COMPUTER SCIENCE

HIGHER SECONDARY FIRST YEAR

VOLUME -1
ONE MARK
QUESTIONS AND ANSWERS

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CHAPTER 1

INTRODUCTION TO COMPUTERS

1. A computer is a/an ___________ machine capable of performing basic operations.
   a) electric  b) calculating  c) electronic  d) mechanical

2. The word ‘computing’ means ___________.
   a) an act of storing  b) an act of counting  c) an act of adding  d) an act of calculating

3. __________ is the first calculating machine used for counting.
   a) Pebbles  b) Abacus  c) Slide Rule  d) Napier’s Bones

4. The beads in Abacus represent ___________.
   a) digits  b) numbers  c) positions  d) decimals

5. In Abacus, the __________ correspond to positions of decimal digits.
   a) beads  b) frames  c) cords  d) rods

6. Abacus was introduced in the year ___________.
   a) 2000 BC  b) 2050 BC  c) 2100 BC  d) 2500 BC

7. The Napier’s Bones was invented by ___________.
   a) Blaise Pascal  b) William  c) John Napier  d) Charles Napier

8. In Napier’s Bones, a set of bones consisted of _______ rods.
   a) 9  b) 10  c) 1  d) 11

9. The Napier’s Bones consists of a constant rod for the digit _______.
   a) 1  b) 9  c) 0  d) 1 to 9

10. In Napier’s Bones, a rod is similar to one column of a ___________.
    a) addition table  b) arithmetic table  c) subtraction table  d) multiplication table

11. Napier’s Bones was invented in ___________.
    a) 1514 BC  b) 1614 AD  c) 1614 BC  d) 1514 AD

12. The Slide Rule was invented by ___________.
    a) William Oughtred  b) Blaise Pascal  c) John Napier  d) Charles Babbage

13. The starting point of a slide rule is directly proportional to the ___________.
    a) power  b) digit  c) position  d) logarithm

14. The slide rule is embodied by two sets of ___________.
    a) cords  b) rulers  c) scales  d) rods

15. The Slide Rule was invented in ___________.
    a) 1533 BC  b) 1633 AD  c) 1614AD  d) 1833 AD

16. The Rotating Wheel Calculator was developed by ___________.
    a) Blaise Pascal  b) John Napier  c) Pierre Pascal  d) William Oughtred

17. Which one of the following is a predecessor to today’s electronic calculator?
    a) Slide Rule  b) Abacus  c) Napier’s Bones  d) Rotating Wheel Calculator

18. The Difference Engine was built by ___________.
    a) William Oughtred  b) John Napier  c) Blaise Pascal  d) Charles Babbage

19. The Difference Engine was built in the year ___________.
    a) 1622AD  b) 1822 BC  c) 1822 AD  d) 1833 AD

20. __________ is called as the Father of today’s computer.
    a) Charles Babbage  b) John Napier  c) Blaise Pascal  d) William Oughtred

21. A tabulating machine using punched cards was designed by ___________.
    a) William Oughtred  b) Charles Babbage  c) John Pascal  d) Herman Hollerith

22. Hollerith Tabulating Machine is able to read the information on the ___________.
    a) slide rule  b) punched cards  c) rods  d) scales

23. The first generation of computers used ___________ for circuitry
    a) transistors  b) chips  c) vacuum tubes  d) punched cards

24. The first generation of computers used ___________ for memory.
    a) programs  b) magnetic drums  c) magnetic tapes  d) punched cards

25. First generation computers operated only on ___________ language.
    a) machine  b) assembly  c) high level  d) middle level
26. First generation computers could solve ________ problem(s) at a time.
   a) only one  
   b) two  
   c) many  
   d) multiple

27. Duration of First Generation Computers are ____________
   a) 1940 - 1950  
   b) 1941 - 1956  
   c) 1940 - 1956  
   d) 1940 – 1955

28. Example for First Generation computer is ____________
   a) UNIVAC  
   b) ENIVAC  
   c) ENIAC  
   d) both a and c

29. Expansion of UNIVAC is ____________
   a) Universal Automatic Computer  
   b) Universal Automatic Calculator  
   c) United Automatic Computer  
   d) Universal Autonomous Computer

30. Expansion of ENIAC is ____________
    a) Electric Numerical Integrator And Calculator  
    b) Electronic Numerical Integrator And Computer  
    c) Electronic Numerical Integrator And Calculator  
    d) Electric Numerical Integrator And Computer

31. The second generation of computers used ____________
    a) tapes  
    b) Transistors  
    c) chips  
    d) vacuum tubes

32. ________ generation computers used punched cards for input
    a) First  
    b) Second  
    c) both a and b  
    d) None

33. Duration of Second Generation Computers are ____________
    a) 1956 -1963  
    b) 1955 - 1960  
    c) 1940 - 1956  
    d) 1950 – 1961

34. Second generation computers operated on ________ language.
    a) machine  
    b) assembly  
    c) both a and b  
    d) binary

35. Early versions of COBOL and FORTRAN were used in ________ generation computers.
    a) First  
    b) Second  
    c) both a and b  
    d) none

36. Second generation computers stored their instructions in their memory using ______ technology.
    a) magnetic core  
    b) magnetic drum  
    c) both a and b  
    d) punched card

37. COBOL and FORTRAN are ________ level languages.
    a) low  
    b) machine  
    c) middle  
    d) high

38. The third generation computer used the ________
    a) integrated circuits  
    b) transistors  
    c) punched cards  
    d) micro processors

39. Duration of Third Generation Computers are ____________
    a) 1965 -1971  
    b) 1964 - 1971  
    c) 1960 - 1971  
    d) 1964 – 1970

40. Third Generation computers were used ________ instead of punched cards.
    a) monitors  
    b) print outs  
    c) chips  
    d) keyboards

41. Third Generation computers were interfaced with ________ which allowed to solve many problems at a time.
    a) operation system  
    b) keyboards  
    c) programs  
    d) processor

42. Transistors were made small in size and placed on ________
    a) Copper Plates  
    b) Silicon Chips  
    c) Aluminum Circuits  
    d) None of these

43. Which computers will bridge the gap between the computing and thinking?
    a) First Generation  
    b) Second Generation  
    c) Third Generation  
    d) Fifth Generation

44. The ________brought forth the fourth generation of computers
    a) monitor  
    b) microprocessor  
    c) program  
    d) operating system

45. Fourth Generation computers could be linked together to form ________
    a) processors  
    b) networks  
    c) www  
    d) integrated circuits

46. Duration of Fourth Generation Computers are ____________
    a) present - beyond  
    b) 1964 - 1971  
    c) 1960 - 1971  
    d) 1971 – present

47. Fifth generation computing devices are based on ________
    a) wireless  
    b) computing  
    c) internet  
    d) artificial intelligence

48. Fifth generation computers will come close to bridging the gap between ________ and ________.
    a) computing, thinking  
    b) thinking, processing  
    c) computing, storing  
    d) processing, storing

49. Computers accept ________ and ________ to perform operations
    a) facts, data  
    b) data, procedure  
    c) data, programs  
    d) data, instructions

50. ________ is defined as an un-processed collection of raw facts.
    a) fact  
    b) Information  
    c) data  
    d) program
51. _______is a collection of facts from which conclusions may be drawn.
   a) procedure  
   b) Information  
   c) data  
   d) program

52. Which of the following statement is false?
   a) Data are stored facts  
   b) Data are Business Based  
   c) Data are Technology Based  
   d) Data are Inactive

53. _______is defined as a step-by-step procedure or formula for solving a problem.
   a) flowchart  
   b) coding  
   c) program  
   d) algorithm

54. Computer _______ is designed to systematically solve a problem
   a) data  
   b) Information  
   c) program  
   d) memory

55. Raw data is processed by the computer into_________.
   a) fact  
   b) Information  
   c) program  
   d) memory

56. Which of the following statement is false?
   a) Information is Processed facts  
   b) Information is Business Based  
   c) Information is stored facts  
   d) Information is active

57. _______is an act of defining a problem, understanding the problem and arriving at workable solutions.
   a) developing  
   b) designing  
   c) program writing  
   d) problem solving

58. A computer system has two major components, hardware and_________.
   a) software  
   b) storage  
   c) processor  
   d) operating system

59. _______refers to all the physical items associated with a computer system.
   a) processor  
   b) hardware  
   c) software  
   d) device

60. _______is a set of instructions, which enables the hardware to perform a specific task.
   a) software  
   b) Information  
   c) program  
   d) procedure

61. Processing a computer is performed by_________.
   a) programmer  
   b) software  
   c) program  
   d) hardware

62. _______devices allows the user to enter the program and data
   a) control  
   b) Input  
   c) hardware  
   d) output

63. The_________is more formally known as the CPU.
   a) system  
   b) computer  
   c) processor  
   d) storage

64. CPU means_________.
   a) Central Processing Unit  
   b) Control Processing Unit  
   c) Central Process Unit  
   d) Central Programming Unit

65. The_________actually executes computer instructions.
   a) hardware  
   b) CPU  
   c) program  
   d) memory

66. Main memory is also called as_________.
   a) auxiliary  
   b) flash  
   c) primary  
   d) secondary

67. _______memory is volatile in nature.
   a) primary  
   b) secondary  
   c) flash  
   d) auxiliary

