat IP kepada hos.

A. Addresses are assigned for a fixed period of time. At the end of period, a new quest for an address must be made, and another address is then assigned.
Alamat diberi untuk masa yang ditetapkan. Selepas berakhirnya masa permintaan alamat baharu perlulah dibuat dan alamat baharu akan diberi.

B. Addresses are leased to client. A client will usually keep the same address by periodically contacting the DHCP sever to renew the lease.
Alamat diberi kepada klien. Klien akan menyimpan alamat yang sama dengan menghubungi pelayan DHCP secara berkala untuk pembaharuan alamat.

C. Addresses are allocated after a negotiation between the server and the client to determine the duration of the agreement.
Alamat diberi selepas perbincangan antara pelayan dan klien untuk menentukan tempoh perjanjian

D. Addresses are permanently assigned to the client so that the client uses the same address at all time.
Alamat secara kekal diberi kepada klien yang mana klien tadi akan akan menggunakan alamat tersebut sepanjang masa.

CLO1 C3

27. Refer to Figure A27. A client PC is trying to establish a connection to a server. The label A and B is the initial connection and the last response respectively between the devices. Interpret the **CORRECT** process, which took place in that situation.
*Merujuk kepada Rajah A27. Sebuah PC klien sedang mewujudkan hubungan pelayan. Label A dan B menunjukkan hubungan awal dan respon akhir di antara peranti tersebut. Tafsirkan proses yang **BETUL** yang berlaku dalam situasi tersebut.*

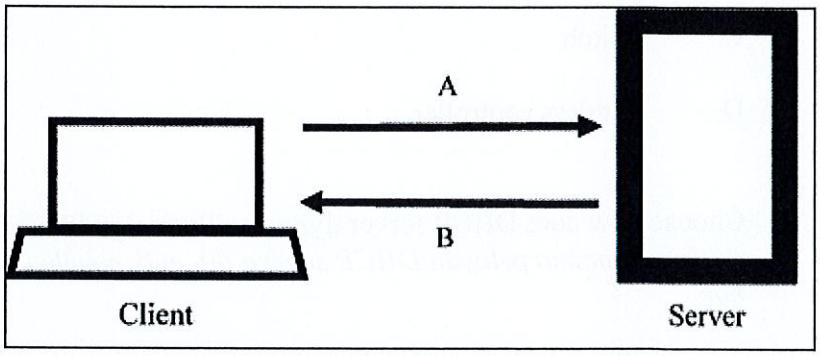

Figure A27/*Rajah A27*

A. The destination MAC address value at A shows FF:FF:FF:FF:FF:FF.
Nilai alamat MAC destinasi pada A menunjukkan FF:FF:FF:FF:FF:FF.

B. The traffic generated at A is a unicast address targeting the sole Server device.
Trafik yang terhasil pada A adalah alamat unicast dengan menumpu pada alat Server *tunggal.*

C. The traffic generated at B is a broadcast address targeting the Client as a response to its initial connection.
Trafik yang terhasil pada B adalah alamat broadcast menumpu kepada Client *sebagai respon kepada hubungan awal.*

D. The destination address at B is the IP address of Server as to inform the origin of the traffic generated.
Alamat destinasi pada B adalah alamat IP Server untuk memaklumkan asalan trafik yang terhasil.

CLO2
C2

28. Refer to Figure A28. A network administrator is configuring a router for DHCPv6 operation. Conclude based on the commands.
Rujuk kepada Rajah A28. Pentadbir rangkaian konfigur router untuk operasi DHCPv6. Rumuskan berpandu kepada arahan tersebut.

```
R1# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)# ipv6 unicast-routing
R1(config)# ipv6 dhcp pool ACAD_CLASS
R1(config-dhcp)# dns-server 2001:db8:acad:a1::10
R1(config-dhcp)# domain-name netacad.net
R1(config-dhcp)# exit
R1(config)# interface gigabitEthernet 0/0
R1(config-if)# ipv6 address 2001:db8:acad:1::1/64
R1(config-if)# ipv6 dhcp server ACAD_CLASS
R1(config-if)# ipv6 nd other-config-flag
R1(config-if)# end
R1#
```

