

Multiple Choice Questions

5.1 For each of the following cases identify the context – if it is human $\leftarrow \rightarrow$ computer / device $\leftarrow \rightarrow$ computer or computer $\leftarrow \rightarrow$ computer communication:

- a. Key board
- b. Monitor
- c. Touch screen
- d. Joy stick
- e. Floppy
- f. CD drive
- g. Modem
- h. Broadband

5.2 For each of the following mechanism identify - if it is human $\leftarrow \rightarrow$ computer / device $\leftarrow \rightarrow$ computer or computer $\leftarrow \rightarrow$ computer communication:

- a. Polling
- b. Read / write under program control
- c. DMA

5.3 The programmed mode of IO is a blocking IO

- a. True
- b. False

5.4 We describe a protocol of input device communication below.

- a. Each device has a distinct address
- b. The bus controller scans each device in sequence of increasing address value to determine if the entity wishes to communicate.
- c. The device ready to communicate leaves it data in IO register.
- d. The data is picked up and the controller moves to step-a above.

Identify the form of communication best describes the IO mode amongst the following:

- a. Programmed mode of data transfer
- b. DMA
- c. Interrupt mode
- d. Polling

- 5.5 From amongst the following given scenarios determine the right one to justify interrupt mode of data-transfer:
- Bulk transfer of several kilo-byte
 - Moderately large data transfer but more than 1 KB
 - Short events like mouse action
 - Key board inputs
- 5.6 Which of the following can be nested interrupts:
- Soft-ware interrupts
 - Hardware interrupts
 - External interrupts
- 5.7 DMA is set up using an interrupt
- True
 - False
- 5.8 Suppose a DMA is set up to transfer 100KB data. Identify which of the following statements are true.
- The processor is interrupted after every byte of transfer
 - The processor interrogates at the end of every clock cycle if the transfer is complete
 - The DMA transfer the data independent of processor till the transfer is completed.
- 5.9 A Double buffer is a cyclic buffer with cycle length of 2
- True
 - False
- 5.10 Who amongst the following sets the timer for preemptive scheduling:
- The user
 - The processor clock
 - The operating system scheduler
- 5.11 IO channels are merely communication wires with no buffers
- True
 - False

5.12 Put the following disk scheduling policies in the order that will result in minimum amount of head movement.

- a. FCFS
- b. Circular scan
- c. Elevator algorithm