Examination	: Third Sessional	Seat No.	:
Date	: 09/10/2013	Day	:Wednesday
Time	: 11:15 to 12:30	Max. Marks	: 36

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1	**Do as directed.**	**[12]**
A	Give differences between TCP and UDP.	**[2]**
B	What is socket? List Berkley socket primitives.	**[2]**
C	Briefly explain two ways of terminating a connection with example.	**[2]**
D	Differentiate: Symmetric key and public key cryptography.	**[2]**
E	RIP is based on____and OSPF is based on___.(Link state routing/multicast routing/ distance vector routing /broadcast routing/BGP).	**[1]**
F	Which of the following is protocol data unit (PDU) for the application layer in the internet stack? (A)Segment (B) Datagram(C) Message (D) Frame.	**[1]**
G	Which transport layer protocol is used for real time multimedia data transfer?	**[1]**
H	Which services is provided by transport layer?	**[1]**
Q.2	Attempt **Any TWO** of the following questions.	**[12]**
a	What is delayed duplicate? Give various solution of it and protocol scenarios for establishing a connection using Three-way-handshake.	**[6]**
b	Explain the protocol scenarios for releasing a connection using Three-way-handshake.	**[6]**
c	The following is a dump of a TCP header in hexadecimal format.	**[6]**

   06320028 00060008 10200000 500107F8 03200000

   (1) What is the source port number?
   (2) What is the destination port number?
   (3) What is the sequence number?
   (4) What is the type of segment?
   (5) What is the length of header?
   (6) What is the window size?

Q.3(a)	Consider an instance of TCP's use slow start algorithm with threshold where the window size at the start of the slow start phase 2 MSS and the threshold at the start of the first transmission is 8 MSS assume that the time out occurs during the fifth transmission Find the congestion window size at the end of tenth transmission.	**[6]**
Q.3(b)	Explain domain name system.	**[6]**

-OR-

Q.3(a)	Consider that a TCP sender, Host A, wants to send 21,000 bytes to Host B. The RTT is 50ms. The maximum segment size (MSS) is 1460 bytes, the initial congestion window is 1460bytes (1 MSS), and the initial slow-start threshold is 500 MB.	
	(I) How many TCP segments will it take to send the 21,000 bytes?	**[2]**
	(II) How many RTT rounds will it take to send the 21,000 bytes, ignoring connection setup?	**[2]**
	(III) How large (in segments) will the congestion window be in the last round?	**[2]**
Q.3(b)	**(I)**What are TSAP and NSAP explain with diagram?	**[4]**
	(II) Why shouldn't we set the TCP timeout value to be extremely large to avoid early timeouts?	**[2]**