Figure A28/ *Rajah A28*

A. The DHCPv6 server name is ACAD_CLASS.
Nama pelayan DHCPv6 ialah ACAD_CLASS

B. The router is configured for stateless DHCPv6 operation
Router dikonfigurasi untuk operasi DHCPv6 stateless

C. Clients would configure the interface IDs above 0010.
Klien akan konfigurasi antaramuka ID di atas 0010

D. The router is configured for stateful DHCPv6 operation, but the DHCP pool configuration is incomplete.
Router dikonfigurasi untuk operasi DHCPv6 stateful, tetapi konfigurasi DHCP pool tidak lengkap.

CLO2
C3

29. Construct a set of commands that will configure a router as a DHCP server that will assign IPv4 addresses to the 192.168.100.0/23 LAN while reserving the first 10 and the last addresses for static assignment.

Bina set arahan yang akan dikonfigur pada router sebagai pelayan DHCP yang akan memberikan alamat statik IPv4 ke LAN 192.168.100.0/23 dengan memperuntukkan 10 alamat pertama dan alamat terakhir.

A.
```
ip dhcp excluded-address 192.168.100.1 192.168.100.10
ip dhcp excluded-address 192.168.100.254
ip dhcp pool LAN-POOL-100
network 192.168.100.0 255.255.255.0
ip default-gateway 192.168.100.1
```

B.
```
ip dhcp excluded-address 192.168.100.1 192.168.100.10
ip dhcp excluded-address 192.168.101.254
ip dhcp pool LAN-POOL-100
network 192.168.100.0 255.255.254.0
default-router 192.168.100.1
```

C.
```
dhcp pool LAN-POOL-100
ip dhcp excluded-address 192.168.100.1 192.168.100.9
ip dhcp excluded-address 192.168.100.254
network 192.168.100.0 255.255.254.0
default-router 192.168.101.1
```

D.
```
ip dhcp excluded-address 192.168.100.1 192.168.100.9
ip dhcp excluded-address 192.168.101.254
ip dhcp pool LAN-POOL-100
ip network 192.168.100.0 255.255.254.0
ip default-gateway 192.168.100.1
```

CLO2
C3

30. Refer to Figure A30, an administrator issues the entire command on router named SOHO. Choose the **CORRECT** statement about the configuration.
*Merujuk kepada Rajah A30, pentadbir mengeluarkan arahan pada router bernama SOHO. Pilih pernyataan yang **BENAR** tentang konfigurasi tersebut.*

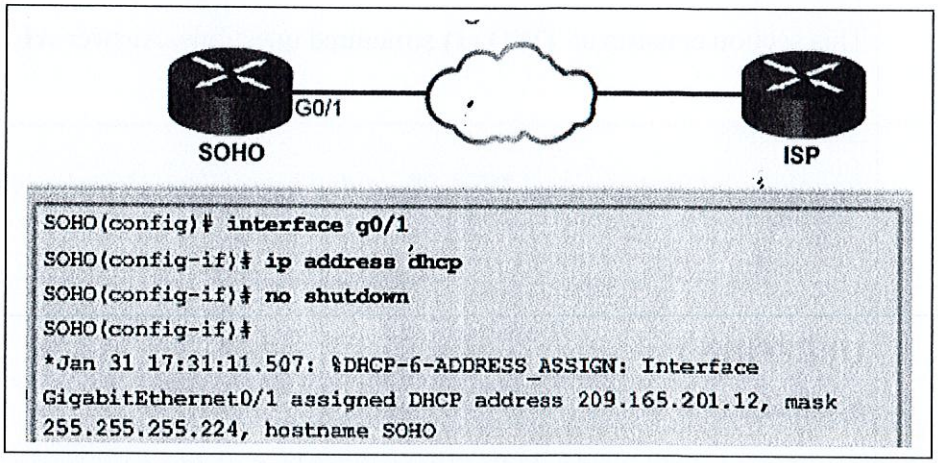

Figure A30 / *Rajah A30*

A. Configuring the router to acquire an IP address on an Ethernet interface from the Dynamic Host Configuration Protocol (DHCP)
Konfigurasi router untuk memperolehi alamat IP pada antara muka Ethernet dari Protokol Konfigurasi Hos Dinamik (DHCP)