68. _______devices show the processed data – information – the result of processing
   a) input  
   b) storage  
   c) connection  
   d) Output

69. In_________storage, data and programs are permanently stored for future use.
   a) primary  
   b) secondary  
   c) flash  
   d) auxiliary

70. The hardware devices attached to the computer are called_________.
   a) instrument  
   b) network  
   c) equipment  
   d) peripheral equipment

71. _______refers to a program that makes the computer to do something meaningful.
   a) procedure  
   b) software  
   c) process  
   d) coding

72. _______software consists of general programs written for a computer.
   a) Application  
   b) Computer  
   c) System  
   d) both a and c

73. System software serves as the interface between hardware and the_________.
   a) user  
   b) language  
   c) process  
   d) memory

74. Which one of the following is not system software?
   a) utility programs  
   b) spread sheet  
   c) compiler  
   d) operating system

75. The most important type of system software is the_________.
   a) utility programs  
   b) interpreter  
   c) compiler  
   d) operating system
76. _____ is an integrated set of specialized programs that is used to manage the overall operations of a computer.
   a) utility programs  b) interpreter  c) compiler  d) operating system

77. Which software serves as the interface between the user and Hardware?
   a) System software  b) Application software and software programs  c) Software programs  d) System software and Application software

78. ______ acts like an interface between the user, computer hardware and software.
   a) system software  b) utility programs  c) compiler  d) operating system

79. DOS means ________
   a) Data Operating System  b) Disk Operating System  c) Disk Operation System  d) Disk Operating Software

80. Which one of the following is not an operating system?
   a) DOS  b) LINUX  c) WINDOWS  d) COBOL

81. The ______ translates the source program into an object program.
   a) word processor  b) translator  c) compiler  d) utility program

82. ______ Programs support the computer for specific tasks like file copying, sorting, linking a object program, etc.
   a) Application  b) utility  c) translation  d) spreadsheet

83. ______ software lets you create, edit, format, store and print text and graphics.
   a) Spreadsheet  b) Database  c) Utility  d) Word processor

84. Which is not a commonly used word processors?
   a) Microsoft Word  b) Microsoft Excel  c) WordPerfect  d) WordStar

85. ______ software packages allow the user to manipulate numbers.
   a) Spreadsheet  b) Database  c) Utility  d) Word processor

86. Which is commonly used spreadsheet software?
   a) Microsoft Word  b) Microsoft Excel  c) Lotus1-2-3  d) both b and c

87. A database management system is a collection of ______
   a) procedure  b) programs  c) processes  d) codings

88. ______ enables to store, modify and extract information from a database.
   a) Word processor  b) spreadsheet  c) software  d) database management system

89. ______ Computer is a computing device that works on continuous range of values.
   a) digital  b) hybrid  c) analog  d) micro

90. The analog computers give ______ results
   a) accurate  b) exact  c) wrong  d) approximate

91. ______ computers generally deals with physical variables such as voltage, pressure, temperature, speed, etc
   a) digital  b) hybrid  c) analog  d) micro

92. ______ computer operates on digital data such as numbers 0s and 1s
   a) digital  b) hybrid  c) analog  d) micro

93. Digital computer uses ______ numbers.
   a) decimal  b) octal  c) binary  d) all of these

94. DBMS means_______
   a) Data Management System  b) Database Maintenance System  c) Database Management System  d) Database Management Software

95. ______ computers are made for both general purpose and special purpose.
   a) digital  b) hybrid  c) analog  d) micro

96. A _____ computing system is a combination of desirable features of analog and digital computers.
   a) digital  b) hybrid  c) analog  d) mainframe

97. _______ computers are mainly used for specialized tasks.
   a) digital  b) hybrid  c) analog  d) mainframe

98. It is mostly used for automatic operations of complicated physical processes and machines.
   a) digital  b) hybrid  c) analog  d) mainframe

99. _______ Computers can give the results with more accuracy and at a faster rate.
   a) digital  b) hybrid  c) analog  d) micro

100. Super computer process _____ instructions per second.
    a) 100 million  b) billion  c) 10 million  d) 1 million
101. _____ computers are the computers normally used to solve intensive numerical computations.
a) digital  
b) micro  
c) analog  
d) super

102. _____ computers are used to process large amount of data quickly.
a) digital  
b) micro  
c) analog  
d) super

103. Which computers were developed with the objective of bringing out low cost computers?
a) Minicomputer  
b) Microcomputer  
c) Analog computer  
d) Laptop computer

104. _____ computers are lower to mainframe computers, in terms of speed and storage capacity.
a) Minicomputer  
b) Microcomputer  
c) Analog computer  
d) Laptop computer

105. The mightiest computers and the most expensive computers are called as _____ computers.
a) digital  
b) micro  
c) mainframe  
d) super

106. The invention of microprocessor (single chip CPU) gave birth to the _____ computers.
a) digital  
b) micro  
c) mainframe  
d) super

107. Which one of the following is not a microcomputer?
a) Workstation  
b) Home computer  
c) Laptop computer  
d) Mini computer

108. _____ are also desktop machines mainly used for intensive graphical applications.
a) PCs  
b) Workstations  
c) PDAs  
d) Laptops

109. Which of the following is an application of Workstation?
a) Computer Aided Design  
b) simulation of complex systems  
c) visualizing the results of simulation  
d) All of these

110. Desktop computers are also Known as _____
a) Home computer  
b) Laptop computer  
c) Minicomputer  
d) Micro computer

111. _____ computers are portable computers that fit in a briefcase.
a) PCs  
b) Workstations  
c) PDAs  
d) Laptop

112. _____ computers often used for word processing and small database applications.
a) super  
b) mainframe  
c) analog  
d) personal

113. Laptop computers, also called _____ computers.
a) Home  
b) desktop  
c) notebook  
d) Palm PCs

114. _____ computers use a pen like stylus and accept handwritten input directly on a screen.
a) Pen-based  
b) desktop  
c) notebook  
d) Palm PCs

115. Pen-based computers are also called ____ (PDA).
a) Personal Data Assistants  
b) Pocket Digital Assistants  
c) Palm Digital Assistants  
d) Personal Digital Assistants

116. Which one is a partner in every sphere of human life and activity?
a) education  
b) computer  
c) government  
d) school

117. The electronic computers are classified based on their _____
a) configuration  
b) Principles of operation  
c) both a and b  
d) software

118. The data which are not broken into bits _____
a) digital  
b) decimal  
c) analog  
d) audio
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# CHAPTER 2
## NUMBER SYSTEMS

1. Which data usually consist of standard alphabetic, numeric, and special characters?
   a) variable  
   b) text  
   c) character  
   d) graphics  

2. The ______ data consist of still pictures such as drawings and photographs.
   a) digital  
   b) text  
   c) character  
   d) graphics  

3. Data can be classified into two forms, ______ data and ______ data.
   a) text, graphics  
   b) alphabet, number  
   c) analog, digital  
   d) text, audio  

4. ______ data can have any value within a defined range and it is continuous.
   a) digital  
   b) analog  
   c) image  
   d) audio  

5. ______ is an example of analog data.
   a) Sound waves  
   b) telephone signals  
   c) temperatures  
   d) all of these  

6. ______ data can be represented by a series of binary numbers and it is discrete.
   a) digital  
   b) text  
   c) analog  
   d) graphics  

7. Which unit of the computer performs arithmetic and logical operations on data?
   a) Input unit  
   b) Control unit  
   c) Memory unit  
   d) Arithmetic and Logic Unit  

8. Computer arithmetic is commonly performed on two different types of numbers, ______ and ______.
   a) decimal, binary  
   b) integer, fraction  
   c) analog, digital  
   d) integer, floating point  

9. In computer arithmetic, an integer is a whole number and the ______ number has a fractional part.
   a) decimal  
   b) binary  
   c) floating-point  
   d) whole  

10. Both the main memory and the hard disk capacities are measured in terms of ______.
    a) bits  
    b) bytes  
    c) words  
    d) numbers  

11. Which is the most commonly used numbering system?
    a) decimal  
    b) binary  
    c) octal  
    d) hexadecimal  

12. A bit is a small piece of data that is derived from the words ______.
    a) binary digital  
    b) binary digits  
    c) octal  
    d) binary decimal  

13. Bits have only two possible values ______ and ______.
    a) 0 and 10  
    b) 1 or 10  
    c) 0 and 1  
    d) 000 and 111  

14. A collection of 8 bits is called as a ______.
    a) byte  
    b) digit  
    c) octal  
    d) word  

15. With 8 bits in a byte, we can represent 256 values ranging from ______ to ______.
    a) 0 to 256  
    b) 1 to 256  
    c) 1 to 255  
    d) 0 to 255  

16. ______ are used to represent characters in a text.
    a) bits  
    b) bytes  
    c) words  
    d) numbers  

17. The most commonly used coding scheme is ______.
    a) decimal  
    b) binary  
    c) ANSI  
    d) ASCII  

18. ASCII means ______.
    a) American Standard Code for Interchange Information  
    b) American Standard Character for Information Interchange  
    c) American Standard Code for Information Interchange  
    d) American Standard Code for Information Institute  

