1) What is the Hexadecimal equivalent of $(98899910)_{10}$

2) Convert the following numbers to base indicated and vice-versa (Cross-Verify)
   a) $(1101)_2 => (\ )_8$
   b) $(1111\ 1111\ 1110)_2 => (\ )_{10}$
   c) $(221201)_3 => (\ )_{10}$
   d) $(76)_8 => (\ )_{10}$
   e) $(231)_8 => (\ )_2$
   f) $(0xF00)_{16} => (\ )_8$
   g) $(0xDACE)_{16} => (\ )_{12}$
   h) $(0x2B)_{16} => (\ )_8$

Note : 0x is a representation for HexaDecimal Numbers. Ignore 0x while conversion.

3) Convert the following numbers to the base 10 :
   a) $(3312)_8$
   b) $(167)_8$
   c) $(202103)_9$
   d) $(3132334)_{16}$
   e) $(0xF2)_{16}$

4) Convert the following base 10 numbers to the base
Indicated:
   a) $(5610)_{10} => (\ )_2$
   b) $(5610)_{10} => (\ )_3$
   c) $(5610)_{10} => (\ )_8$
   d) $(5610)_{10} => (\ )_{12}$
   e) $(5610)_{10} => (\ )_{16}$
   f) $(22110)_{10} => (\ )_2$
   g) $(22110)_{10} => (\ )_3$
   h) $(22110)_{10} => (\ )_8$
   i) $(22110)_{10} => (\ )_{12}$
   j) $(22110)_{10} => (\ )_{16}$

5) Convert the following floating numbers
   1) $(34.34)_{10}$
   2) $(125.125)_{10}$
   3) $(10.16)_{10}$

   to binary, base 3, octal, and hexadecimal. Any fractions that do not terminate should be truncated to 4 digits in the fractional part.

6) What is the largest positive number one can represent in a 12-bit 2's complement code? Write your result in binary and decimal?

7) What are the 8-bit patterns used to represent each of the characters in the string **"CODE/THS 2019 "**? (Only represent the characters between the quotation marks.)
**Note: There is space between THS and 2019 .

8) What is the biggest binary number you can write with 5 bits?

9) In hex, 2BFC + 54A7 ??

10) Convert the hex number ABC7 to binary?

11) In hex, AC74 − B3F?

12) Convert the following binary fractions to ordinary fractions
   - 0.1001
   - 1.0011
   - 1.1111

13) The decimal expansion of 11/17 is 0.647. Find the binary expansion of the fraction 11/17.

14) The decimal expansion of 3/11 is 0.2727. Find the binary expansion of the fraction 3/11.

15) The decimal expansion of 11/17 is 0.647. Find the binary expansion of the fraction 11/17.

16) The decimal expansion of 3/11 is 0.2727. Find the binary expansion of the fraction 3/11.

17) What is the significance of the 127.0.0.1 address ?

18) How many bits are in IPv4 IPv6?

19) Convert this IP Address in Binary Dot Notation
11000000.10010000.00001010.00001010
      into its equivalent decimal Dot Notation?

20) What is the range of IPv4 addresses ?

21) Explain the Classification of IP Addresses ?

22) Why are we running out of IPv4 Addresses?

23) Can a device have both IPv4 and IPv6 address simultaneously?

24) IPv4 classification is done on which octet of IPv4 address format ?

25) Class E IP Addresses are currently used for which purpose?

26) Which class does this ip address 224.255.255.1 belong to?

27) What are Private IP Addresses and What is their range?

28) Given an IP Address can I differentiate between Public and Private IP Address?

29) Define Port? What does the Port Number represent?

30) Port numbers used by HTTP, FTP, HTTPS, SMTP are ?

31) What is a web server and client ? Command used to start a simple python HTTP server in Linux?

32) What is the difference between URI , URL, URN ?

33) What are Server side programming languages ? Name a few server side programming languages ?

34) Can JavaScript be considered as a client side programming language ?

35) What does the DNS server consist of and what is the importance of it ? Define Root Servers?

36) What is DNS spoofing ?

37) What are Status Codes in HTTP? What are HTTP Request Methods? HTTP Status Codes 200, 400 , 502 and 201 for ?

38) What is the role of Model , View and Controller in MVC architecture?Role of Client and Server in Client Server Architecture?

39) What is a Compiler, How is JavaScript code executed ? Using Compiler or interpreter?

40) What is a JIT (Just In Time compilers), what is their role in the modern day web Browsers?

41) What is the purpose of VPN ? How are VPN and Firewalls Related?