Ain Shams University, Faculty of Engineering
Computer and Systems Engineering Department

CSE 011: COMPUTER TECHNOLOGY

Midterm Examination – Model A - November 2016

Time: 1¼ Hours .....الإجابة في الورقة المرفقة .....Total: 45 Marks

For each of the following multiple choice questions, select ONLY the ONE correct answer. Mark your choice in the answer sheet.

أختار فقط الإجابة الصحيحة الوحيدة لكل من الأسئلة متعددة الاختيارات الآتية في ورقة الإجابة.

1. One gigabyte equals exactly _____ bytes.

A) 1000,000,000	B) 2^{30}	C) 1011002	D) None of the previous

2. CPU stands for _____.

A) Central Programming Unit	B) Control Processing Unit
C) Central Processing Unit	D) Control Programming User

3. Data in _____ needs to be refreshed periodically in order to be preserved.

A) DRAM	B) cache memory	C) hard disk	D) ROM

4. Which of the following memory types cannot be erased?

A) ROM	B) SRAM	C) Flash Memory	D) EPROM

5. A computer inside a _____ is an embedded computer.

A) mainframe	B) minicomputer	C) supercomputer	D) robot

6. _____ printers use hammers and a ribbon.

A) Dot-matrix	B) Inkjet	C) Laser	D) All of the previous

7. _____ contents are erased when the system is powered off.

A) EPROM	B) PROM	C) Volatile memory	D) Non-volatile memory

8. _____ determines the number of colors of the scan.

A) Resolution	B) DPI	C) Bit-depth	D) Answers B and C

9. On a 4-bit computer, the binary sign-and-magnitude representation of _____ is 1001_2.

A) -1_{10}	B) 9_{10}	C) -7_{10}	D) -9_{10}

10. On a 4-bit computer, the binary 2's-complement representation of _____ is 1001_2.

A) -1_{10}	B) 9_{10}	C) -7_{10}	D) -9_{10}

11. The largest decimal number that can be written in 2's complement in 4-bits is _____.

A) 7	B) 15	C) 16	D) 4

12. The number of combinations that can be represented using 3 digits in base-4 representation is _____.

A) 4	B) 64	C) 444	D) 81

13. $(1001.101)_2$= (_____)$_{10}$.

A) 9.125	B) 9.101	C) 9.625	D) 9.5

14. $(11010111010111011101010 1110)_2$= (_____)$_{16}$.

A) 1BEBAAE	B) 1AFBAAE	C) 1AEBBAE	D) 3FEABBE

15. If A=$(1010x)_2$ and B=$(01001)_2$ then A+B=(____)$_2$, where x is a binary bit and A is an odd number.

A) 10010	B) 11110	C) 11101	D) 11100

16. Using 2's complement, $7_{10} - 3_{10}$ is (_____)$_2$.

A) 0100	B) 1100	C) 0110	D) 1011

17. Using 2's complement, $3_{10} - 8_{10}$ is (_____)$_2$.

A) 1100	B) 1110	C) 0110	D) 1011

18. $ACB_{16} + DEF_{16}$ = (_____)$_{16}$.

A) 18AA	B) 18BA	C) 13AB	D) 185B

19. If $(Ax2E)_{16} + (13y9)_{16} = (BEF7)_{16}$, what are the values of the hexadecimal digits x and y?

A) x = 3 and y = C	B) x = A and y = B	C) x = B and y = C	D) x = B and y = 2

20. How many bits are needed to store the word "Hello" in ASCII?

A) 80	B) 40	C) 10	D) 5

21. $(A81)_{16}$ OR $(B28)_{16}$ = (_____)$_{16}$.

