1. Which description is correct about router configuration command "ip nat inside"?

A. It starts a router interface working as firewall.

**B. It starts a router interface working as an Intranet interface of NAT box.**

C. It shows the internal NAT address and port information of a router.

D. It changes the packet transmission direction of a NAT router.

1. Which of the following commands can be used to display middle routers to a destination host?
   1. nslookup **B. tracert**  C.arp D.netstat
2. Some broadcast systems also support transmission to a subset of the machines, which is known as \_\_\_\_\_\_\_\_\_\_.
   1. A. unicasting B. broadcasting
   2. **C. multicasting**  D. anycasting
3. Which is not provided by the data link layer of the OSI model?

A. framing B. flow control

C. error control  **D. congestion control**

1. In the \_\_\_\_\_\_\_\_ system, the users take turns, each one periodically getting the entire bandwidth for a little burst of time.

A. FDM **B. TDM**

C. WDM D. CDM

1. Which is used to keep track of a user and its related information by the Web server?

A. web cache B. persistent connection

**C. cookie**  D. conditional GET

1. A telephone switch is a good example of \_\_\_\_\_\_\_\_ switching.

A. packet B. buffer

C. fabric  **D. circuit**

1. There are two types of transmission technology that are in widespread use. They are Point-to-point links and .

**A. Broadcast links.**  B. end-to-end links

C. peer-to-peer links D. virtual links.

**============== physical layer ================**

1. A noisy channel has a bandwidth of 4 KHZ, its S/N ratio is 511, then its maximum data rate will be .

**A. 36 kbps**  B. 32 kbps C. 63 kbps D. NONEOF ABOVE

1. Which one can be used as a key component of optical transmission system?

A. UTP **B. semiconductor laser device**

C. HUB D. WiFi router

1. The cable between toll office and the end office of telephone company are known as the .

A. local loop **B. trunk** C. microwave line D. coaxial cable

1. It is impossible for to cause transmission impairments of telephone local loop.
2. different Fourier components propagating at different speed 不同傅里叶分量以不同速度传播
3. thermal noise 热噪声
4. crosstalk between two close wires 两根靠近电线的串扰
5. **multipath fading 多径衰落**
6. An T1 channel contains 24 PCM signals, its data rate is .

A. 2.048 Mbps  **B. 1.544 Mbps**

C. 64kbps D. 2.5 Gbps

1. A CDMA receiver gets the following chips: (+1 +1 -1 +3 +1 +1 -3 +1). Assuming the chip sequences defined in following:

Station A: (-1 +1 -1 +1 +1 +1 -1 -1) Station B: (-1 -1 -1 +1 +1 -1 +1 +1) Station C: (-1 +1 -1 -1 -1 -1 +1 -1) Station D: (-1 -1 +1 -1 +1 +1 +1 -1) Which stations transmitted, and which bits did each one send?

A. Station A transmitted bit 0 B. Station B transmitted bit 1 0

C. Station C didn’t transmit **D. Station D transmitted bit 0**

**============== data link layer ================**

1. Bit string 1110111111101 will become after bit stuffing.

A. 11101111011101 **B. 11101111101101**

C. 1110111111101 D. 11101111110101

1. Which field of PPP frame can be omitted to improve efficiency during frame transmission?

A. checksum **B. control** C. protocol D. length

1. What is the remainder obtained by dividing x7+x5+1 by the generator polynomial x3+1?

A. 110 B. 011 **C. 111**  D. None of above

1. Which is not a correct method to build VLANs?

A. Every port of switch is assigned a VLAN ID;

**B. Every port of switch is assigned a TCP port number;**

C. Every MAC address is assigned a VLAN ID;

D. Switch ports sending and receiving payload of the same layer 3 protocol are assigned the same VLAN ID;

1. To correct 3-bit errors, how many Hamming distance do we need?

A. 3 **B. 7** C. 5 D. 6

**================== network layer =========**

1. Which is not the private address that will not appear in Internet datagram?

A. 10.3.18.82 B. 192.168.8.3

C. 10.0.0.1 **D. 172.33.8.8**

1. Which protocol is used in command “ping 10.214.8.9”?

A. ARP  **B. ICMP**

C. RARP D. ECHO

1. is not a legal IPV6 address.

A. 2A00::1345:A367:892B:24E0  **B. 1382:4567:89AB:CDEF**

C. ::124.21.50.48 D. 2A43:0000:0000:0000:0123:4567:89AB:CDEF

1. RIP is a . 路由信息协议

A. **Interior Gateway Protocol**  B. Exterior Gateway Protocol

C. static routing protocol D. link state routing protocol

**================== transport layer =========**

1. Host A and B use TCP slow start algorithm through a network with 10-msec round-trip time and no congestion. The receiving window is 14 KB and the maximum segment size is 1 KB. At time t0, A begins to send segment, and application layer process of B begins to repeatedly fetch TCP data with a frequency of 100 ms interval. After t0, How long does it take before the receiving buffer of B is full?

A. 60 ms B. 50 ms **C. 40 ms**  D. 80ms

1. Which is not the feature of TCP connections?

A. full-duplex B. three-way handshake

C. It is a byte stream. **D. supporting broadcast**

1. In the socket programming model, which primitive will block the caller until a connection attempt arrives?

A. connect  **B. accept**  C. listen D. send

1. is based on UDP.

A. POP B. FORM C. TELNET **D. RTP**

**================== application layer =========**

1. Which one is not a legal resource record of DNS server?
2. www.zju.edu.cn 86400 IN SOA star boss (43271,7200,7200,2347,8792)
3. zju.edu.cn 86400 IN TXT “Zhejiang university in HANGZHOU”
4. **zju.edu.cn 86400 IN MX** [**www.zju.edu.cn**](http://www.zju.edu.cn)这里应该填一个邮箱地址，感觉这个考得也太奇怪了…
5. www.intel.com 86400 IN A 218.58.102.17
6. When you configure static IP address parameters: IP address, subnet mask, default gateway, IP address relating to DNS, which name server’s IP address is used?

A. proxy name server B. authoritative name server

**C. local name server**  D. top-level name server

1. A file containing popular song is delivered in email, it will be encoded as MIME message and its MIME type/subtype will be \_\_\_\_\_ most possibly.

**A. Audio/basic**  B. MIME/audio

C. Message/music D. Message/rfc822

1. HTML tag \_\_\_\_\_ can be used to accept user submitted data.

A. <A href=… > **B. < input >**

C. <table > D. <Li >

1. Which key will be used if A wants to send encrypted data to B when using public-key algorithms?

A. The public key of A B. The private key of A

**C. The public key of B**  D. The private key of B