1. Which of the following is correct about batch systems on old mainframes?

   The system runs one user's job to completion at a time

2. Multiprogramming addresses which of the following disadvantages with batch processing?

   Multiprogramming keeps processor utilized by performing computation and I/O in parallel

3. Context switching is always done in which type of system?

   Multitasking system

4. Which of the following is true about multiprocessor systems?

   A multi-core multiprocessor can deliver the same performance as a single processor but at much lower power consumption

5. which of the following is true about embedded and real-time systems?

   An embedded system might not run an OS

6. Consider the assembly code in Intel 0851 assembly code

   ORG 0020H
   MOV 90H, #24H
   END

   which of the following is NOT a correct description of the effect of ORG 0020H?

   ORG is the opcode and 0020H is the operand

7. Which of the following 8051 assembly instruction is equivalent to MOV 90H, #24H?

   MOV 90H, #36

8. which of the following is a correct description of END in the assembly source above?

   Nothing: it marks the end of the assembly source code, but the processor continues executing whatever is at that program memory location

9. Which of the following is correct about the sizes of various registers on 8051?

   DPTR is 16bits

10. In the instruction MOV 23, #45, which of the following is correct about the operands?

    #45 is an immediate operand

11. Which of the following is most likely to be part of the kernel of a typical general-purpose OS?

    device drivers

12. Which of the following is not an example of a system program?

    text editor

13. As a resource manager, what kind of resources does an OS manage?

    CPU time, storage space, use of I/O devices

14. Which of the following can a bootloader do?

    Copy an OS image from a server into RAM and jump to it

15. Which of the following is true about I/O mechanisms?

    Status register, data register, and buffer are part of the device controller

16. How does a program for 8051 know when the UART has received a byte?
    RI flag == 1

17. which of the following is true about polling vs. interrupt?

Interrupt enable the processor to do useful work while waiting for an I/O event

18. which of the following is correct about interrupts?

An interrupt vector is the address of an ISR

19. How does a processor decide which ISR to execute when multiple I/O devices trigger their IRQ on different interrupt lines at the same time?

The higher-priority interrupt will be taken while the lower-priority interrupt has to wait

20. How does an OS protect the CPU time as a resource by preventing a user program from hogging CPU?

The OS uses timer interrupt to gain control

21. What does a loader do?

It reads the program image from disk to memory and starts the process