A) AA3	B) BF9	C) B59	D) BA9

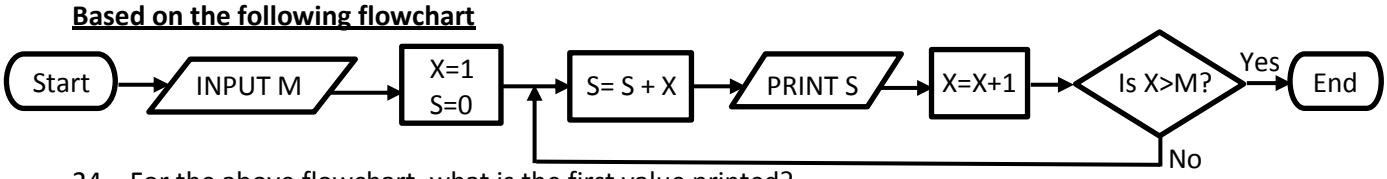
22. If $(ABC)_{16}$ OP $(FFF)_{16} = (543)_{16}$. The operation OP is _____.

A) AND	B) OR	C) XOR	D) NOT

23. If you want to convert an upper case (capital) ASCII character X to its lower case (small) equivalent Y, you can perform Y = X OP $(20)_{16}$. The operation OP is _____.

A) OR	B) XOR	C) AND	D) Answers A and B

Based on the following flowchart



24. For the above flowchart, what is the first value printed?

A) 0	B) 1	C) 2	D) 100

25. For the above flowchart, what is the value of M?

A) 0	B) 5	C) 100	D) It depends on the user

26. For the above flowchart, if M = 100, how many values are printed?

A) 0	B) 1	C) 100	D) 101

27. For the above flowchart, if M = 100, what is the final value of X?

A) 0	B) 1	C) 100	D) 101

28. For the above flowchart, if M = 5, what is the last value printed?

A) 0	B) 1	C) 5	D) 15

29. For the above flowchart, if M = 0, how many values are printed?

A) 0	B) 1	C) 100	D) 101

30. For the above flowchart, if M = 0, what is the final value of X?

A) 0	B) 1	C) 2	D) 100

31. A programming language must be _____.

A) very similar to natural languages	B) free from ambiguity	C) easy to convert to binary	D) fun to learn

32. When converted to C, flowcharts **input** symbols are typically replaced by _____.

A) printf statements	B) scanf statements	C) assignment statements	D) cin statement

33. Which of the following statements about C is correct?

A) C is case insensitive	B) C does not support libraries
C) C variable names cannot include special characters at all	D) C strings are enclosed between double quotes

34. The linker is a program that _____.

A) translates source code to machine code	B) loads the executable in memory to run it
C) groups machine code generated by the compiler with needed library codes	D) links C programs to programs written in other languages

Consider the following C program to answer the next three questions.

```
#include "stdio.h"
Void Main ();
(
  char n = 66;
  Printf("%c", n)
}
```

35. How many syntax errors are there in the previous program?

A) 5	B) 6	C) 7	D) More than 7

36. Assuming the errors above are fixed, what will be the output of the program?

A) 66	B) 42	C) B	D) b

37. What will be the output of the above program if %c is replaced by %X?

A) 66	B) 42	C) B	D) b

38. If you want to declare a variable to store the price of a US dollar in Egyptian pounds, which is the most suitable data type to use?

A) char	B) short	C) float	D) double

39. The maximum value that can be stored in a variable of type char is:

A) 256	B) 255	C) 127	D) 128

40. How many bytes are reserved for a long variable?

A) 4 bytes	B) 8 bytes	C) 10 bytes	D) 32 bytes

41. Which of the following is not a valid variable name in C?

A) sum1	B) 29x	C) value_3	D) AAA

42. The meaning of // in C is:

A) A single / to be printed	B) The beginning of a single line comment
C) The beginning of a multiline comment	D) None of the previous

43. What is the output of the following C statement?
printf("%d %c %x %X", 65, 65, 65, 65);

A) %d %c %x %X	B) 65 65 65 65	C) 65 A 41 41	D) None of the previous

44. If x is a **double** variable, which of the following is the right way of getting its value from the user?

A) scanf("%f", &x);	B) scanf("%d", &x);	C) scanf("%lf", &x);	D) scanf("%x", &x);

45. Which of the following C statements is a valid statement?

A) int void;	B) x=x+1;	C) printf{"Hello\n"};	D) None of the previous

E N D