***Networking Fundamentals***

**Tutorial 4**

1) Give 3 reasons why is the OSI model needed in the field of computer networking?

2) Which standards organisation published the OSI model in 1983?

3) How many layers are in the OSI model?

4) For each layer of the OSI model state the layer name and 2 tasks associated with each layer

5) Which layer is responsible for the transmission of the data bits from the sender to the receiver?

6) Which layer is responsible for fault detection and recovery?

7) Which layer is responsible for routing of the data?

8) Which layer is responsible for dealing with IP addresses?

9) Which layer is responsible for dealing with MAC addresses?

10) Which layer information is used by a Router?

11) Which layer information is used by a Switch?

12) Which layer is used by a Hub?

13) Which layer does the TCP protocol operate at?

14) Which layer does the IP protocol operate at?

15) What is a PDU?

16) What is meant by data encapsulation?

17) What is the PDU at the Transport layer?

18) What is the PDU at the Network layer?

19) How many layers are in the TCP/IP protocol model?

20) Show with a diagram how the OSI and TCP/IP models compare

21) At what level of the OSI model does the HTTP protocol work?

22) At what level of the TCP/IP model does the UDP protocol work?

23) When the PDU is a packet state what the corresponding layers are for the OSI and the TCP/IP models

24) When data formatting is considered state what the corresponding layers are for the OSI and the TCP/IP models