For the following questions provide correct Modbus RTU commands, i.e. just the hex values, or otherwise answer the question.

1) What are the maximum number of lights that can be used by a single controller?

247 based on the slave address limitation

01 03 0000 0001 840A

2) Check that the baud rate is 19.2K and provide the expected response.

01 03 0001 0001 D5CA

If it is is correct response will be

01 03 02 0001 7984

If not there wouldn't be any response

3) Set light to function E5 configuration

01 06 0004 0003 880A

This will set the the light 1 to E5 config

And this will be echoed if all is good

01 06 0004 0003 880A

4) Read Job 1 of light 15, report a possible response.

0F 03 0063 0001 753A

This asks for light 15 job 1

The response could be

0F 03 0001 0000 1524

OR

0F 03 0001 0001 D4E4

5) Activate Job 2 on light 9, what color is the light.

09 06 0064 0001 089D

Response is

09 06 0064 0001 089D

Color red assuming E5 and no other commands have been sent

6) Read 3 coils starting at 31002, report a possible response.

In

01 04 03E9 0003 61BB

out

01 04 06 0012 0F0F 16D43 398A

7) Given the function E5 configuration if the following is true:

- Job input 1 not active
- Job input 2 active
- Hand/Pick not detected
- Block unblocked
- no touch or push button inactive
- Sensor output active

what would the response(s) look like that describe the above?

The sensor color should be red Job 2 light on

8) Write sudo code for a function that checks the color of all connected lights.

```
Modbus open with all settings
For address =1; address <=247; address ++
{
modbus .write(address + 03 0004 0003 crc)
Wait for response
string holder = Get response

Modbus.write(address + 03 0063 0003 crc)
Wait for response
String temp = Get response
Update array=Color_decod_ function(temp,holder)
}
Do something with color log

Color_decod_ function(string,string)
{
Case switch
F2:
return=Color determination logic
C3:
return=Color determination logic

E5:
return=Color determination logic
```

```
}
```