

1. Regarding the layered OSI model:

A) On which layer does a switch operate?

B) What hardware device operates at layer 3?

2. Describe the advantage of adding a router to your network over having just a switched LAN.

3. How is a node identified:

A) At the Data Link layer?

B) At the Network layer?

C) At the Application layer?

4. A) Which protocol correlates an IP Address with a domain name?

B) Open a Windows Command Prompt (cmd.exe), type the following command:

```
$ arp -a
```

Explain what you see.

5. Recall that an IP Address is 4 bytes long with each byte separated by a dot. Perform the 4 conversions necessary on the following IP Address to display it in the required formats:

Decimal -> **222.155.58.17**

A) Binary ->

B) Hexadecimal ->