

Q 1. Generally, WireShark columns are arranged in following order (which you can observe on your machine): (0.75x6 = 4 marks)

No., Time, Source, Destination, Protocol, Length.

Being a security expert, and to have a better analysis, how do you arrange and add following columns in WireShark to display the information:

- Date & time in UTC
- Source IP and source port
- Destination IP and destination port
- HTTP host
- HTTPS server
- Info

Please include all relevant screenshots and also the final screenshot of your WireShark application.

Q 2. Load the provided file into WireShark and then answer the following questions along with necessary screenshots (1 mark x 6 = 6 marks)

- a. Identify the http request packet
- b. Identify the http response packet
- c. Display the statistics of the TCP and UDP packets
- d. List out the TCP packets whose syn. And ack. Flags are on.
- e. List out the TCP and UDP packets where destination port=80.
- f. List out the ARP packets.

Q3. Use the template provided below to write a C program that will create a web server on your local machine at port 4444. When you open your browser and type localhost:4444, you should see the message "Hello World" in your web browser. Include comments in your code. (4 marks)

```
#include<sys/socket.h>
#include <stdlib.h>
#include <netinet/in.h>
#include <string.h>
#define PORT 4444
int main(int argc, char const *argv[])
{
    int server_fd, new_sock;
    struct sockaddr_in address;
    char *hello = "Hello World";

    // write your code here
    printf("Hello message sent to browser");
    return 0;
}
```