

1: a machine A wants to set its time same as a machine B
so it sends a packet to B and B sends reply. but the time on packet is over
by the time the packet reached A. A has to
a: set the time on packet
b: increment its time slowly so as to reduce the difference
c: send packets repeatedly till it gets a packet with time less than the
current time
d:

I think the solution could be something like this:

Send 'n' ('n' should be large) packets to Machine B and calculate the avg time it takes
to reach Machine B from Machine A. Now at the last packet, add this avg time to the
time stamp of Machine B and use this to set the time at Machine A.

2. which of the following protocols does not find mac address given internet
address
a. arp
b. rarp
c.
d. ...

(b) RARP does mapping of MAC addresses ---> IP addresses using RARP server
ARP does mapping of IP addresses ---> MAC addresses by broadcasting within the LAN.

3. when an java applet gets downloaded what happens
a. the byte verifier checks the magic number
b. ...
c. ...
d. ...

Java Virtual Machine checks for byte code integrity with the help of Checksum in the bytecode.
Then executes it with restricted OS access. Only read permission/ no write access.

4. when A wants to send a msg to B using Public key cryptography he uses
a. A's public key
b. A's private key
c. B's public
d. B's private

Refer to Tanenbaum Presentation layer.... Answer is (c).

5. how does a string in java differ from that of C/C++
a. java strings are mutable
b. java strings do not have a \0
c.
d.

8.NFS server is similar to

- a.provides similar services as unix
- b.a file transfer.....
- c.just gets the file for reading..
- d.

9.an address 202.15.46.45 is to be located.the machine does not have info about 202.0.0.0 or 202.15.0.0 or 202.15.46.0 so the DNS server will now

- a.discard the packet
- b.send the msg to a default server if available
- c.send msg to a DNS server if available
- d.....

10.verification:"are u building the right product"
validation:"are we building the product right"

- a.both are wrong (ans)
- b.both are correct
- c.first wrong second correct
- d.first correct second wrong

Right answer:

validation : "are u building the right product"
verification : "are we building the product right"

11.A:"cohesion is a desirable property"
B:"cohesion means the property that the entire unit is one....."

- a.both are correct (ans)
- b.both are wrong
- c.first wrong second correct
- d.first correct second wrong

try to get familiarize with cohesion/coupling in Software engg./ Module design...

13:which of the following does not use extra memory

- a.....
- b.insertion sort (ans)
- c.shell sort
- d.both b and c.

14:which of the following is better for ten elements

- a.bubble sort (ans)
- b.selection sort
- c.quick sort
- d.....

Use bubble sort for small arrays...Quick sort uses recursive method which can be costly...

15.the memory reference time for cache is 100 ms and for memory is 1000ms
.the probability of a hit is .9.the average memory access time is

- a:100
- b:200(ans)
- c:500
- d:1000

Ans: $0.9 \times 100\text{ms} + 0.1 \times 1000\text{ms} = 90 + 100 = 190\text{ms}$

16.a question on socket numbers

17there is an ordered binary tree and an index structure

- a.we can use ordbintree without ordering
- b.orb are used with ordering where as indexing can be done without ordering
- c.indexing uses extra memory
- d.....

18.there is ethernet protocol and ethernetIPstack in MAC sublayer
when an address has to be found which is used

Question not clear... I think if you want to find MAC address from IP, use ARP protocol.

- 1.If a precondition of a sub routine fails then
- a. post condition fails as well
 - b. Post condition may fail
 - c. post condition is declared but now defined.

2. whatz the o/p of the following program

```
char * a= "AabbCc";  
void x(char *a)  
{  
a[0] == 0 ? x(a+1):1;  
printf("%c",*a);  
return 1;  
}  
x(a);
```

- a. AaBbCc
- b. cCbBaA

Ans: A

3. What is DHCP used for?

Dynamic host configuration protocol, used in a LAN environment when we have ' n' machines

and 'm' IP addresses where $m \ll 2^{32}$. DHCP allocates IP addresses dynamically to the hosts for internet connectivity.

4. There are 2 protocols IP and IPX are running on top of Ethernet. Suppose a packet addressed to that ethernet card arrives, to which protocol the ethernet sends the packet?

1. It checks the payload of the frame and finds out the protocol type and despatches it to the right protocol
2. It finds out the protocol type that is mentioned in the ethernet frame.
3. despatches to both the protocol (ans)

look for ethernet frame structure and its fields in ethernet MAC layer

5. What is the use of global static variable in C?

Scope is confined to that C file.

6. In which stage of the compilation the Macro in C are converted into inline code? (this is not the exact Qn a slight variation of it)

First stage: preprocessor will do that.

7 In the IP/Ethernet network, a packet with destination address 192.32.65.70 arrives and there is no entry for this address in the routing table of the m/c? what does the m/c do about the packet?

- a. discards the packet. (ans)
- b. Broadcasts into the ethernet.
- c. sends to default router

8. in Public key Encryption, if A wants to send an encrypted msg to B then A encrypts the message with

- a. A's public key
- b. A's private key
- c. B's public key (ans)
- d. B's private key

9. consider the SQL statement "Create table New as select * from oldtable"

- a. the sql statement is a correct one
- b. New is reserved word there is an error
- c. you can't select anything while creating a table (ans)

10. By Codd's 12 defn for RDBMS which one is not right?
options, I don't remember

11. If X and Y are two attributes of a relation and 1 and 2 be any two tuples in that relation

Y is functionally dependent on X iff $(X \rightarrow Y)$

- a. if $(x_1 == x_2)$ then $y_1 == y_2$
 - b. if $(x_1 == y_1)$ then $x_2 == y_2$
- some other combinations

12. The normalization process

1. reduces the data redundancy
2. It reduces the inconsistency that arises due to the data redundancy

Goal is to reduce data redundancy

13. $((A \text{ nand } A) \text{ nand } (B \text{ Nand } B)) = ?$

$A+B$

The question was not exactly in this form. gates represented pictorially

14. what's the purpose of flow control?

1. to control errors
2. to control congestion the receiving end
3. to sequence the out of sequence packets

two concepts: flow control to reduce speed mismatch between two machines which data transfer. basically faster m/c should not swamp other m/c with many pkts.

congestion control is within a link between two routers/bridges.

15. Which is false about Java strings

1. They are Null terminated
2. Set of Chars
3. The Condition checking $==$ and $=$ on a same pair of strings gives different results.

don't know about JAVA ... look into Java handbook book.

17. What's the Cyclomatic complexity of the following code
don't remember the code exactly

a while loop along with if condition

18. why is dram slow

Because it has to be refreshed once in t micro seconds to keep the contents alive.
Not required in static ram.