

You may discuss these questions with your classmates, as it may be helpful to gain a good understanding of the topic. Nonetheless you should always submit your own work!
Use a word processor to answer these questions, attach this questions page to your answers.

Question 1.

Explain the RS-232C frame format. Depict a diagram indicating the various components of this format and explain each one of them.

Question 2.

Explain the Queued Serial Module (QSM). Indicate its main components/submodules. Specify the general purpose/functions of each of the submodules. Explain what the “port D” is and the signals it incorporates.

NOTE: This is a general question about the QSM, you do not have to talk about the registers of the QSM.

Question 3.

Mention the four operating modes of the DUART. Briefly explain the purpose of each of them.

Question 4.

- a) Describe the Interrupt Mask Register (IMR) of the DUART.
- b) Describe the Interrupt Status Register (ISR) of the DUART.
- c) Describe the Auxiliary Control Register (ACR) of the DUART.
- d) Consider the following piece of code. It initializes the interrupts of the DUART. Indicate what interrupts would trigger an interrupt request signal.

```
.equ INT_MASK, 0b11101110  
.equ ACR_SET, 0b00000011  
MOVE.B #INT_MASK,IMR(A0)  
MOVE.B #ACR_SET,ACR(A0)
```

Question 5.

Describe the layers of the ISO OSI 7-layer protocol.

Question 6.

Describes the fields of the TCP header.