19. What is the ASCII value for a blank space?
    a) 30  
    b) 32  
    c) 31  
    d) 35  

20. The ASCII value of numeric 0 is ______.
    a) 32  
    b) 45  
    c) 47  
    d) 48  

21. The range of ASCII values for lower case alphabets is from ______ to ______.
    a) 97 to 120  
    b) 90 to 122  
    c) 97 to 122  
    d) 95 to 122
22. The range of ASCII values for the upper case alphabets is ___ to ____.
   a) 67 to 90       b) 65 to 90       c) 65 to 97       d) 97 to 122

23. Computer memory is normally represented in terms of ___ bytes or ___ bytes.
   a) Kilo, Mega      b) Giga, Tera      c) Kilo, Giga      d) Mega, Giga

24. How many bytes represent one Kilobyte in binary system?
   a) 1020           b) 1024           c) 100           d) 1042

25. The numbers in the binary system are represented to the base ____.
   a) ten            b) eight          c) two           d) sixteen

26. The leftmost bit in the binary number is called as ________
   a) LSB            b) MBS            c) LBS           d) MSB

27. The rightmost bit in the binary number is called as ________
   a) LSB            b) MBS            c) LBS           d) MSB

28. In a binary number, ________ has the largest positional weight.
   a) LSB            b) MBS            c) LBS           d) MSB

29. In a binary number, ________ has the smallest positional weight.
   a) LSB            b) MBS            c) LBS           d) MSB

30. MSB means ________
    a) Most Significant Byte   b) Most Significant Bit
    c) Mean Significant Bit    d) Most Sign Bit

31. LSB means ________
    a) Less Significant Byte   b) Less Significant Byte
    c) Least Significant Bit   d) Least Sign Bit

32. A decimal number can be converted into a binary number by adding up the powers of ___
    a) 10              b) 2              c) 16             d) 8

33. Which number system is more efficient in representing numbers in digital applications?
    a) decimal         b) binary         c) octal          d) Hexadecimal

34. ________ occupies less memory space for storing large numbers in computers.
    a) decimal         b) binary         c) octal          d) Hexadecimal

35. A hexadecimal number is represented using base ______
    a) 10              b) 2              c) 16             d) 8

36. In the hexadecimal number system, the binary digits are grouped into sets of ___ bit(s).
    a) 4               b) 2              c) 1              d) 8

37. In the hexadecimal number system, ___ symbols are used, from ___ to ___
    a) 8, 0 to 7       b) 2, 0 to 1       c) 10, 0 to 9     d) 16, 0 to F

38. The hexadecimal number 'D' is written as ______ in decimal.
    a) 14              b) 12             c) 11             d) 13

39. The hexadecimal number ‘F’ is written as ______ in decimal.
    a) 15              b) 1111           c) 16             d) 14

40. The hexadecimal representation is more compact than ______ representation.
    a) decimal         b) binary         c) octal          d) fractional

41. An ________ number is represented using base 8.
    a) decimal         b) binary         c) octal          d) Hexadecimal

42. Decimal numbers’ conversion to hexadecimal is similar ______ conversion.
    a) decimal         b) binary         c) octal          d) digital

43. Octal representation is just a simple extension of ______ and ______ representations.
    a) binary, decimal  b) binary, hexadecimal  c) decimal, real
    d) decimal, hexadecimal

44. Octal number system is using only the digits ___ to ___.
    a) 1 to 8          b) 1 to 7          c) 0 to 7         d) 0 to 8

45. If the leftmost bit of signed number is 0, then the number is ____.
    a) negative        b) positive        c) binary
    d) decimal
46. If the leftmost bit of signed number is 1, then the number is ______.
   a) negative    b) positive    c) binary    d) decimal

47. The simplest form of representing a negative integer is the ____ + ____ representation.
   a) negative + positive    b) sign + positive    c) sign + negative    d) sign + magnitude

48. In a sequence of n bits, the ______ bit is used for sign.
   a) left    b) leftmost    c) right    d) rightmost

49. In a sequence of n bits, the remaining n-1 bits are used to hold the ______ of the integer.
   a) negative    b) sign    c) negative    d) magnitude

50. In a sequence of n bits, the leftmost bit is used for ______.
   a) negative    b) sign    c) negative    d) magnitude

51. In a sequence of n bits, the remaining ____ bits are used to hold the magnitude of the integer.
   a) n bits    b) (n + 1) bits    c) 2 bits    d) (n - 1) bits

52. The most efficient way of representing a signed integer is a ______ representation.
   a) decimal    b) binary    c) 1’s complement    d) 2’s-complement

53. Digital arithmetic usually means ______ arithmetic.
   a) unary    b) binary    c) signed    d) unsigned

54. The value of 100110 in 2’s complement is ______.
   a) 111010    b) 011011    c) 011010    d) 011001

55. When two digits are added, ______ digit is generated when the result is larger than what can be contained in one digit.
   a) sum digit    b) addend    c) sign digit    d) carry digit

56. In unsigned binary addition, the two operands are called ______ and ______.
   a) augend, addend    b) addend, auged    c) signed, unsigned    d) signed, minuend

57. In an unsigned binary addition, ______ is the number in an addition operation to which another number is added.
   a) augend    b) carry    c) addend    d) sum

58. In an unsigned binary addition, ______ is the number in an addition operation that is added to another.
   a) augend    b) carry    c) addend    d) sum

59. On any binary addition, the result may be larger than the word size being used would result ______.
   a) error    b) overflow    c) flow    d) zero

60. In a signed number, the most significant bit (MSB) is a ______ bit.
   a) unary    b) carry    c) sign    d) unsigned

61. ______ and ____ are the two operands in an unsigned binary subtraction.
   a) augend, addend    b) augend, subtrahend    c) signed, unsigned    d) subtrahend, minuend

62. The ______ is the number in a binary subtraction operation from which another number is subtracted.
   a) augend    b) minuend    c) addend    d) subtrahend

63. The ______ is the number in a binary subtraction that is subtracted from another number.
   a) augend    b) minuend    c) addend    d) subtrahend

64. ______ is a mathematical discipline that is used for designing digital circuits in a digital computer.
   a) Binary arithmetic    b) Boolean theory    c) Binary algebra    d) Boolean algebra

65. ______ describes the relation between inputs and outputs of a digital circuit.
   a) Binary arithmetic    b) Boolean theory    c) Binary algebra    d) Boolean algebra

66. Boolean algebra describes the relation between ______ and ______ of a digital circuit.
   a) inputs, outputs    b) binary, decimal    c) inputs, memory    d) memory, outputs

67. ______ proposed the basic principles of this algebra.
   a) Charles Babbage    b) George Boole    c) George Boolean    d) Blaise Boole

68. A ______ is a variable having only two possible values such as, true or false.
   a) logical    b) literal    c) boolean    d) argument

69. The basic logical operations are ______, ______ and ______.
   a) ADD, SUB, MUL    b) AND, NOT, NOR    c) OR, NOR, XOR    d) AND, OR, NOT
70. A Boolean expression is a combination of boolean ______, boolean ______and the logical operators.
a) variables, tables b) variables, constants c) tables, constants d) variables, values

71. There are no ______ or fractional numbers in Boolean Algebra.
a) positive b) negative c) real d) decimal

72. The operation ______ yields true only if both of its operands are true.
a) AND b) OR c) NOT d) NAND

73. The operation ______ yields true if either or both of its operands are true.
a) AND b) OR c) NOT d) NAND

74. The unary operation _____ inverts the value of its operand.
a) AND b) OR c) NOT d) NAND

75. The basic logical operations can be defined in a form known as ______
a) boolean table b) boolean algebra c) truth table d) logical gates

76. The AND operator in Boolean algebra is represented by _____ operator.
a) plus b) dot c) minus d) minus

77. The 2-input AND operation in Boolean algebra is expressed as ______
a) Y = A + B b) Y = A . B c) Y = A . B d) Y = A + B

78. The _____ sign is used to indicate the OR operator.
a) plus b) dot c) minus d) minus

79. The 2-input OR operation is expressed as ______
a) Y = A + B b) Y = A . B c) Y = A . B d) Y = A + B

80. The _____ operator has one input and one output
a) AND b) OR c) NOT d) NAND

81. The NAND is the combination of ______ and ______
a) NOT, AND b) NOT, OR c) NOT, NAND d) NOT, NOR

82. The algebraic expression of the NAND function is ______
a) Y = A + B b) Y = A . B c) Y = A . B d) Y = A + B

83. In Laws of Complementation, if A = 1, then $\overline{A}$ = ______
a) 1 b) 0 c) A d) $-1$

84. In basic properties of OR operator, $A + A =$ ______
a) 1 b) 0 c) A d) -1

85. ______ is the appearance of a variable or its complement in a Boolean expression.
a) product b) literal c) function d) operation

86. ______ is a product term, which includes all possible variables either complemented or uncomplemented.
a) maxterm b) minterm c) sumterm d) literal

87. ______ is a term in a Boolean expression where one or more literals are connected by OR operators.
a) maxterm b) minterm c) sumterm d) literal

88. Which sum term includes all possible variables in true or complement form in a Boolean expression?
a) maxterm b) minterm c) sumterm d) literal

