

**MULTIMEDIA UNIVERSITY COLLEGE**  
**FACULTY OF ENGINEERING**  
**ELECTRICAL AND COMMUNICATION ENGINEERING DEPARTMENT**  
**BSc.TIE**  
**Year II**  
**ETI 2301: COMPUTER NETWORKS.**  
**CAT I.**  
**DATE: 16-11-2012**  
**TIME: 1 Hour.**

**Question**

- a. List any **THREE** functions of the following layers of the OSI model
- i. Transport; ← Connection Control (whether Connection-oriented / Connectionless)
  - ii. Data link. ← Segmentation & reassembly  
Multiplexing & demultiplexing
- (6 marks)
- MAC - order of packets sent.  
→ Framing.  
→ Physical addressing.*
- b. i. Explain the difference between a connection oriented protocol and a connection-less protocol.
- ii. Explain the need for communication standards with respect to computer networks.
- (3 marks)

- c. A given host IP address is 17.110.25.6 and subnet mask is 255.224.0.0. Determine the:
- i. Last host address of the major network;
  - ii. subnet address for the given host IP address;
  - i. Range of host addresses for this subnet;
  - ii. Broadcast address for this subnet;

2 | 128 0  
2 | 64 0  
2 | 32 0  
2 | 16 0  
2 | 8 0  
2 | 4 0  
2 | 2 0  
2 | 1 1  
0

256

1000000  
25  
2x2x2x2x2x2x2x2x2  
4x4x4x4  
16x16 = 256

2	256	0
2	128	0
2	64	0
2	32	0
2	16	0
2	8	0
2	4	0
2	2	0
2	1	1
0		

END

2/192

64  
2 | 192

0x0  
10  
252  
2 | 2 0 | 1/2  
2 | 1 1 | 1/2

2 | 3 1  
2 | 1 1  
0

100000000  
29