

Answer the following questions:

1. Choose the correct statement.
 - a) C programs can directly invoke system calls
 - b) Library functions use system call
 - c) Library functions don't use system calls
 - d) Both (a) and (b)
 - e) Both (a) and (c)

Answer: Both (a) and (b)

2. Which of the following system calls are not used in a UDP connection?
 - a) bind ()
 - b) connect()
 - c) socket()
 - d) close().

Answer: connect()

3. In which of the following system calls is used to establish a connection between a client and a server in a TCP based connection?
 - a) fork()
 - b) bind()
 - c) connect()
 - d) write()

Answer: connect()

4. State True or False. In connection-less communication, each message carries the destination address and is routed independently from source to the destination.

Answer: True

5. Concatenation of IP address, port and process name defines a socket.

Answer: True

6. Network communications always use little-endian byte order.

Answer: False

7. In a Listen system call, what does the parameter Backlog define?
- maximum number of pending connections allowed
 - maximum number of concurrent connections allowed
 - minimum number of concurrent connections allowed
 - minimum number of pending connections allowed

Answer: maximum number of pending connections allowed

8. Complete the code snippet for establishing a TCP socket at a server. There are five statements that are to be completed (text in red color indicates where the code is to be inserted):

```
int sockfd, bindret, fd, clientfd;

    socklen_t cliilen;
    struct sockaddr_in serv_addr, cli_addr;
    printf("Starting server...\n");
    sockfd = socket(AF_INET, ,0); /* 1: What will be the second argument
of the socket system call to create a TCP socket */

    serv_addr.sin_family = ; /* 2: What will be the value that needs to
be given to this field if the Address family is IPV4*/

    serv_addr.sin_addr.s_addr = ;/* 3: What should be the value of
this field if we wish to bind all local interfaces of
the                host*/

    serv_addr.sin_port = ; /*4: What should be the value of this field
if we want to use port no 2345 as the server port*/
    [D]
    bindret = bind(sockfd, ,sizeof(serv_addr)) /* 5 : What will be the
second argument of bind() system call here*/
```

Answer:

- SOCK_STREAM
- AF_INET (Case Sensitive)
- INADDR_ANY (Case Sensitive)
- htons(2345)
- (struct sockaddr *)&serv_addr