HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Final Test

• Time: 60 minutes Date: _____
• Closed book examination: NO Laptop, NO phone

Full name: _____ Student's number: _____

ANSWER SHEET

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

(Record your answers on the answer sheet)

Troy University Resources

1. Computer science is best described as

A. Writing computer programs only
B. Using computers for office work
C. The study of computation, algorithms, hardware, and software
D. Manufacturing electronic devices

2. A CPU has a 36-bit address bus. If each memory location stores 1 byte, what is the maximum addressable memory?

A. 32 GB
B. 64 GB
C. 128 GB
D. 256 GB

3. Software that controls hardware and provides a platform for applications is called

A. Application software
B. Utility software
C. System software
D. Firmware

4. What are the values of A and B after executing the following pseudocode?
A ← 5, B ← 3
If (A > B) then
A ← A + B
B ← A – B
End if

A. A=5, B=3
B. A=8, B=5
C. A=8, B=3
D. A=3, B=5

5. Which component temporarily holds instructions and data currently being processed by the CPU?

A. Hard disk
B. Main memory (RAM)
C. Cache memory
D. Optical disk

6. A system of interconnected computers that share resources is called

A. Internet
B. Network
C. Server
D. Database

7. The main communication pathway that transfers data between components in a computer is the

A. Register
B. Bus
C. Port
D. Socket

8. Transaction Processing Systems (TPS) mainly

A. Support long-term strategic decisions
B. Process routine daily business transactions
C. Replace management decision-making
D. Store multimedia data

9. Which memory is non-volatile?

A. Cache
B. RAM
C. ROM
D. Register

10. Which statement about operating systems is incorrect?

A. OS manages CPU, memory, and I/O devices
B. OS provides an interface between user and hardware
C. Open-source OS cannot be modified
D. OS controls program execution

11. Given two 8-bit signed integers: A = +60 and B = –20. What is the result of A + B?

A. +40
B. +80
C. –40
D. –80

12. The lowest-level programming language is

A. High-level language
B. Assembly language
C. Machine language
D. Procedural language

13. Given an 8-bit unsigned integer A = 11001010_2 , what is NOT(A)?

A. 00110101
B. 00110110
C. 11001010
D. 10110011

14. Convert the binary number 11010111.1010 to hexadecimal

A. D7.A
B. C7.B
C. D6.A
D. E7.A

15. If $(7F)_{16}$ = $(X)_{10}$, the value of X is

A. 112
B. 127
C. 135
D. 255

16. The binary equivalent of hexadecimal number A3 is

A. 10100011
B. 10010011
C. 10110001
D. 11000011

17. The decimal equivalent of binary number 11101001 is

A. 225
B. 233
C. 235
D. 241

18. Software that allows users to create tables with rows and columns and perform calculations is

A. Word processor
B. Presentation software
C. Spreadsheet
D. Database

19. In a relational database, each row in a table represents a

A. Field
B. Attribute
C. Record
D. Key

20. Which of the following is not application software?

A. Microsoft Word

B. Google Chrome
C. Linux Kernel
D. Microsoft Excel

21. Which statement about I/O devices is correct?

A. All I/O devices connect directly to main memory
B. I/O devices communicate with CPU through I/O interfaces
C. I/O devices do not need drivers
D. I/O devices are part of the CPU

22. Software distributed with source code available for modification is

A. Proprietary software
B. Commercial software
C. Open-source software
D. Trial software

23. An OS that allows multiple programs to reside in memory and execute concurrently is

A. Batch OS
B. Single-user OS
C. Multitasking OS
D. Embedded OS

24. Given X = 1010_2 , Y = 12_8 , Z = 9_{16} . Arrange them in ascending order

A. X, Z, Y
B. Z, X, Y
C. Y, X, Z
D. Z, Y, X

25. A program that translates source code line by line during execution is called a/an

A. Compiler
B. Interpreter
C. Assembler
D. Emulator