Name: ---

ID: ---

Time allowed: _____

Examination Number: _____

Semester: Spring 2018

Subject: Computer Organization

Encircle the correct answer (Each question carries a single mark).

1. Compiler is an example of:
    a. Application software
    b. Hardware
    c. System software
    d. Machine language
2. Which of the following manages hardware resources for application software:
    a. Operating system
    b. Compiler
    c. Assembler
    d. Linker
3. A computer which has a specific task or set of tasks is called:
    a. Desktop computer
    b. Embedded computer
    c. Server computer
    d. All of a, b, c
4. High level programs are:
    a. Hardware dependent
    b. Hardware independent
    c. Assembly programs
    d. None of a, b, c
5. Interconnection between memory, I/O and CPU is called
    a. Computer organization
    b. Instruction set architecture
    c. Execution time
    d. Response time
6. Computer architecture consists of:
    a. Instruction set architecture
    b. Computer organization
    c. Instruction set architecture and computer organization

d. None of a, b, c

7. It is possible to have different organizations for same instruction set architectures?
    a. True
    b. False

8. Time taken to run a program 10s on A, 50s on B, How much times A is faster than B
    a) 10   (b) 15   (c) 1.5   (d) 5

9. If there are 10 clock cycles and clock rate is 1 GHz, then CPU time is
    a. 10ns   (b) 1ns   (c) 20ns   (d) 5ns

10. There are 10 instructions such that each instruction takes one cycle. If clock rate is 1 GHz then CPU time is
    a. 10 ns   (b) 1 ns   (c) 20 ns   (d) 5 ns

11. There are 10 instructions such that CPI is 1. If clock rate is 1 GHz then CPU time is
    a. 10 ns   (b) 1 ns   (c) 20 ns   (d) 5 ns

12. Number of tasks completed per unit time is called:
    a. Latency
    b. Throughput
    c. Execution time

13. The design trend is changing from Uniprocessors to Multiprocessors because of:
    a. Uniprocessors are very expansive in terms of price
    b. Focus on throughput rather than response time
    c. Both a and b are correct
    d. Both a and b are not correct

14. Which of the following statement is not correct:
    a. Static power is the primary source of power dissipation
    b. Dynamic power is due to leakage current
    c. Leakage current flows when the transistor is switching
    d. All of a, b, c are not correct

15. High level programs (such as C programs) are:
    a. Those programs which human beings cannot understand
    b. Those programs which require a high level of dynamic and static power
    c. Those programs which do not depend on hardware.
    d. All of a, b, c are not correct

16. Which of the system software translates assembly programs into machine code:

17. Which of the system software translates high level programs into instructions:

18. Define throughput.

19. Write the names of two system softwares:

20. If the clock period is 20 pico seconds, what will be the frequency ??

21. If the clock rate is 2 GHz, what will be the clock period??

22. If there are 10 clock cycles and clock rate is 0.5 GHz, then CPU time is:

23. If the CPU time is 5 seconds and the clock cycles and the clock rate is 1000 MHz. Calculate the number of clock cycles.

24. There are 10 instructions such that each instruction takes 0.2 cycles. If clock rate is 500 MHz then CPU time is:

25. There are 20 instructions such that each instruction takes 5 cycles. If the clock period is 5 Pico seconds   then CPU time is:

26. There are 30 instructions such that the CPU time is 5 micro seconds. If the clock period is 10 nano seconds   then the CPI is:

27. There are 50 instructions such that the CPU time is 10 milli seconds. If the clock rate is 2 GHz then the number of cycles required per instruction are: :