89. ______ is the range of unsigned integers in an n-bit system.
a) 1 to $2^n - 1$ b) 0 to $2^n$ c) 0 to $2^n - 1$ d) 0 to $2^n - 1$
95. In a 4-bit system, the range of unsigned integers is from ____ to ____
   a) 0 to 16  
   b) 1 to 16  
   c) 0 to 15  
   d) 1 to 15  
96. In case of signed integer, the range of positive values in a 4-bit system is from ____ to ____
   a) 1 to $2^n - 1$  
   b) 0 to $2^n - 1$  
   c) 0 to $2^n + 1$  
   d) 1 to $2^n + 1$  
97. In case of signed integer, the range of negative values in a 4-bit system is from ____ to ____
   a) 1 to $2^n - 1$  
   b) -1 to $2^n - 1$  
   c) -1 to $2^n + 1$  
   d) -1 to $-2^n$  
98. In a 4-bit system, the range of signed integers is from ____ to ____
   a) -7 to +8  
   b) 0 to 15  
   c) 0000 to 1111  
   d) 0000 to 1000  
99. In a 4-bit system, the range of unsigned integers is from ____ to ____ in binary form
   a) 1 to 15  
   b) 0 to 15  
   c) 0000 to 1111  
   d) 0000 to 1000  

100. The 2’s complement of 0 is ____
     a) 1  
     b) 0  
     c) 10  
     d) 11  
101. The arithmetic operations in a digital computer are performed using the radix ——, ——
     a) 10, 16  
     b) 10, 8  
     c) 2, 8  
     d) 2, 10  
102. One million bytes are referred to as MB and one billion bytes are referred to as ——
     a) TB  
     b) GB  
     c) KB  
     d) 2 MB  
103. The exponent of the smallest power of 2 that is larger than 68 is ____
     a) 72  
     b) 64  
     c) 120  
     d) 128  
104. The exponent of the power of 2 that is smaller than 40 is ____
     a) 32  
     b) 64  
     c) 38  
     d) 42  
105. _______ is a list of all possible input values and the output response for each input combination.
     a) Boolean algebra  
     b) logical gate  
     c) truth table  
     d) function  
106. Which one is the capacity for the computer memory?
     a) Kilo Bytes  
     b) Bytes or Kilo bytes  
     c) Kilo Bytes or Mega Bytes  
     d) Mega Bytes or Bytes  
107. The binary value of 0.6875₁₀ is ____
     a) 0.1001₂  
     b) 0.1101₂  
     c) 0.1011₂  
     d) 1.1011₂  

ANSWERS

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### CHAPTER 3
#### COMPUTER ORGANIZATION

1. The computer requires _______ to perform an assigned task.
   - a) hardware
   - b) software
   - c) user
   - d) function

2. CPU is called the _______ of the computer.
   - a) head
   - b) gate
   - c) brain
   - d) path

3. _______ reads and executes program instructions, performs calculations and makes decisions.
   - a) CPU
   - b) computer
   - c) memory
   - d) system

4. A computer system is the integration of physical entities called _______.
   - a) software
   - b) bus
   - c) device
   - d) hardware

5. A computer system is the integration of non-physical entities called _______.
   - a) software
   - b) bus
   - c) device
   - d) hardware

6. The software should be designed to minimize the amount of idle _______.
   - a) hardware
   - b) input
   - c) output
   - d) computer

7. _____ stores the data and program and retrieve as and when required the hardware.
   - a) hardware
   - b) input
   - c) output
   - d) computer

8. Hardware components can be classified into ______ main units.
   - a) two
   - b) three
   - c) four
   - d) five

9. A computer uses ______ devices to accept the data and program.
   - a) memory
   - b) input
   - c) output
   - d) storage

10. Devices take machine coded results from the processor and convert them into a form that can be used by human beings.
    - a) memory
    - b) input
    - c) output
    - d) storage

11. In modern computers, ______ and ______ are the commonly used output devices.
    - a) monitors, printers
    - b) keyboard, mouse
    - c) keyboard, monitor
    - d) mouse, printers

12. CPU consists of arithmetic and logic units, ______ and internal memory.
    - a) memory unit
    - b) input unit
    - c) output unit
    - d) control unit

13. The ______ unit of the CPU coordinates the action of the entire system.
    - a) control unit
    - b) input unit
    - c) output unit
    - d) memory unit

14. ______ is a pathway between any two components of the computer system.
    - a) cable
    - b) bus
    - c) board
    - d) circuit

15. ______ allows for the data transfer between any two components of the computer.
    - a) cable
    - b) bus
    - c) board
    - d) circuit

16. The instructions and data are stored in the ______ memory.
    - a) main
    - b) secondary
    - c) high
    - d) flash

17. The ______ can directly fetch and execute the instruction from the main memory.
    - a) control unit
    - b) processor
    - c) output unit
    - d) hard disk

18. In ______, the computer stores the program and data that are currently being used.
    - a) main memory
    - b) input unit
    - c) secondary memory
    - d) output unit

19. ______ devices are also called as auxiliary memory devices.
    - a) primary
    - b) input
    - c) control
    - d) secondary storage

20. The stored program concept is also known as ______ concept
    - a) Blaise-Pascal
    - b) John-Napier
    - c) Von-Neumann
    - d) Von-Boole

21. ______ concept is the basic operating principle for every computer
    - a) data program
    - b) stored program
    - c) system program
    - d) storage program

22. The functions of the CPU are mainly classified into ______ categories.
    - a) five
    - b) three
    - c) four
    - d) two
23. The CPU has ____ major components.
   a) two                    b) three                    c) four                    d) five

24. ________ is the part of CPU where actual computations take place.
   a) control unit            b) input unit            c) memory unit        d) Arithmetic and logic unit

25. The ______ unit directs and controls the activities of the computer system.
   a) control unit            b) input unit            c) output unit        d) memory unit

26. ALU takes data from the temporary storage area inside the CPU named ____.
   a) address          b) cache          c) registers        d) prime memory

27. ________ are high-speed memories which hold data for immediate processing.
   a) control unit            b) input unit            c) memory unit        d) Arithmetic and logic unit

28. The CPU is controlled by a list of _______ instructions.
   a) computer          b) input          c) memory          d) software

29. Software instructions are initially stored in _______ memory storage device.
   a) temporary          b) cache          c) secondary        d) main

30. When a program is executed, instructions flow from the main memory to the CPU through the _____.
   a) control unit            b) bus          c) input unit        d) ALU

31. When a program is executed, instructions flow from the _____memory to the _____
   a) secondary, CPU          b) input, CPU          c) main, CPU        d) CPU, main

32. The _____ is the computer’s calculator.
   a) ALU          b) CPU          c) RAM          d) both a and c

33. The ALU functions are directly controlled by the _____ unit.
   a) control          b) memory          c) input          d) output

34. The _____operation compares numbers, letters and special characters.
   a) arithmetic          b) mathematical        c) logical          d) digital

35. The _____ operations include addition, subtraction, multiplication and division.
   a) arithmetic          b) mathematical        c) logical          d) digital

36. _____ units are the storage areas in a computer
   a) control          b) memory          c) input          d) output

37. The word “memory” usually refers to the _____ memory of the computer.
   a) main          b) secondary        c) volatile        d) permanent

38. The word “_____” is used for the memory that exists on disks, CDs, floppies or tapes.
   a) main          b) primary        c) volatile        d) storage

39. The main memory is usually called a _____ memory.
   a) physical          b) permanent        c) secondary        d) cache

40. Physical memory which refers to the _____ capable of holding data and instruction.
   a) register          b) circuit          c) chip          d) cache

41. In physical memory, ______ is called as a “chip”.
   a) Integrated Circuit          b) Silicon         c) Bus          d) signal

42. RAM stands for _______.
   a) Random Active Memory b) Random Access Memory c) Read Access Memory d) Random Address Memory

43. The expansion of ROM is _______.
   a) Reading Only Memory b) Random Only Memory c) Read Output Memory d) Read Only Memory

44. PROM stands for _______.
   a) Programmable Read-Only Memory b) Process Read-Only Memory c) Program Read-Only Memory d) Programmable Random-Only Memory

45. EPROM stands for _______.
   a) Erasable Programmable Read-Only Memory b) Erasable Programmable Random Memory c) Executable Program Read-Only Memory d) Execute Programmable Read-Only Memory
46. EEPROM stands for ______
   a) Electronically Erasable Programmable Read-Only Memory
   b) Electrically Erasable Programmable Read-Only Memory
   c) Electrically Executable Programmable Read-Only Memory
   d) Electrically Erasable Program Read-Only Memory

47. _____ is a volatile form of memory.
   a) RAM  b) Hard disk  c) ROM  d) EPROM

48. _____ is the most common type of memory found in the modern Computers.
   a) ROM  b) Hard disk  c) RAM  d) EPROM

49. When the CPU runs a program, it fetches the program instructions from the _____.
   a) EPROM  b) PROM  c) ROM  d) RAM

50. The information is burnt (pre-recorded) into the ROM chip at time.
   a) playing  b) purchasing  c) manufacturing  d) storing

51. Once data has been written into a _____ chip, it cannot be erased
   a) ROM  b) RAM  c) EPROM  d) both a and c

52. _____ is a non-volatile memory
   a) RAM  b) PROM  c) ROM  d) both b and c

53. _____ stores critical programs such as the program that boots the computer.
   a) RAM  b) Hard disk  c) ROM  d) both a and b

54. _____ is a memory on which data can be written only once.
   a) RAM  b) Hard disk  c) PROM  d) both a and b

55. _______ is used to erase the contents of the EPROM.
   a) burning  b) ultraviolet light  c) Infra red rays  d) solar light

