

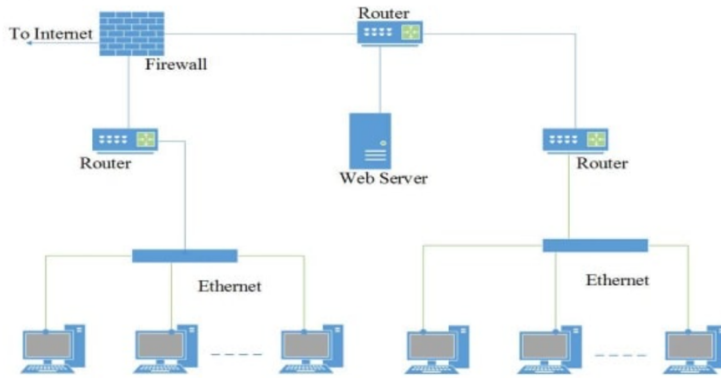
The forwarding table of a router is shown below.

<i>Subnet Number</i>	<i>Subnet Mask</i>	<i>InterfaceID</i>
200.150.0.0	255.255.0.0	1
200.150.64.0	255.255.224.0	2
200.150.68.0	255.255.255.0	3
200.150.68.64	255.255.255.224	4
<i>Default</i>		0

A packet addressed to a destination address 200.150.68.118 arrives at the router. It will be forwarded to the interface with ID \_\_\_\_.

- A** 1
- B** 2
- C** 3
- D** 4

Consider an enterprise network with two Ethernet segments, a web server and a firewall, connected via three routers as shown below.



What is the number of subnets inside the enterprise network?

- A** 3
- B** 12
- C** 6
- D** 8

Consider three machines M, N and P with IP addresses 100.10.5.2, 100.10.5.5 and 100.10.5.6 respectively. The subnet mask is set to 255.255.255.252 for all the three machines. Which one of the following is true?

- A** M, N and P all belong to the same subnet
- B** Only M and N belong to the same subnet
- C** Only N and P belong to the same subnet
- D** M, N, and P belong to three different subnets

The address of a class B host is to be split into subnets with a 6-bit subnet number. What is the maximum number of subnets and the maximum number of hosts in each subnet?

- A** 62 subnets and 262142 hosts.
- B** 64 subnets and 262142 hosts.
- C** 62 subnets and 1022 hosts.
- D** 64 subnets and 1024 hosts.

An IP datagram of size 1000 bytes arrives at a router. The router has to forward this packet on a link whose MTU (maximum transmission unit) is 100 bytes. Assume that the size of the IP header is 20 bytes.

The number of fragments that the IP datagram will be divided into for transmission is \_\_\_\_\_.

- A** 10
- B** 13
- C** 14
- D** 12

In the network 200.10.11.144/27, the fourth octet (in decimal) of the last IP address of the network which can be assigned to a host is \_\_\_\_\_.

- A** 176
- B** 175
- C** 159
- D** 158

GATE CSE 2015 SET-3 Computer Network

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#### Question 4

Consider routing table of an organization's router shown below:

<i>SubnetNumber</i>	<i>SubnetMask</i>	<i>NextHop</i>
12.20.164.0	255.255.252.0	<i>R1</i>
12.20.170.0	255.255.254.0	<i>R2</i>
12.20.168.0	255.255.254.0	<i>Interface0</i>
12.20.166.0	255.255.254.0	<i>Interface1</i>
<i>default</i>		<i>R3</i>

Which of the following prefixes in CIDR notation can be collectively used to correctly aggregate all of the subnets in the routing table?

**MSQ**

- A** 12.20.164.0/20
- B** 12.20.164.0/22
- C** 12.20.164.0/21
- D** 12.20.168.0/22