B. Configuring the router to act as a DHCPv4 server
Konfigurasi router untuk bertindak sebagai pelayan DHCPv4

C. Configuring the router to act as a relay agent
Konfigurasi router untuk bertindak sebagai ejen relay

D. Configuring the router to resolve IP address conflicts
Konfigurasi router untuk menyelesaikan konflik alamat IP

SECTION B : 55 MARKS

BAHAGIAN B : 55 MARKAH

INSTRUCTION:

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

ARAHAN:

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

QUESTION 1

SOALAN 1

CLO1
C1

(a) List **TWO (2)** purposes of dynamic routing protocol.
*Senaraikan **DUA (2)** tujuan protokol penghalaan dinamik.*

[2 marks]
[2 markah]

CLO1
C2

(b) Explain **TWO (2)** differences between RIPv1 and RIPv2
*Jelaskan **DUA (2)** perbezaan di antara RIPv1 dan RIPv2.*

[4 marks]
[4 markah]

CLO2
C2

(c) Refer to Figure B1. Router A has interfaces with addresses 192.168.1.1 and 172.16.1.1. Router B is connected to router A over a serial link that has interfaces with address 172.16.1.2 and 10.1.1.2. Write the commands to configure RIPv2 on router B.

Rujuk kepada Rajah B1. Router A mempunyai antara muka dengan alamat 192.168.1.1 dan 172.16.1.1. Router B, yang disambungkan ke Router A melalui pautan bersiri yang mempunyai antara muka dengan alamat 172.16.1.2 dan 10.1.1.2. Tulis arahan untuk mengkonfigurasi RIPv2 pada router B.

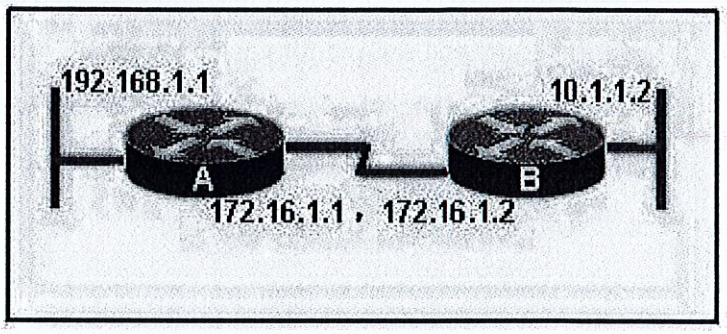

Figure B1/*Rajah B1*

[4 marks]
[4 markah]

CLO2
C3

(d) You have a router with these two subnets connected to two different interfaces:

Anda ada router yang mempunyai 2 antaramuka kepada 2 subnet:

192.168.10.64/29
10.255.255.80/30

Produce the command to configure the router using OSPF area 0.

Hasilkan arahan konfigurasi router menggunakan OSPF area 0.

[6 marks]
[6 markah]

CLO2 C3 (e) Produce the command to configure router-id 2.2.2.2 at R1 with single area through network 172.16.2.0/24 and 192.168.10.8/30.
Hasilkan arahan untuk aturan router-id 2.2.2.2 pada R1 dengan kawasan tunggal melalui rangkaian 172.16.2.0/24 and 192.168.10.8/30.

[4 marks]
[4 markah]

CLO1 C2 (f) Explain standard access control list, and extended access control list. Give ONE (1) command sample for each of them.
Jelaskan standard access control list dan Extended access control list dan berikan SATU (1) sample arahan masing – masing.

