



Vendor: Cisco

Exam Code: 300-115

**Exam Name: Implementing Cisco IP Switched Networks
(SWITCH v2.0)**

QUESTION 1

What is the size of the VLAN field inside an 802.1q frame?

- A. 8-bit
- B. 12-bit
- C. 16-bit
- D. 32-bit

Correct Answer: B

Explanation:

The VLAN field is a 12-bit field specifying the VLAN to which the frame belongs. The hexadecimal values of 0x000 and 0xFFFF are reserved. All other values may be used as VLAN identifiers, allowing up to 4,094 VLANs

Reference: http://en.wikipedia.org/wiki/IEEE_802.1Q

QUESTION 2

A manager tells the network engineer to permit only certain VLANs across a specific trunk interface. Which option can be configured to accomplish this?

- A. allowed VLAN list
- B. VTP pruning
- C. VACL
- D. L2P tunneling

Correct Answer: A

Explanation:

When a trunk link is established, all of the configured VLANs are allowed to send and receive traffic across the link. VLANs 1 through 1005 are allowed on each trunk by default. However, VLAN traffic can be removed from the allowed list. This keeps traffic from the VLANs from passing over the trunk link.

Note: The allowed VLAN list on both the ends of the trunk link should be the same. For Integrated Cisco IOS Software based switches, perform these steps:

1. To restrict the traffic that a trunk carries, issue the switchport trunk vlan-list interface configuration command.

This removes specific VLANs from the allowed list.

Reference: <https://supportforums.cisco.com/document/11836/how-define-vlans-allowed-trunk-link>

QUESTION 3

For security reasons, the IT manager has prohibited users from dynamically establishing trunks with their associated upstream switch. Which two actions can prevent interface trunking? (Choose two.)

- A. Configure trunk and access interfaces manually.
- B. Disable DTP on a per interface basis.
- C. Apply BPDU guard and BPDU filter.
- D. Enable switchport block on access ports.

Correct Answer: AB

Explanation:

The Dynamic Trunking Protocol (DTP) is used to negotiate forming a trunk between two Cisco devices. DTP causes increased traffic, and is enabled by default, but may be disabled. To disable DTP, configure "switchport nonegotiate." This prevents the interface from generating DTP frames. You can use this command only when the interface switchport mode is access or trunk. You must manually configure the neighboring interface as a trunk interface to establish a trunk link,

otherwise the link will be a non-trunking link.

Reference:<http://www.ciscopress.com/articles/article.asp?p=2181837&seqNum=8>

QUESTION 4

Refer to the exhibit. Which option shows the expected result if a show vlan command is issued?

```
Interface GigabitEthernet1/0/1
switchport access vlan 10
switchport trunk encapsulation dot1q
switchport mode trunk
switchport voice vlan 11
spanning-tree portfast
!
```

- A. Switch#sh vlan
- | VLAN Name | Status | Ports |
|-------------------------|-----------|--|
| 1 default | active | G11/0/2, G11/0/3, G11/0/4
G11/0/5, G11/0/6, G11/0/7
G11/0/8, G11/0/9, G11/0/10
G11/0/11, G11/0/12, G11/0/13
G11/0/14, G11/0/15, G11/0/16
G11/0/17, G11/0/18, G11/0/19
G11/0/20, G11/0/21, G11/0/22
G11/0/23, G11/0/24 |
| 10 Data | active | |
| 11 Voice | active | |
| 1002 fddi-default | act/unsup | |
| 1003 token-ring-default | act/unsup | |
| 1004 fddinet-default | act/unsup | |
| 1005 trnet-default | act/unsup | |
- B. Switch#sh vlan
- | VLAN Name | Status | Ports |
|-------------------------|-----------|--|
| 1 default | active | G11/0/2, G11/0/3, G11/0/4
G11/0/5, G11/0/6, G11/0/7
G11/0/8, G11/0/9, G11/0/10
G11/0/11, G11/0/12, G11/0/13
G11/0/14, G11/0/15, G11/0/16
G11/0/17, G11/0/18, G11/0/19
G11/0/20, G11/0/21, G11/0/22
G11/0/23, G11/0/24 |
| 10 Data | active | G11/0/1 |
| 11 Voice | active | G11/0/1 |
| 1002 fddi-default | act/unsup | |
| 1003 token-ring-default | act/unsup | |
| 1004 fddinet-default | act/unsup | |
| 1005 trnet-default | act/unsup | |
- C. Switch#sh vlan
- | VLAN Name | Status | Ports |
|-------------------------|-----------|---|
| 1 default | active | G11/0/1, G11/0/2, G11/0/3
G11/0/4, G11/0/5, G11/0/6
G11/0/7, G11/0/8, G11/0/9
G11/0/10, G11/0/11, G11/0/12
G11/0/13, G11/0/14, G11/0/15
G11/0/16, G11/0/17, G11/0/18
G11/0/19, G11/0/20, G11/0/21
G11/0/22, G11/0/23, G11/0/24 |
| 10 Data | active | |
| 11 voice | active | G11/0/1 |
| 1002 fddi-default | act/unsup | |
| 1003 token-ring-default | act/unsup | |
| 1004 fddinet-default | act/unsup | |
| 1005 trnet-default | act/unsup | |

D. switch#sh vlan

VLAN	Name	Status	Ports
1	default	active	G11/0/2, G11/0/3, G11/0/4 G11/0/5, G11/0/6, G11/0/7 G11/0/8, G11/0/9, G11/0/10 G11/0/11, G11/0/12, G11/0/13 G11/0/14, G11/0/15, G11/0/16 G11/0/17, G11/0/18, G11/0/19 G11/0/20, G11/0/21, G11/0/22 G11/0/23, G11/0/24
10	Data	active	G11/0/1
11	voice	active	
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

Correct Answer: A

Explanation:

In this case, the port has been configured both as a trunk and as a switchport in data vlan 10. Obviously, a port can not be both, so even though Cisco IOS will accept both, the port will actually be used as a trunk, ignoring the switchport access VLAN 10 command.

QUESTION 5

In a Cisco switch, what is the default period of time after which a MAC address ages out and is discarded?

- A. 100 seconds
- B. 180 seconds
- C. 300 seconds
- D. 600 seconds

Correct Answer: C

Explanation:

To configure the aging time for all MAC addresses, perform this task:

Command

Purpose

Step 1

switch#configure terminal

Enters configuration mode.

Step 2

switch(config)#mac-address-table aging-time seconds [vlan vlan_id] Specifies the time before an entry ages out and is discarded from the MAC address table. The range is from 0 to 1000000; the default is 300 seconds. Entering the value 0 disables the MAC aging. If a VLAN is not specified, the aging specification applies to all VLANs.

Reference:

<http://www.cisco.com/en/US/docs/switches/datacenter/nexus5000/sw/configuration/guide/cli/MAC-Address.html>

QUESTION 6

Which statement about Cisco devices learning about each other through Cisco Discovery Protocol is true?

- A. Each device sends periodic advertisements to multicast address 01:00:0C:CC:CC:CC.
- B. Each device broadcasts periodic advertisements to all of its neighbors.