56. Each location in a memory has a unique number called its ______
   a) register address  b) identifier  c) variable  d) memory address

57. Operations on memories are called ______ and ______
   a) reads, writes  b) copy, paste  c) input, output  d) store, print

58. A _____ instruction transfers information from other device to memory.
   a) read  b) write  c) update  d) copy

59. A _____ instruction transfers information from the memory to other devices.
   a) read  b) write  c) update  d) copy

60. _____ refers to how quickly the memory can respond to a read or write request.
   a) Request time  b) write time  c) Read time  d) Access time

61. Access time is also known as response time or ______
   a) write time  b) latency  c) cycle time  d) read time

62. _____ refers to the minimum period between two successive requests.
   a) latency  b) access time  c) update time  d) cycle time

63. The memory closest to the processor is known as a ______.
   a) RAM  b) ROM  c) cache  d) prime memory

64. _____ memory is a long term non-volatile memory.
   a) secondary  b) primary  c) physical  d) cache

65. _____ is a high speed memory that is much faster than the main memory.
   a) secondary  b) primary  c) physical  d) cache

66. _____memory supplements the main memory.
   a) secondary  b) primary  c) physical  d) cache

67. The main function of a computer system is to ______data.
   a) store  b) input  c) process  d) display

68. An _____ device is used to feed data into a computer.
   a) output  b) peripheral  c) physical  d) input

69. The most common input device is _____
   a) monitor  b) mouse  c) keyboard  d) speaker
70. The keyboard detects the key pressed and generates the corresponding _____ codes.
   a) digital b) ANSI c) Character d) ASCII

71. _____ is an input device that controls the movement of the cursor on the display screen.
   a) keyboard b) scanner c) mouse d) MICR

72. _____ is an input device that allows information such as an image or text to be input into a computer.
   a) keyboard b) scanner c) mouse d) MICR

73. ______ are useful for publishing and multi-media applications.
   a) keyboard b) scanner c) mouse d) MICR

74. A _______ is a pattern printed in lines of different thickness.
   a) key code b) number code c) bar code d) magnetic code

75. _____ is an input device mainly used to capture images.
   a) keyboard b) scanner c) mouse d) digital camera

76. ______ is a pointing device that enables the user to interact with the computer by touching the screen.
   a) MICR b) scanner c) mouse d) Touch sensitive screen

77. MICR stands for _______
   a) Magnetic Ink Code Recognition b) Magnetic Ink Character Recognition
c) Magnetic Ink Character Reader d) Magnetic Information Character Recognition

78. _____ is widely used by banks to process cheques.
   a) Bar code b) OMR c) OCR d) MICR

79. OCR means _______
   a) Octal Character Recognition b) Optical Character Recognition
c) Optical Character Reader d) Optical Code Recognition

80. _____ technique permits the direct reading of any printed Character
   a) Bar code b) OMR c) OCR d) MICR

81. OMR stands for _______
   a) Optical Mark Reading and Recognition b) Optional Mark Reading and Recognition
c) Optical Mark Reading and Recognition d) Optical Mark Reading and Recognition

82. In ______ special pre-printed forms are designed with boxes which can be marked with a dark pencil or ink.
   a) Bar code b) OMR c) OCR d) MICR

83. _____ are widely used in applications like objective type answer papers evaluation.
   a) Bar code b) OMR c) OCR d) MICR

84. ______ is a pointing device shaped like a pen and is connected to a monitor.
   a) light pen b) OMR c) OCR d) mouse

85. All the credit cards, ATM cards, petro cards, etc. stores data in a _______.
   a) Bar code b) chip c) magnetic strip d) optical mark

86. _____ is an input device that stores data in a microprocessor embedded in the card.
   a) ATM card b) smart card c) petro card d) ID card

87. ______ is a device that captures natural handwriting on any surface onto a computer.
   a) Pen drive b) Touch screen c) OCR d) Notes taker

88. Using _____, the notes taker displays the user’s handwritten notes, memos or drawings on the computer.
   a) electronic pen b) pen drive c) OMR d) MICR

89. _____ captures the voice data and input to the computer.
   a) CD b) scanner c) microphone d) speaker

90. ______ is a commonly used output device.
   a) CD b) monitor c) keyboard d) speaker

91. Initially there were only ______ monitors.
   a) black color b) colour c) monochrome d) RGB

92. The smallest dot that can be displayed is called a ______
   a) picture b) pixel c) resolution d) HD

93. Pixel means _______
   a) power element b) point element c) picture entry d) picture element
94. The resolution of the screen improves as the number of pixels is increased is called _______.
   a) aspect unit         b) display ratio         c) aspect ratio       d) clarity
95. Printing text or images on paper is known as _______.
   a) print out            b) soft copy          c) document            d) hard copy
96. The two main types of printers are _______ printers and _______ printers.
   a) hard, soft          b) laser, inkjet      c) dot, line          d) impact, non-impact
97. _______ printers include all printers that print by striking an ink ribbon.
   a) hard               b) impact            c) non-impact         d) drum
98. _______ printers are examples of impact printers.
   a) dot matrix         b) line               c) ink jet            d) both a and b
99. Laser printers, inkjet printers and thermal printers are examples of _______ printers.
   a) hard               b) impact            c) non-impact         d) drum
100. A line printer can print _______ lines to _______ lines per minute.
    a) 150 - 3000         b) 100 - 3000        c) 150 - 2000         d) 1000 - 3000
101. _______ printer can print only one font and cannot print graphics.
    a) laser              b) line               c) non-impact         d) both a and c
102. The most popular serial printer is the _______ printer.
    a) ink jet            b) drum              c) dot matrix         d) laser
103. Dot matrix printer prints one line of _______ or _______ points at a time.
    a) 5 or 15            b) 10 or 14          c) 8 or 15            d) 8 or 14
104. The printing speed of dot matrix printer is around _______ characters per second.
    a) 150                b) 300               c) 200                d) 1000
105. _______ printers are printers that produce images by pushing electrically heated pins against special heat-sensitive paper.
    a) Thermal            b) dot matrix        c) ink jet            d) laser
106. _______ printers are used widely in fax machines and calculators.
    a) Thermal            b) dot matrix        c) ink jet            d) laser
107. _______ serves as a voice output device.
    a) CD                 b) monitor           c) microphone        d) speakers
108. Secondary storage is also called _______ storage.
    a) primary             b) backup            c) front page        d) main
109. The average time required to reach a storage location and obtain its contents in a secondary storage is called its _______.
    a) process time        b) aspect ratio      c) access time        d) run time
110. The hard disk is a _______ access storage medium
     a) direct             b) indirect          c) serial             d) sequential
111. Data is arranged as a series of concentric rings called as _______.
     a) Compact disks      b) tracks            c) records           d) sectors
112. A track is subdivided into a number of _______.
     a) drums              b) heads             c) records           d) sectors
113. The smallest unit that can be written to or read from the disk is a _______.
     a) data               b) track             c) sector            d) record
114. _______ is a delay involved until the required sector reaches the read/write head.
     a) access time        b) aspect ratio      c) track ratio       d) rotational latency
115. The storage capacity of the disk is determined as _______ * _______ * _______ * _______.
     a) number of tracks   b) number of sectors  c) bytes per sector  d) number of read/write heads
     b) number of tracks   b) number of sectors  c) bytes per track   d) number of read/write heads
     c) number of tracks   b) number of sectors  c) bytes per record  d) number of read/write heads
     d) number of tracks   b) number of sectors  c) bytes per drum    d) number of read/write heads
116. The arrangement of tracks and sectors on a disk is known as its _______.
     a) medium             b) format            c) capacity           d) block
117. Data is stored in ______ across the width of the tape.
   a) medium  b) format  c) frames  d) blocks

118. Frames are grouped into ______ or ______
   a) blocks or tracks  b) blocks or records  c) records or sectors  d) blocks or sectors

119. Magnetic tape is a ______ access medium
   a) direct  b) block  c) serial  d) random

120. The floppy disks are usually______ in size
   a) 3.0"  b) 3.5"  c) 4.5"  d) 1.5"

121. A 3.5" floppy disk can hold______MB of data.
   a) 1.44  b) 1.55  c) 2.44  d) 3.44

122. Magnetic tape is a serial access medium, similar to ______
   a) compact disk  b) DVD  c) audio cassette  d) magnetic drum

123. ______ are a storage medium from which data is read and to which it is written by lasers.
   a) magnetic drums  b) optical drums  c) floppy disks  d) optical disks

124. The optical disk is a ______ access storage medium.
   a) sequential  b) block  c) serial  d) random

125. CD-ROM stands for ______
   a) Compact Disk - Read Only Memory  b) Compact Disk - Random Only Memory
   c) Cover Disk - Read Only Memory  d) Compact Drum - Read Only Memory

