

9.1

Device Register is the view any device presents to a programmer.(5')

Device Data Register stores the data to be input/output is read from/written to the device.(5')

Device Status Register selects/shows the mode of operation of the device.(5')

(其他合理答案均可)

9.2

A ready bit is not needed if synchronous I/O is used because the processor will know exactly when the data will arrive and when it will be taken away (input and output). It will do input and/or output at regular intervals, and it will be guaranteed that during those intervals the input data is taken by the computer and the output data goes to the output device.(20')

(只要提及在同步IO控制下, I/O设备发出信号必须由处理器同时接受即可)

9.9

The keyboard may overwrite a character that the processor has not yet read.(20')

9.10

The display hardware may miss some characters we expect to show.(20')

9.14

In fact, the KBDR and memory location xFE02 refers to the same thing. The LC-3 uses **Memory-Mapped I/O**, all addresses in the range xFE00-xFFFF are reserved for I/O. The **MMU** will know memory location xFE02 is KBSR and deal with it correctly.(25')

(提及**Memory-Mapped I/O**并正确解释其工作原理即可得15', 解释对于硬件电路/内存管理单元而言 xFE02与KBSR指向相同的地方即可得10')