[6 marks]
[6 markah]

CLO2 C3 (g) A network administrator wants to add a line to an access list that will block only Telnet access by the hosts on subnet 192.168.1.128/28 to the server at 192.168.1.5. Produce the command that should be issued to accomplish this task.
Pentadbir rangkaian mahu menambah baris ke senarai capaian yang akan menyekat akses Telnet sahaja oleh tuan rumah pada subnet 192.168.1.128/28 ke pelayan pada 192.168.1.5. Hasilkan arahan yang harus dikeluarkan untuk menyelesaikan tugas ini.

[4 marks]
[4 markah]

CLO2 C3

(h) i. Differentiate between Inbound Access-list and Outbound Access-list.
Bezakan di antara Inbound Access-List *dan* Outbound-Access List.

ii. Construct a command for outbound ACL for IPV6.
Berikan arahan IPv6 untuk outbound ACL.

[5 marks]
[5 markah]

QUESTION 2
SOALAN 2

CLO1 C2

(a) You have the following messages using command "debug ip nat" :
Anda mempunyai mesej berikut menggunakan arahan "debug ip nat":

Nov 16 14:22:21.711: NAT: s=10.39.226.100->10.233.1.3, d=10.233.90.100
Nov 16 14:22:22.075: NAT*: s=10.39.226.100->10.233.1.3, d=10.233.90.100

Explain the differences between NAT and NAT*.
Jelaskan perbezaan di antara NAT dan NAT.*

[4 marks]
[4 markah]

CLO2
C3

(b) Figure B2 shows a border router that needs to be configured with NAT and allow the use of six public IP addresses to the inside locals, 192.1.2.109 through 192.1.2.114. However, on the inside network, you have 62 hosts that use the private addresses of 192.168.10.65 through 192.168.10.126. Produce NAT configuration steps at the border router.

Rajah B2 menunjukkan router sempadan yang perlu dikonfigurasi dengan NAT dan membenarkan penggunaan 6 alamat public IP di rangkaian dalaman, 192.1.2.109 hingga 192.1.2.114. Walau bagaimanapun, di rangkaian dalaman anda mempunyai 62 hos yang menggunakan alamat 192.168.10.65 hingga 192.168.10.126. Hasilkan langkah konfigurasi NAT di router sempadan.

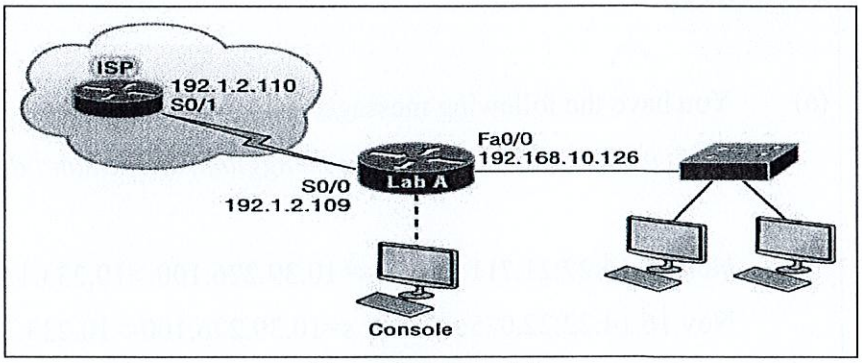

Figure B2/*Rajah B2*

[6 marks]

[6 markah]

CLO1
C3

(c) Sketch a diagram dhcp client 4 steps process to get IP. Use circle for client and rectangle for dhcp server.

Lakarkan diagram dhcp klien proses 4 langkah untuk mendapatkan IP. Gunakan bulatan bagi mewakili klien dan petak bagi mewakili pelayan.

[4 marks]

[4 markah]

CLO2
C3

(d) Construct a complete command to configure DHCP in router using this information.

Bina arahan lengkap untuk konfigurasi DHCP di dalam router menggunakan maklumat di bawah.

"Set last 100 (192.168.1.155-192.168.254) address only from network 192.168.1.0/24

Set 192.168.1.1 as default gateway

Set 8.8.4.4 as DNS server"

[6 marks]

[6 markah]

SOALAN TAMAT