

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – III • EXAMINATION – WINTER • 2014****Subject code: 732302****Date: 27-11-2014****Subject Name: Internet Networking and Applications****Time: 02:30 pm - 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) 07
 (i) How a socket address structure is passed to any socket function? Explain 04
 how connect function pass a socket address structure.
 (ii) After forking children, how they can be prevented from becoming zombies? 03
 (b) Explain all steps in sequence for writing TCP echo client. 07
- Q.2** (a) 07
 (i) Before starting the client, how state of server's listening socket can be 04
 verified?
 (ii) Explain the following functions 03
 a.) gethostbyname b.) gethostbyaddr
 (b) Write the basic differences in the five I/O models those are available to us under 07
 UNIX.
- OR**
- (b) What actions are performed by following daemons 07
 a.) syslogd b.) inetd
- Q.3** (a) Explain the following socket option 07
 a.) SO_DONTROUTE b.) SO_KEEPALIVE
 (b) Which type of errors can be returned in case of connect function of a TCP socket? 07
- OR**
- Q.3** (a) Explain the following IPV4 socket option 07
 a.) IP_TTL b.) IP_HDRINCL
 (b) How binding will be done with TCP if, a port number, IP address is specified in bind 07
 or not specified?
- Q.4** (a) What is the difference between unconnected UDP socket and connected UDP 07
 socket?
 (b) What happens if a UNIX domain server calls unlink after calling bind? What happens 07
 if a UNIX domain server does not unlink its well known pathname when it
 terminates, and a client tries to connect to the server sometimes after the server
 terminates?
- OR**
- Q.4** (a) Explain the resource records in the DNS. 07
 (b) What is the difference between wait and waitpid? 07
- Q.5** (a) Explain the SIGPIPE signal. Explain the code of the client program to see what 07
 happens with SIGPIPE?
 (b) Explain the steps that take place when a UDP datagram is sent to a unicast address 07
 and UDP datagram is sent to a broadcast address.
- OR**
- Q.5** (a) Explain the use of sysctl function used to examine both the routing table and 07
 interface list.
 (b) How multicasting is beneficial in WANs? 07