ANSWERS

|   1 – b   |   2 - c   |   3 - a   |   4 – d   |   5 - a   |   6 - d   |   7 - d   |   8 - c   |   9 - b   | 10 - c   | 11 - a   | 12 - d   | 13 - a   | 14 - b   | 15 - b   |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|   31 – c   |   32 - a   |   33 - a   |   34 - c   |   35 – a   |   36 - b   |   37 - a   |   38 - d   |   39 - a   |   40 - c   |   41 - a   |   42 - b   |   43 - d   |   44 - a   |   45 - a   |
|   46 – b   |   47 - a   |   48 - c   |   49 - d   |   50 - c   |   51 - d   |   52 - d   |   53 - c   |   54 - c   |   55 - b   |   56 - d   |   57 - a   |   58 - b   |   59 - a   |   60 - d   |
|   61 - b   |   62 - d   |   63 - c   |   64 - a   |   65 - d   |   66 - a   |   67 - c   |   68 - d   |   69 - c   |   70 - d   |   71 - c   |   72 - b   |   73 - b   |   74 - c   |   75 - d   |
|   76 – d   |   77 - b   |   78 - d   |   79 - b   |   80 - c   |   81 - d   |   82 - b   |   83 - b   |   84 - a   |   85 - c   |   86 - b   |   87 - d   |   88 - a   |   89 - c   |   90 - b   |
|   91 – c   |   92 - b   |   93 - d   |   94 - c   |   95 - d   |   96 - d   |   97 - b   |   98 - d   |   99 - c   | 100-a   | 101-b   | 102-c   | 103-d   | 104-b   | 105-a   |
| 106-a   | 107-d   | 108-b   | 109-c   | 110-a   | 111-b   | 112-d   | 113-c   | 114-d   | 115-a   | 116-b   | 117-c   | 118-b   | 119-c   | 120-b   |
| 121-a   | 122-c   | 123-d   | 124-d   | 125-a   |
CHAPTER 4
WORKING PRINCIPLE OF DIGITAL LOGIC

1. A ______is an elementary building block of a digital circuit.
   a) truth table  b) algebra  c) boolean operator  d) logic gate

2. Logic gate is a circuit with _____ output and one or more inputs.
   a) one  b) two  c) three  d) many

3. At any given moment, logic gate takes one of the two binary conditions____ or ______
   a) one, ten  b) low, high  c) min, max  d) small, big

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4. There are three fundamental logic gates namely ____, ____ and _____
   a) AND, OR, NOR  b) AND, OR, NOT  c) NAND, OR, NOT  d) ADD, SUB, MUL

5. _____ and _____ gates are called the universal gates.
   a) AND, OR  b) AND, NOT  c) NAND, NOT  d) NOR, NOT

6. In AND gate, the output is _____ only when both inputs are ‘true’.
   a) false  b) true  c) true or false  d) zero

7. In _____ gate the output is “true” if either or both of the inputs are “true”.
   a) AND  b) NAND  c) OR  d) NOT

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8. In OR gate the output is ______ if both the inputs are ‘false’.
   a) false  b) true  c) true or false  d) one

9. The _____ gate is called as logical inverter
   a) AND  b) NAND  c) OR  d) NOT

10. The NOR gate circuit is an OR gate followed by an _____.
    a) AND  b) NAND  c) OR  d) NOT

11. In NOR gate the output is “true” if both inputs are “______”
    a) false  b) true  c) true or false  d) one

12. A bubbled AND gate produces the same output as a ______ gate
    a) AND  b) NOR  c) OR  d) NOT

13. The NAND gate operates as an _____ gate followed by a _____ gate.
    a) AND, OR  b) AND, NOT  c) NAND, NOR  d) NOR, NOT

14. The _____ gate acts in the same way as the logical “either/or.”
    a) NAND  b) NOR  c) XOR  d) NOT

15. The _____ gate is a combination XOR gate followed by an inverter.
    a) NAND  b) NOR  c) XOR  d) XNOR

16. ______ lists all the values of the boolean function for each set of values of the variables.
    a) logical gates  b) truth table  c) Boolean variable  d) boolean expression

17. A simplest way is to write the boolean function as an OR of ______
    a) minterms  b) maxterms  c) products  d) literals

18. The circuit that performs addition within the Arithmetic and Logic Unit of the CPU are called ______
    a) expressions  b) adders  c) truth table  d) variables

19. A unit that adds two binary digits is called a ______
    a) adder  b) full adder  c) flip flop  d) half adder

20. A _____ sums three input bits
    a) adder  b) full adder  c) flip flop  d) half adder

21. A full adder consists of ______ inputs and ______ outputs.
    a) two, three  b) two, one  c) three, two  d) three, one

22. A _____ is a circuit which is capable of remembering the value which is given as input.
    a) adder  b) full adder  c) flip flop  d) half adder

23. The full adder can be constructed from two _____ and an _____ gate.
    a) full adder, OR  b) half adder, NOT  c) flip flop, OR  d) half adder, OR

24. The ________ and ________ circuits are the examples for the combinatorial circuits.
    a) adder, half adder  b) full adder, flip flops  c) flip flop, half adder  d) half adder, full adder
25. If the logic circuit outputs are based on the previous state output, then they are called ________ circuits.
   a) synchronous       b) asynchronous       c) digital       d) sequential
26. The two main types of sequential circuits are ________ and ________ sequential circuits.
   a) synchronous, asynchronous   b) asynchronous, direct
c) digital, synchronous   d) half adder, full adder
27. A flip-flop is also called as a ______ gate.
   a) stable       b) unstable       c) bi-stable       d) non-sequential
28. The ________ circuit is an example of sequential circuit.
   a) adder       b) full adder       c) flip flop       d) half adder
29. A simple flip-flop has ______ stable states.
   a) two       b) one       c) three       d) many
30. A flip-flop circuit can be constructed using either two ____ gates or two ____ gates.
   a) AND, OR       b) NAND, NOT       c) AND, NOR       d) NOR, NAND
31. The flip-flop maintains its states indefinitely until an input pulse called a ______ is received.
   a) trigger       b) return       c) control       d) address
32. ________ is a simulation tool for electronic circuits.
   a) Digital board       b) Electronic board       c) Electric workbench       d) Electronic workbench
33. ________ is an electronic workbench which is used for design and analysis of circuits.
   a) MultiSet       b) MultiDigit       c) MultiSim       d) MultiBench
34. MultiSim provides a tool called the ________ from the instrument bin.(logic converter)
   a) logic converter       b) logic inverter       c) logic adder       d) logic circuit
35. With the ________, one can carry out several conversions of a logic circuit representation.
   a) logic converter       b) logic inverter       c) logic adder       d) logic circuit
36. The boolean function of Bubbled AND gate is ____________
   a) $C = A' \cdot B$       b) $C = A' \cdot B'$       c) $C = A \cdot B'$       d) $C = A' + B'$
37. The boolean function of Bubbled OR gate is ____________
   a) $C = A' \cdot B$       b) $C = A' \cdot B'$       c) $C = A \cdot B'$       d) $C = A' + B'$
38. In boolean algebra, ____________ is an exclusive-OR.
   a) $\oplus$       b) $\ominus$       c) $+$       d) $\odot$
39. In boolean algebra, ____________ is an exclusive-NOR.
   a) $\oplus$       b) $\ominus$       c) $+$       d) $\odot$
40. The flip-flop circuit has two outputs, one for the normal value $Q$ and another for the complement value ______.
   a) $R$       b) $S$       c) $Q$       d) $\overline{Q}$

ANSWERS

1 - d    2 - a    3 - b    4 - b    5 - c    6 - b    7 - c    8 - a    9 - d    10 - b
11 - a   12 - b   13 - b   14 - c   15 - d   16 - b   17 - a   18 - b   19 - d   20 - b
21 - c   22 - c   23 - d   24 - d   25 - d   26 - a   27 - c   28 - c   29 - a   30 - d
31 - a   32 - a   33 - c   34 - a   35 - a   36 - b   37 - d   38 - a   39 - d   40 - d
CHAPTER 5
OPERATING SYSTEM

1. ______Software looks after the functions of the computer
   a) application  b) system  c) word processor  d) office

2. The Operating System comes under the ______ Software category.
   a) application  b) system  c) word processor  d) office

3. ______ software helps the user to do his/her work.
   a) application  b) system  c) word processor  d) translation

4. The Operating System manages the ______.
   a) program  b) file  c) resources  d) coding

5. Operating system provides special routines called ______ to support the specific behaviour of individual device.
   a) kernel  b) device drivers  c) procedures  d) booting

6. The Operating System is the intermediary between _______, _______ and computer.
   a) user, application  b) system, software  c) processor, input  d) user, hardware

7. ______ can access the hardware directly.
   a) application  b) system  c) operating system  d) user

8. Operating System is an ______ between the user and computer hardware.
   a) application  b) interface  c) routine  d) device

9. The ______ acts as the manager of resources.
   a) application  b) system  c) operating system  d) user

10. The primary goal of the Operating System was mainly to optimize ______
    a) programs  b) file  c) resources  d) users

11. The Operating System should provide ______ for not allowing one user to write on the file/files of the other user.
    a) program  b) password  c) data integrity  d) data security

12. The Operating System should not allow unauthorised people to access the data of the other people is called as ______
    a) data confidentiality  b) privacy  c) data integrity  d) data security

13. ______ may be the first elementary Operating System.
    a) program monitor  b) data monitor  c) resident program  d) resident monitor

14. ______ allows transferring data to and from memory without the intervention of the CPU.
    a) Direct Memory Access mechanism  b) Device Memory Access mechanism
d) Drum Memory Access mechanism

c) Disk Memory Access mechanism

15. ______ allows reading a set of jobs from disk system to CPU for executing.
    a) program  b) process  c) processor  d) spooling

