

CS7713 - COMPREHENSION AND TECHNICAL REPORT

**NETWORKS & PARALLEL AND
DISTRIBUTED COMPUTING**

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1. Which one of the following task is not done by data link layer?
 - a) Framing
 - b) Error control
 - c) Flow control
 - d) Channel coding**

2. If end to end delay is given by $d_{\text{end-end}} = N(d_{\text{proc}} + d_{\text{trans}} + d_{\text{prop}})$ is a non-congested network. The number of routers between source and destination is
 - a) $N/2$
 - b) N
 - c) $N-1$**
 - d) $2N$

3. Main difference between SNMPv3 and SNMPv2 is the
 - a) Management
 - b) Integration
 - c) Classification
 - d) Enhanced security**

4. Fragmentation has following demerits
 - a) Complicates routers
 - b) Open to DOS attack
 - c) Overlapping of fragments
 - d) All of the mentioned**

5. What is the subnetwork number of a host with an IP address of 172.16.66.0/21?
 - a) 172.16.36.0
 - b) 172.16.48.0
 - c) 172.16.64.0**
 - d) 172.16.0.0

6. RPC works between two processes. These processes must be
 - a) on the same computer
 - b) on different computers connected with a network
 - c) both on the same computer and on different computers connected with a network**
 - d) none of the mentioned

7. DHCP client and servers on the same subnet communicate via
- a) **UDP broadcast**
 - b) UDP unicast
 - c) TCP broadcast
 - d) TCP unicast
8. The server program tells its TCP that it is ready to accept a connection. This process is called
- a) Active open
 - b) Active close
 - c) Passive close
 - d) **Passive open**
9. In the process of fetching a web page from a server the HTTP request/response takes _____ RTTs.
- a) 2
 - b) **1**
 - c) 4
 - d) 3
10. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?
- a) 14
 - b) 15
 - c) 16
 - d) **30**
11. The iconic feature of the RISC machine among the following are
- a) Reduced number of addressing modes
 - b) Increased memory size
 - c) **Having a branch delay slot**
 - d) All of the mentioned

12. In immediate addressing the operand is placed
- a) In the CPU register
 - b) After opcode in the instruction**
 - c) In the memory
 - d) In the stack
13. The access time of memory is _____ the time required for performing any single CPU operation.
- a) Longer than**
 - b) Shorter than
 - c) Negligible than
 - d) Same as
14. Processors of all computers, whether micro, mini or mainframe must have
- a) ALU
 - b) Primary Storage
 - c) Control unit
 - d) All of above**
15. The advantage of RISC processor over CISC processor is that
- a) The hardware architecture is simpler
 - b) An instruction can be executed in one cycle**
 - c) Less number of registers accommodate in chip
 - d) Parallel execution capabilities

```

begin
  left := (my_id - 1) mod p;
  right := (my_id + 1) mod p;
  recv := 0;
  for i := 1 to p - 1 do
    j := (my_id + i) mod p;
    temp := msg[j] + recv;
    send temp to left;
    receive recv from right;
  endfor;
  result := msg[my_id] + recv;

```

16. Above piece of algorithm represents which one of the following?
- a) All to all reduction**
 - b) All to all broadcast
 - c) One to all reduction
 - d) One to all broadcast

```

begin
  for i := 1 to  $2^d - 1$  do
    begin
      partner := my_id XOR i;
      send  $M_{my\_id}$ , partner to partner;
      receive  $M_{partner, my\_id}$  from partner;
    endfor;
  endfor;

```

17. Above piece of algorithm represents which one of the following?
- All to all reduction
 - All to all broadcast
 - Scatter and Gather
 - All to all personal**
18. Ring leader election theorem states that there is an asynchronous leader election algorithm whose message complexity is
- $O(n^2)$
 - $\Theta(n \log n)$
 - $O(n \log n)$**
 - All the above
19. If C is a bivalent configuration, the number of processor that isn't critical in C is
- All of the processors
 - At least One**
 - More than one
 - None of the above
20. "For all messages m_1 and m_2 and all processors P_i and P_j , if m_1 is received at P_i before m_2 , then m_2 is not received at P_j before m_1 is".
- The above condition is satisfied by which of the following?
- Single Source FIFO**
 - Totally Ordered
 - Causally Ordered
 - None of the above

ANSWER KEY:

1. D
2. C
3. D
4. D
5. C
6. C
7. A
8. D
9. B
- 10.D
- 11.C
- 12.B
- 13.A
- 14.D
- 15.B
- 16.A
- 17.D
- 18.C
- 19.B
- 20.A