Computer Network Test Paper

1. Who invented IP and some related Internet protocols? B
   a) Vinton Cerf and Bob Metcalfe
   b) Vinton Cerf and Robert Kahn
   c) Bob Metcalfe and Ivan Sutherland
   d) Bob Metcalfe and David Clark

2. In the OSI reference model,

3. The *upper layers* of the OSI model are, in correct order B
   a) Session, application, presentation
   b) Session, presentation, application
   c) Session, application, presentation, physical
   d) Application, presentation, session

4. The *lower layers* of the OSI model are, in correct order D
   a) physical, system, network, logical
   b) physical, logical, network, system
   c) physical, transport, network, data link
   d) physical, data link, network, transport

5. The Internet Protocol (IP) generally corresponds to which OSI layer? A
   a) Network (layer three)
   b) Transport (layer four)
   c) Data link (layer two)
   d) Session (layer five)

6. MTU stands for C
   a) Minimum Transfer Unit
   b) Minimum Transmission Unit
   c) Maximum Transmission Unit
   d) Maximum Transfer Unit

7. What layer of the OSI model is designed to perform error detection functions? B
   a) Physical
   b) Data link
   c) Network
   d) transport

8. Which of these network devices primarily functions at the OSI Network layer (layer 3)? C
   a) Switch
   b) Gateway

c) Router
d) All of the above

9. What is the size of today's standard (IPv4) IP address? A
   a) 4 bytes (32 bits)
   b) 12 bytes (96 bits)
   c) 15 bytes (120 bits)
   d) 16 bytes (128 bits)

10. What is the size of the next-generation (IPv6) IP address?
   a) 4 bytes (32 bits)
   b) 12 bytes (96 bits)
   c) 15 bytes (120 bits)
   d) 16 bytes (128 bits)

11. Which of the following higher-level protocols runs over IP? D
   a) FTP
   b) HTTP
   c) SMTP
   d) All of the above

12. Which of the following IPv4 addresses is the *loopback address*? C
   a) 0.0.0.0
   b) 10.0.0.1
   c) 127.0.0.1
   d) 255.255.255.255

13. Which of the following IPv6 addresses is the loopback address? B
   a) 0::0
   b) 0::1
   c) 127::0
   d) 127::1

14. The length of an IP datagram header can vary depending on the options used. What is the smallest possible IP header size? B
   a) 16 bytes
   b) 20 bytes
   c) 24 bytes
   d) 60 bytes

15. The source IP address for an IPv4 datagram is stored where in the header? C
   a) 2nd longword (bytes 5-8)
   b) 3rd longword (bytes 9-12)
   c) 4rd longword (bytes 13-16)

d) 5rd longword (bytes 17-20)

16. The destination IP address for an IPv4 datagram is stored where in the header? D
    a) 2nd longword (bytes 5-8)
    b) 3rd longword (bytes 9-12)
    c) 4rd longword (bytes 13-16)
    d) 5rd longword (bytes 17-20)

17. The header length field in an IPv4 datagram contains the size of an IP header measured in number of C
    a) Bits
    b) Bytes
    c) Longwords (4 bytes)
    d) None of the above

18. Can IP run over any other physical networks besides Ethernet? D
    a) No (and IP does not run over Ethernet)
    b) No
    c) Yes (but IP does not run over Ethernet)
    d) Yes

19. What function does Address Resolution Protocol (ARP) perform? A
    a) Converts IP addresses to Ethernet addresses
    b) Automatically assigns IP addresses to computers
    c) Prevents two computers from using the same IP address
    d) None of the above

20. What mechanism does ARP use to resolve IP addresses? B
    a) Mathematical formula
    b) Lookup table
    c) Central web site
    d) Random number generator

21. Which utility program is designed to report whether a networked computer is responding at a given IP address, and how long these responses take? B
    a) traceroute
    b) ping
    c) ttcp
    d) netstate

22. which of these shell commands supplies the IP address of a computer running the Linux operating system? B
    a) ipconfig
    b) ifconfig

c) linuxconf
d) none of the above

23. Which of the following technologies manage the conversion between IP addresses and host names? B
    a) BGP
    b) DNS
    c) ARP
    d) All of the above

24. CIDR stands for D
    a) Class-based Internet Domain Routing
    b) Careful Inter-Domain Routing
    c) Constant Internet Domain Routing
    d) Classless Inter-Domain Routing

25. In CIDR notation, which of the following networks contains host 192.168.14.2? B
    a) 192.168.10.0/22
    b) 192.168.11.0/21
    c) 192.168.12.0/23
    d) 192.168.13.0/24

26. Which central authority is responsible for allocating IP addresses on the Internet? B
    a) IETF
    b) IANA
    c) IEEE
    d) None of the above

27. The IP delivery service is C
    a) Reliable, connection-oriented
    b) Non-routable
    c) Unreliable, connectionless
    d) None of the above

28. TCP stands for A
    a) Transmission Control Protocol
    b) Trivial Connection Protocol
    c) Traffic Control Protocol
    d) Telephony Connection Protocol

29. UDP stands for C
    a) Universal Data Protocol
    b) Unreliable Datagram Protocol
    c) User Datagram Protocol

d) Ultimate Data Protocol

30. Both TCP and UDP belong to which layer of the OSI mode? B
    a) Session
    b) Transport
    c) Network
    d) Data Link

31. UDP offers which of the following benefits relative to TCP? A
    a) UDP consumes fewer computer resources by not maintaining connection state
    b) UDP supports a self-regulating “throttle” feature that prevents network saturation
    c) UDP guarantees that Individual packets of a transmission will arrive “in order”
    d) None of the above

32. What is the maximum recommended length of twisted-pair Ethernet cables used in home or business networks? B
    a) 10 meters
    b) 100 meters
    c) 1000 meters
    d) Other

33. On Ethernet LANs, the Ethernet address is also known as the B
    a) IP address
    b) MAC address
    c) Virtual address
    d) Other

34. How long is a MAC address? B
    a) 4 bytes
    b) 6 bytes
    c) 8 bytes
    d) 10 bytes

35. What is the basic unit of Ethernet traffic? B
    a) File
    b) Frame
    c) Packet
    d) Stream

36. CSMA/CD stands for A
    a) Carrier Sense Multiple Access with Collision Detection
    b) Collision Sense Multiple Access with Carrier Detection
    c) Carrier Single-Multiple Access with Collision Detection
    d) Collision Single-Multiple Access with Carrier Detection

37. Which of the following is a routing protocol?
    a) ARP
    b) DNS
    c) BGP
    d) SMTP

38. Which of the following algorithm has the so called *count-to-infinity problem*? C
    a) Flooding algorithm
    b) Link-state algorithm
    c) Distance vector algorithm
    d) None of the above

39. Which of the following algorithm does BGP use? C
    a) Flooding algorithm
    b) Link-state algorithm
    c) Distance vector algorithm
    d) None of the above

40. Which of the following protocol does ICMP run over? C
    a) TCP
    b) UDP
    c) IP
    d) Ethernet

41. Which of the following describes the TCP connection establishing mechanism? C
    a) One-way-handshake
    b) Two-way-handshake
    c) Three-way-handshake
    d) Four-way-handshake