16. Spooling is superior to the ______
    a) program  b) process  c) buffer  d) memory

17. ______ takes care of the printing work with the printer.
    a) program  b) keyboard  c) processor  d) spooling

18. ______ gives the illusion that many programs run simultaneously.
    a) multiprocessing  b) multithreading  c) multi processor  d) multiprogramming

19. Spooling allowed the CPU to choose a particular job for execution leading to the concept called the ______
    a) CPU scheduling  b) job scheduling  c) task scheduling  d) spooling

20. In multiprogramming, ______ is divided into many partitions.
    a) program  b) process  c) memory  d) processor

21. ______ allows many programmers to load their programs in the different partitions.
    a) multiprocessing  b) multithreading  c) multi processor  d) multiprogramming

22. In ______ concept the CPU allocated a fixed time for each program.
    a) time-sharing  b) multithreading  c) multi processing  d) multiprogramming
23. There are two types of the Operating Systems, ______ and ________
   a) Single user Operating System, Multi-user Operating System
   b) Single Operating System, Multi-Operating System
   c) Single processor Operating System, Multi-processor Operating System
   d) Single device Operating System, Multi-device Operating System

24. MS-DOS is an example of ______ Operating System
   a) time-sharing
   b) single user
   c) multi processing
   d) multi-user

25. The multi-user Operating System is based on the concept of______
   a) time-sharing
   b) multithreading
   c) multi processing
   d) multiprogramming

26. Safeguarding of data is called ______
   a) data integrity
   b) data security
   c) user security
   d) data privacy

27. The _____ program is not allowed to read data from the disk.
   a) application
   b) data
   c) security
   d) system

28. A set of extended instructions providing an interface between the Operating System and the user programs is called ________
   a) application
   b) system call
   c) function
   d) system rules

29. Multiprocessor systems have more than one ______ in close communication with the others.
   a) memory
   b) operating system
   c) user
   d) CPU

30. In a tightly coupled system the processors share ______ and ________.
   a) application, clock
   b) memory, clock
   c) memory, CPU
   d) memory, application

31. Unix is an example of _____ Operating System.
   a) time-sharing
   b) single user
   c) uni processing
   d) multi-user

32. Operating System divides the main memory into ______ memory and ______ memory.
   a) user, system
   b) user, data
   c) user, reserved
   d) system, reserved

33. ______ memory is divided into many partitions to accommodate various jobs.
   a) reserved
   b) user
   c) data
   d) system

34. Process management undertakes the allocation of ______ to one program.
   a) applications
   b) data
   c) processors
   d) system

35. In ______, the process that enters the queue first is executed first by the CPU.
   a) FIFO
   b) FOFI
   c) round robin
   d) SJF

36. SJF stands for______
   a) Short Job First
   b) Small Job First
   c) Smartest Job First
   d) Shortest Job First

37. In ______ algorithm, CPU execution is based on the size of the job.
   a) FIFO
   b) priority
   c) round robin
   d) SJF

38. Jobs are assigned processor time in a circular method in _______algorithm.
   a) FIFO
   b) priority
   c) round robin
   d) SJF

39. The allocation of processors by process management is also known as the______
   a) file scheduling
   b) CPU scheduling
   c) Job scheduling
   d) process scheduling

40. An objective of the CPU Scheduling should be to maximize the _____ utilization.
   a) application
   b) data
   c) CPU
   d) system

41. ______Operating System ensures that the entire network behaves as a single computer.
   a) distributed
   b) network
   c) single-user
   d) multi-user

42. ______shoulders the burden (responsibility) of managing the networks.
   a) processor
   b) user
   c) security
   d) operating system

43. The Operating System provides ______ levels of securities to the user.
   a) two
   b) three
   c) four
   d) no

44. System level security is offered by the ______ in a multi-user environment.
   a) IP address
   b) user id
   c) password
   d) login

45. ______ security is an elusive one
   a) file level
   b) user level
   c) system level
   d) network level
## ANSWERS

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CHAPTER 6
COMPUTER COMMUNICATIONS

1. A system consisting of connected nodes made to share data, hardware and software is called a ________
   a) operating system   b) computer network   c) stand-alone computer   d) file sharing

2. Primary goal of a computer network is to share ________
   a) programs   b) data   c) resources   d) files

3. LAN stands for __________
   a) Local Area Network   b) Large Area Network
   c) Local Arithmetic Network   d) Local Area Node

4. MAN stands for __________
   a) Middle Area Network   b) Metropolitan Area Network
   c) Metro Area Network   d) Metropolitan Area Node

5. WAN stands for
   a) Wide All Network   b) Wild Area Network
   c) Wider Area Network   d) Wide Area Network

6. A network connecting systems inside a single building is called ________
   a) LAN   b) VPN   c) MAN   d) WAN

7. In a wireless LAN, connections may be using _____ or _____ waves
   a) ultra, radio   b) ultra, infrared   c) infrared, radio   d) either a or c

8. Wireless networks are useful when computers are ______
   a) slow   b) portable   c) robust   d) costly

9. Wireless network communicates ______ than a wired network.
   a) slower   b) faster   c) bigger   d) smaller

10. LAN is generally used to share ________ and ________
    a) hardware, software, data   b) files, software, data
    c) hardware, software, files   d) hardware, program, data

11. The data received is same as the data sent is known as data ________
    a) secure   b) safe   c) robust   d) reliable

12. The data being transferred cannot be damaged either will fully or accidentally is known as ________
    a) secure   b) safe   c) robust   d) reliable

13. Both the sender and the receiver knows the status of the data sent.
    a) secure   b) safe   c) robust   d) reliable

14. In a LAN, systems are connected either by wire or ________
    a) signals   b) wireless   c) cables   d) fiber optic

15. Which of the following are not wired connection?
    a) fiber optic cable   b) infrared waves   c) twisted pairs   d) coaxial cables

16. In a wireless LAN, connections may be using ______
    a) fiber optic   b) infrared waves   c) radio waves   d) either b or c

17. A computer sharing software package and hard disk is called a ________
    a) data server   b) server   c) file server   d) host

18. A Network that spans a geographical area covering a Metropolitan city is called ________
    a) LAN   b) VPN   c) MAN   d) WAN

19. ________ is typically two or more LANs connected together across a wide geographical area.
    a) LAN   b) WAN   c) MAN   d) CAN

20. ________ is the structure or layout of the communication channels that connects the various computers on the network.
    a) network diagram   b) network path   c) network topology   d) network structure
21. Each computer in the network is called a ______.  
a) server  
b) router  
c) file  
d) node

22. In a ______ network all computers and other communication devices are connected to a central hub.  
a) ring  
b) bus  
c) star  
d) hybrid

23. UTP means _______.  
a) Universal Twisted Pair  
b) Unshielded Twisted Pack  
c) Unshielded Twisted Path  
d) Unshielded Twisted Pair

24. In a ______ network computers and other communication devices are connected in a continuous loop.  
a) ring  
b) bus  
c) star  
d) hybrid

25. There is no central host computer or server in ______ network.  
a) ring  
b) bus  
c) star  
d) both a and b

26. In a ______ network all communication devices are connected to a common cable.  
a) ring  
b) bus  
c) star  
d) hybrid

27. The data transmission in bus network is ______.  
a) unidirectional  
b) multi directional  
c) bidirectional  
d) random

28. FDDI means _______.  
a) Fiber Distributed Data Interface  
b) Fast Distributed Data Interface  
c) Fiber Distributed Data Interchange  
d) Fiber Digital Data Interface

29. ______ is a high-speed network using fiber optic cable.  
a) BUS  
b) FDDA  
c) FDDI  
d) hybrid

30. ______ is the pathway for contacting each computer with other.  
a) Hybrid media  
b) Transfer media  
c) Transition media  
d) Transmission media

31. A ______ can be one rule or a set of rules and standards that allow different devices to hold conversations.  
a) procedure  
b) protocol  
c) transmission  
d) network

32. ______ create duplicate copies of critical data and files in the storage device.  
a) file archiving  
b) file copying  
c) file backup  
d) either a or c

33. ______ provides a message delivery path in a network.  
a) Hybrid media  
b) Transfer media  
c) Transition media  
d) Transmission media

34. ______ services are the network services that run software for network clients.  
a) internet  
b) application  
c) data  
d) mail

35. ______ is the process of sending data electronically from one location to another.  
a) Data connection  
b) Data conversion  
c) Data communication  
d) Tele communication

36. The device that coordinates the data transfer is called ______.  
a) Node interface card  
b) Network inter card  
c) Network interface card  
d) Network information card

37. Ethernet, Arcnet and token ring are the examples for ______.  
a) Internet  
b) NIC  
c) network  
d) Software

38. NIC means _______.  
a) Node Interface Card  
b) Network Inter Card  
c) Network Interface Card  
d) Network Information Card

39. ______ specifies the procedures for establishing maintaining and terminating data transfer.  
a) internet  
b) application  
c) NIC  
d) protocol

40. International Standards Organization proposed protocol known as ______.  
a) ISO  
b) OSI  
c) SOI  
d) IOS

41. The OSI provided a network architecture with ______ layers.  
a) four  
b) five  
c) six  
d) seven

42. OSI means _______.  
a) Open System Internet  
b) Open Stub Interconnection  
c) Open System Interconnection  
d) Open System Information

