1. Why is it good idea to structure a server by spawning a thread to serve a new request compared to spawning a new process?

   Much lower overhead due to sharing of code and resources within the same server process

2. Which of the following is true about RPC?

   A stub function marshals the parameters, requests the remote server to do actual work, and demarshals the reply message as return value

3. Which of the following is true about concurrency and parallelism?

   Concurrency means possibility of running in parallel, whereas parallel means simultaneously execution

4. Which of the following is true about kernel threads?

   Threads that are managed by the kernel but may be assigned to user threads

5. Which of the following is true about converting recursive calls to Quicksort into multiple threads on a multi-core or multiprocessor?

   It may run slower than the serial version even on a multi-core due to overhead of thread management

6. Which of the following is correct about scheduler activation?

   The kernel allocates a kernel thread to a user thread to prevent it from blocking the entire process

7. What is the relationship between a kernel thread and a hardware thread?

   One or more kernel threads may run on a given hardware thread

8. What is the difference between join() and detach() in the context of threads?

   join() is called by the main thread to free up a thread's resource upon is termination, whereas detach() marks the thread to be automatically reclaimed on termination

9. What does it mean to cancel(t) asynchronously, where t is a thread?

   It asks thread t to terminate itself

10. If you have a Python Statement g.send(20) where g is an instance of a generator, how does the generator receive the value and put it in a local variable c?

    c=yeild

11. What is the type of parallelism supported in OpenMP?

    fork-join parallelism

12. How does the RET instruction in 8051 know where to return to?

    The return address is found in the top two bytes of the stack

13. Which of the following sequences of 8051 institutions allows you to transfer control to (i.e., effectively jump to) the (code) address contained in DPTR?

    PUSH DPL
    PUSH DPH
    RET

14. How does SDCC pass a single-byte parameter?

    In DPL

15. If you define a function named Bootstrap in SDCC, what is the corresponding label in assembly?

    _Bootstrap

16. For the threads project on Edsim51, how are the stacks for the four threads allocated in the on-chip RAM? The H suffix below indicated hexadecimal base?

    40H-4FH, 50H-5FH, 60H-6FH, 70H-7FH

17. What is the power-on initial value of the stack pointer (SP) on 8051?

    07H

18. In SDCC, how do you make the stack pointer point to address 46H, assuming you have #include<8051.h>?

    SP=0x46;

19. On 8051, what does PSW stand for?

    Program status word

20. Which of the following is correct about scheduling policies?

    SJF is shortest-job-first scheduling