***Networking Fundamentals***

**Tutorial 5**

1) What is the meaning of the term “hop” with regards to routing?

2) What does a routing table tell the router?

3) At what OSI level does routing and IP addressing happen?

4) Convert 143 to binary

5) Convert 10110011 to decimal

6) Sketch a simple diagram which illustrates the concepts of Unicast, Broadcast and Multicast communication

7) How many bits are involved with IPv4 and how many addresses are available?

8) The IPv4 address is split into two fields, what are their names?

9) What is the task of a subnet mask?

10) State the ranges involved for network and host for each of the classes A, B, C, D, E

11) Why is the available addresses reduced by 2 for each subnet?

12) How many bits are used for addressing in the IPv6?

13) Write the IPv6 address FE12:0012:05FD:35DD:0000:0000:0000:0012out in reduced form

14) State the class A, B and C ranges of private addresses

15) What is CIDR and why is it used?

16) State the subnet mask for /24 as in CIDR notation

17) How many ports are available in a host?

18) What range of port numbers is categorised as well known?

19) What range of ports is categorised a dynamic and private?

20) State the port numbers which are in use for (a) http (b) FTP (c) https (d) DNS