**COLLEGE OF ENGINEERING &**
**ENGINEERING TECHNIQUES**
**COMPUTER TECHNIQUES ENGINEERING**

**NETWORK SIMULATION**
**MIDTERM TEST EXAMINATION**
**FINAL MARK [10 MARKS]**

**QUESTION 1 [30 Marks]**
**MULTIPLE CHOICE QUESTIONS.**
**Please Select the Correct Answer for each of the following questions. (1 Mark) for each Question. Answer All Questions.**

1. What is the maximum number of hosts per subnet for a Class B IP address with a subnet mask of 255.255.255.252?

    a. 2    b. 4    c. 8    d. 12    e. 16

2. In binary, what is the first octet range for a Class C IP address?

    a. 00000000 - 01111111    b. 10000000 - 11111111    c. 11000000 - 11111111    d. 11111111 - 11111111    e. 00000000 - 11111111

3. What is the purpose of a subnet mask in networking?

    a. Identify network devices    b. Enhance internet speed    c. Graphic rendering    d. Divide an IP network into subnetworks
    e. Cable organization

4. What is the primary motivation behind subnetting in IP networking?

    a. Improved graphic design    b. Efficient utilization of IP addresses    c. Faster internet speeds    d. Simplified cable management
    e. Enhanced device identification

5. Which IP class has a default subnet mask of 255.0.0.0?

    a. Class A    b. Class B    c. Class C    d. Class D    e. Class E

6. What is the binary equivalent of the decimal number 128?

    a. 10000001    b. 11000000    c. 10000000    d. 11110000    e. 11111111

7. What is the default subnet mask for a Class C IP address?

    a. 255.0.0.0    b. 255.255.0.0    c. 255.255.255.0    d. 255.255.255.255    e. 0.0.0.0

8. How many bits are used for the network portion in a Class B IP address?

    a. 8 bits    b. 16 bits    c. 24 bits    d. 32 bits    e. 64 bits

9. What is the purpose of an IP address?

    a. Device identification    b. Internet speed control    c. Cable management    d. Graphic design    e. All of the above

10. Which IP address class is commonly used for large networks?

    a. Class A    b. Class B    c. Class C    d. Class D    e. Class E

11. What is the default subnet mask for a Class A IP address?

    a. 255.0.0.0    b. 255.255.0.0    c. 255.255.255.0    d. 255.255.255.255    e. 0.0.0.0

12. What is the primary purpose of subnetting?

    a. Enhancing internet speed    b. Device security    c. Efficient use of IP addresses    d. Cable organization    e. Increasing
    computer storage

13. How many usable host addresses are there in a subnet with a subnet mask of 255.255.255.240?

    a. 8    b. 14    c. d. 16    e. 32

14. What is the decimal equivalent of the binary number 11011010?

    a. 210    b. 218    c. 226    d. 232    e. 240

15. Convert the decimal number 172 to binary.

   a. 10101100   b. 11010110   c. 10101110   d. 11010010   e. 11100100

16. If an IPv4 address is 11000000.10101000.00101010.11110000 in binary, what is its decimal representation?

   a. 192.168.42.240   b. 192.168.42.240   c. 192.170.42.240   d. 200.168.42.240   e. 192.168.170.240

17. What is the default subnet mask for a Class B IP address?

   a. 255.0.0.0   b. 255.255.0.0   c. 255.255.255.0   d. 255.255.255.255   e. 0.0.0.0

18. Which IP address class is commonly used for small networks?

   a. Class A   b. Class B   c. Class C   d. Class D   e. Class E

19. What is the default subnet mask for a Class C IP address?

   a. 255.0.0.0   b. 255.255.0.0   c. 255.255.255.0   d. 255.255.255.255   e. 0.0.0.0

20. Which IP address class is commonly used for medium networks?

   a. Class A   b. Class B   c. Class C   d. Class D   e. Class E

21. How many bits are in an IPv4 address?

   a. 16 bits   b. 32 bits   c. 64 bits   d. 128 bits   e. 8 bits

22. Convert the decimal number 255 to binary.

   a. 11111110   b. 11111111   c. 11111011   d. 11111100   e. 11111010

23. What is the maximum number of hosts per subnet for a Class C IP address with a subnet mask of 255.255.255.240?

   a. 16   b. 32   c. 64   d. 14   e. 128

24. Which class of IP addresses is reserved for multicast groups?

   a. Class A   b. Class B   c. Class D   d. Class E   e. Class F

25. How many bits are used for the host portion in a Class B IP address?

   a. 8 bits   b. 16 bits   c. 24 bits   d. 32 bits   e. 64 bits

26. How many bits are used for the host portion in a Class C IP address?

   a. 8 bits   b. 16 bits   c. 24 bits   d. 32 bits   e. 64 bits

27. Which class of IP addresses is used for experimental purposes?

   a. Class E   b. Class A   c. Class B   d. Class C   e. Class D

28. How many bits are used for the host portion in a Class A IP address?

   a. 8 bits   b. 16 bits   c. 24 bits   d. 32 bits   e. 64 bits

29. What is the binary equivalent of the decimal number 192?

   a. 10111100   b. 11000001   c. 11000000   d. 11110000   e. 11111111

30. What is the purpose of subnetting in networking?

   a. Increase internet speed   b. Efficient use of IP addresses   c. Graphic design   d. Device identification   e. Cable management