DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY

B.TECH. SEMESTER IV [Information Technology]

SUBJECT: (IT 407) Computer And Communication Network

Examination	**: Third Sessional**	**Seat No.**	**:**
Date	**: 12/04/2016**	**Day**	**: Tuesday**
Time	**: 11.00 To 12.15 PM**	**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) What is the value of the receiver window (rwnd) for host A if the receiver, host B, has a buffer size of 5000 bytes and 1000 bytes of received and unprocessed data? **[01]**

(b) Explain the difference between TPC and UDP. **[02]**

(c) Describe the functions of the two FTP connections. **[02]**

(d) Explain the meaning of following socket primitive: **[02]**
BIND, LISTEN, ACCEPT And CONNECT.

(e) If TCP round trip time (RTT), is currently 30 msec and the following acknowledgements come in after 22, 25 and 24 msec respectively, what is the new RTT estimate using Jacobson algorithm? $\alpha=0.9$. **[02]**

(f) What is TELNET? Which transport layer protocol and port number it does use? **[02]**

(g) Which of the following system calls results in the sending of SYN packets? **[01]**
(A) socket (B) bind (C) listen (D) connect

Q.2 Attempt Any Two of following questions. **[12]**

(a) Explain the congestion control policy in TCP. **[06]**

(b) What is Domain Name System? Explain Domain Name Space in detail. **[06]**

(c) Explain categories of cryptography in detail. **[06]**

Q.3 Attempt following questions **[12]**

(a) Explain TCP connection establishment using Three way handshaking. **[06]**

(b) Explain the working of E-mail system using SMTP. **[06]**

OR

Q.3 Attempt following questions **[12]**

(a) What are the policies to improve quality of service? Explain traffic shaping in detail. **[06]**

(b) What is silly window syndrome in TCP? **[02]**

(c) Consider an instance of TCP's Additive Increase Multiplicative Decrease (AIMD) algorithm where the window size at the start of the slow start phase is 2 MSS and the threshold at the start of the first transmission is 8 MSS. Assume that a timeout occurs during the fifth transmission(round). Find the congestion window size at the end of the tenth transmission. **[04]**