43. ISO means _______.  
a) International Systems Organization  
b) International Standards organization  
c) International Servers organization  
d) Internet Standards organization
44. _______ architecture helps to communicate between Network of dissimilar nodes and channels
   a) ISO  b) OSI  c) SOI  d) IOS
45. _______ data transmission is the transmission of data in a continuous waveform.
   a) audio  b) video  c) analog  d) digital
46. _______ data transmission is the widely used communication system in the world.
   a) audio  b) video  c) analog  d) digital
47. In digital data transmission, the distinct electrical state of ‘on’ and ‘off’ is represented by ___ and ___
   a) true or false  b) positive, negative  c) 0 , 1  d) 000 , 111
48. Network layer is the _____ layer in OSI architecture.
   a) fourth  b) fifth  c) second  d) third
49. Which is the first layer of OSI network architecture?
   a) Network layer  b) Physical layer  c) Transport layer  d) Data link layer
50. Which is the fifth layer of OSI network architecture?
   a) Network layer  b) Physical layer  c) Transport layer  d) Session layer
51. Communicating, e-mail, file transfer are the purposes of _____ layer.
   a) Network layer  b) Application layer  c) Transport layer  d) Data link layer
52. _______ layer provides rules for data conversion in a network.
   a) Presentation  b) Application  c) Network  d) Data link
53. _______ layer starts, stops and governs transmission order in a network.
   a) Presentation  b) Session  c) Network  d) Physical
54. _______ layer ensures delivery of complete message.
   a) Presentation  b) Session  c) Network  d) Transport
55. _______ layer routes data to different networks.
   a) Presentation  b) Session  c) Network  d) Data link
56. _______ layer transmits data to different networks.
   a) Presentation  b) Session  c) Network  d) Data link
57. The _______ converts the voice at one end into an electric signal that can flow through a telephone cable.
   a) system  b) telephone  c) Network  d) protocol
58. The process of converting sound or data into a signal that can flow through the telephone wire is called ____
   a) translation  b) compression  c) modulation  d) demodulation
59. The reverse process of modulation (signal into data) is called ____
   a) remodulation  b) demodulation  c) unmodulation  d) nonmodulation
60. The device that accomplishes modulation – demodulation process is called a _______.
   a) modem  b) hub  c) router  d) switch
61. DCE means _______.
   a) Data Connection Terminating Equipments  b) Device Circuit Terminating Equipments
   c) Data Circuit Transporting Equipments  d) Data Circuit Terminating Equipments
62. A modem that has extra functions such as automatic answering and dialing is called _______ Modems.
   a) dumb  b) intelligent  c) power  d) switch
63. The speed at which data travel over a communication channel is called the _______.
   a) transfer rate  b) access rate  c) connection rate  d) communication rate
64. The rate at which the data are transferred is expressed in terms of _______.
   a) bpt  b) bps  c) rpc  d) bpm
65. bps means _______.
   a) block per second  b) backup per second  c) bits per second  d) bytes per second
66. data transmission in network may occur in _______ modes .
   a) two  b) three  c) four  d) many
67. In _______ mode, data can be transmitted in one direction.
   a) simplex  b) duplex  c) half duplex  d) full duplex
68. Traditional television broadcast is an example of _______ mode of data transmission.
   a) half duplex  b) duplex  c) simplex  d) full duplex
69. ______ mode data can be transmitted back and forth between two stations. But at any point of time data can go in any one direction only.
   a) half duplex  
   b) duplex  
   c) simplex  
   d) full duplex  

70. common example for ______ mode is the walky talky.
   a) simplex  
   b) duplex  
   c) half duplex  
   d) full duplex

71. In ______ mode a device can simultaneously send or receive data.
   a) simplex  
   b) duplex  
   c) half duplex  
   d) full duplex

72. Several networks all over the world, are connected together to form a Global network called the _____.
   a) WAN  
   b) Internet  
   c) WWW  
   d) Google

73. The ____ addressing system is used to keep track of the million of users.
   a) IP address  
   b) User ID  
   c) e-mail address  
   d) Login

74. Each computer on net is called a ______.
   a) node  
   b) host  
   c) server  
   d) hot spot

75. Internet is a __________ network.
   a) complex  
   b) circuit-switching  
   c) wide  
   d) packet-switching

76. In the Internet, a sending computer breaks an electronic message into ______.
   a) files  
   b) character  
   c) records  
   d) packets

77. The ______ switching is suitable for data transmission.
   a) message  
   b) packet  
   c) circuit  
   d) data

78. In a data transmission, _____ breaks up the data to be sent into little packets.
   a) ATM  
   b) computer  
   c) TCP  
   d) IP

79. ______ is a set of conventions used to pass packets from one host to another.
   a) ATM  
   b) Protocol  
   c) TCP  
   d) IP

80. ______ is responsible for routing the packets to a desired destination IP address.
   a) ATM  
   b) Network  
   c) IP  
   d) TCP

81. The IP addressing system uses the letter addressing system and number addressing systems.
   a) letter, number  
   b) letter, image  
   c) image, number  
   d) all of these

82. ICANN means _________.
   a) Internet Committee for Assigned Names and Numbers  
   b) Internet Corporation for Assigned Names and Numbers  
   c) Internet Corporation for All Names and Numbers  
   d) Internet Communication for Assigned Names and Numbers

83. _______ administers the domain name registration in internet.
   a) ICNNA  
   b) IACNN  
   c) ICNAN  
   d) ICANN

84. ______ is a multimedia portion of the Internet.
   a) sound  
   b) web  
   c) computer  
   d) IP

85. _______ consists of an interconnection system of sites or servers all over the world that can store information in the multimedia form.
   a) link  
   b) website  
   c) web  
   d) network

86. Each page in a web is called a ______.
   a) slide  
   b) web page  
   c) document  
   d) browser

87. A group of related web pages linked together forms a ______.
   a) presentation  
   b) web  
   c) document  
   d) website

88. The first page of the website is called a ______.
   a) home page  
   b) start page  
   c) link page  
   d) base page

89. Every web page has a unique address called the _________.
   a) IP  
   b) TCP  
   c) URL  
   d) HTTP

90. URL stands for _________.
   a) Uniform Resource Locator  
   b) Uniform Research Locator  
   c) Universal Resource Locator  
   d) Uniform Recovery Locator
91. _______locates the web pages on the Internet.
   a) IP       b) TCP       c) URL       d) HTTP
92. HTTP stands for ________
   a) Hypertext Transmit Protocol b) Hypertext Transfer Protocol
c) Hypermedia Transfer Protocol d) Hypertext Transfer Page
93. WWW stands for ________
   a) Word Wide Web b) World Worth Web
c) World Wide Web d) Worth Wide Web
94. ________ protocol is meant for transferring the web files between user and web server
   a) IP       b) TCP       c) URL       d) HTTP
95. Looking for information on the Internet is called ________.
   a) surfing   b) browsing   c) finding       d) either a or b
96. Which software is used to browse the Internet?
   a) url       b) browser    c) html       d) http
97. Web browser translates _______ documents of the website and allows viewing it on the screen.
   a) multimedia b) compressed c) html       d) text
98. Example of web browsers is ________
   a) Netscape Navigator b) Internet Explorer
c) Mozilla Firefox d) all of these
99. ________indicates the link to other sites
   a) html       b) hyperlink c) hypertext   d) hypermedia
100. ________ is usually used to exchange messages and data files on the Internet.
    a) multimedia b) http       c) html       d) electronic mail
101. _______ is an electronic discussion groups that focus on specific topic forms, computer forums on the Internet.
     a) chat      b) Usenet    c) ftp        d) e mail
102. FTP means ________
     a) File Transfer Page b) Fast Transfer Protocol c) File Transfer Protocol
d) File Transform Protocol
103. ________is used for the net user for transferring files around the world.
     a) chat      b) Usenet    c) FTP        d) e mail
104. Which protocol allows the user to connect to a remote Computer?
    a) Telnet     b) Usenet    c) ftp        d) http
105. ________ are the companies which allow the user to use the Internet for a price.
     a) Networks   b) Web groups c) Intranets   d) ISPs
106. ISP stands for ________
     a) Information Service Provider b) Internet Service Provider
c) Intranet Service Provider d) Interlink Service Providers
107. If URL is not known, then ________ will help us to get the information on the Internet.
     a) address    b) protocol  c) search engine   d) e mail
108. ________ are tools that allow the user to find specific document through key words or menu choices.
     a) address    b) search engines c) protocol   d) e mail
109. Which is the following is not a Search engine?
     a) Google     b) Yahoo     c) Chrome    d) AltaVista
110. In Internet explorer window ________ button helps to go back to the previous link.
     a) Home b) Back    c) Forward   d) Refresh
111. ________ button helps to reload the webpage faster on the Internet.
     a) Home b) Back    c) Forward   d) Refresh
112. Websites which provide free download of software, tutorials and benchmarks are called as ________
     a) research b) malwares c) free-wares d) updates
113. Private network that uses TCP / IP and other Internet standard protocols is called ________
     a) LAN  b) Intrater  c) Firewall d) MAN
114. ________ signals continuously vary with time.
   a) analog  
   b) digital  
   c) radio  
   d) sound

115. Data communication in ________ mode is faster.
   a) simplex  
   b) duplex  
   c) half duplex  
   d) full duplex

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ANSWERS