

## ITS332 – Quiz 2

Name: \_\_\_\_\_

ID: \_\_\_\_\_

Mark: \_\_\_\_\_ (out of 5)

Some questions ask you to give a C function name as an answer. You can select from the following functions: accept, bind, bzero, close, connect, exit, fgets, fork, listen, read, socket, sprintf, sscanf, strcpy, write.

### Question 1 [2 marks]

Which function

- a) causes a TCP SYN segment to be sent from client to server?
- b) creates a new process?

### Question 2 [2 marks]

Assuming a TCP connection has been established between host A and host B, consider the following code that executes on the hosts, assuming the program on Host B is running and then the program on Host A starts:

Host A

```
strcpy(var1, "string1");
strcpy(var2, "string2");
printf("%s", var1);
fgets(var3, 255, stdin);
write(socketid, var2, strlen(var2));
n = read(socketid, var4, 255);
printf("%s", var4);
```

Host B

```
strcpy(var1, "string1");
strcpy(var2, "string2");
n = read(sid, var3, 255);
strcat(var3, var2);
n = write(sid, var3, strlen(var3));
printf("%s", var3);
```

- a) How many bytes are in the TCP Data segment (excluding header) sent from Host B to Host A? [1 mark]
- b) What is printed on the screen at Host B? [1 mark]

**Question 3** [1 mark]

HTTP is used for web browsers to request files from web servers. The format of a request message is:

GET *url* HTTP/1.1

and the format of a response message is:

HTTP/1.1 *statuscode*

where common status codes are:

200 Ok

304 Not Modified

401 Unauthorized

404 Not Found

Consider two web servers, [www.example1.com](http://www.example1.com) and [www.example2.com](http://www.example2.com), with the following files in their root web directory:

|  |  |
|--|--|
| <a href="http://www.example1.com">www.example1.com</a> | <a href="http://www.example2.com">www.example2.com</a> |
| file1.html   | file1.html   |
| file1.jpg  | file2.html   |
| file2.html   | file3.html   |

Draw a diagram indicating the messages sent between browser and server if the browser user types in the URL [www.example1.com/file3.html](http://www.example1.com/file3.html) into the address bar.