

**Question Bank**  
**F.Y.B.Sc. Computer Science**  
**Paper –I**  
**Fundamentals of Computer**  
**&**  
**Computer Organization and**  
**Architecture.**

**UG-CS 101**

**Multiple Choice : 160**

**Objective :182**

**2 Mark Questions : 223**

**4 Mark Questions : 200**

**6 Mark Questions : 116**

## Question 1 Multiple Choice

- 1) The access method used for magnetic tape is \_\_\_\_\_  
a) Direct    b) Random    **c) Sequential**    d) None of the above
- 2) By Processing we understand \_\_\_\_\_  
a) Processing string of only words    **b) None of the above**    c) String manipulation only  
d) Processing string of numbers and special symbols
- 3) The difference between memory and storage is that the memory is \_\_\_\_\_ and storage is \_\_\_\_\_  
**a) Temporary, permanent**    b) Permanent, temporary    c) Slow, fast  
d) None of the above
- 4) Which of the Following holds the ROM, CPU, RAM and expansion cards  
a) Hard disk    b) Floppy disk    **c) Mother board**    d) None of the above
- 5) The language that the computer can understand and execute is called \_\_\_\_\_  
**a) Machine language**    b) Application software    c) System program  
d) None of the above
- 6) Which of the following devices can be used to directly input printed text  
**a) OCR**    b) OMR    c) MICR    d) None of the above
- 7) A floppy disk contains  
a) Circular tracks only    b) Sectors only    **c) Both circular tracks and sectors**  
d) None of the above
- 8) CD-ROM is a  
a) Semiconductor memory    b) Memory register    c) Magnetic memory  
**d) None of the above**
- 9) Actual execution of instructions in a computer takes place in  
**a) ALU**    b) Control Unit    c) Storage unit    d) None of the above
- 10) Which of the following is used as a primary storage device  
a) Magnetic tape    **b) PROM**    c) Floppy disk    d) None of the above
- 11) Information retrieval is faster from  
a) Floppy disk    b) Magnetic tape    **c) Hard disk**    d) None of the above

- 12) Operating system is
- a) A collection of hardware components
  - b) A collection of input-output devices
  - c) **A collection of software routines**
  - d) none of the above
- 13) Operating system
- a) Link a program with the subroutines it references
  - b) **Provides a layered, user-friendly interface**
  - c) Enables a programmer to draw a flowchart
  - d) None of the above
- 14) Execution of two or more programs by a single CPU is known as :
- a) Multiprocessing
  - b) Time sharing
  - c) **Multiprogramming**
  - d) None of the above
- 15) Modem stands for
- a) A type of secondary memory
  - b) **Modulator demodulator**
  - c) Mainframe operating device memory
  - d) None of the above
- 16) Typical data transfer rate in LAN are of the order of
- (a) Bits per sec
  - (b) Kilo bits per sec
  - (c) **Mega bits per sec**
  - (d) None of the above
- 17) Ethernet uses
- (a) **Bus topology**
  - (b) Ring topology
  - (c) Mesh topology
  - (d) None of the above
- 18) Wide area networks (WANs) always require
- (a) High bandwidth communication source link
  - (b) High speed processors
  - (c) Same type
  - (d) **None of the above**
- 19) Typical bandwidth of optical fibers is
- (a) **Order of GHz**
  - (b) Order of KHz
  - (c) Order of Hz
  - (d) None of the above
- 20) A large number of computers in a wide geographical area can be efficiently connected by
- (a) Twisted pair lines
  - (b) Coaxial cables
  - (c) **Communications satellites**
  - (d) None of the above

- 21) Which of the following topologies is not of broadcast type ?  
 (a) Star (b) Bus (c) **Ring** (d) None of the above
- 22) Bug means  
 (a) **A logical error in a program** (b) Documenting programs using an efficient Documentation too (c) A difficult syntax error in a program (d) None of the above
- 23) The part of machine level instruction, which tells the central processor what was to be Done is  
 (a) **Operation code** (b) Address (c) Operand (d) None of the above
- 24) Indicate which , of the following is not true about 4GL.  
 a) **4GL does not support a high –level of screen interaction**  
 b) Many database management system packages support 4GLs  
 c) A 4GL is a software tool which is written, possibly, in some third generation language  
 d) None of the above
- 25) Indicate which of the following, best describes the term “software”  
 a) **Systems programs only** (b) Application programs only (c) Both (a) and (b)  
 d) None of the above
- 26) A translator is best described as  
 a) An Application software (b) **A system software** (c) A hardware component  
 d) None of the above
- 27) Indicate which of the following is not true about an interpreter  
 a) Interpreter generates an object program from the source program  
 b) **Interpreter is a kind of translator**  
 c) Interpreter analyses each source statement every time it is to be executed  
 d) None of the above
- 28) The errors that can be pointed out by the compiler are  
 a) **Syntax errors** (b) Semantic errors (c) Logical errors (d) None of the above
- 29) C is  
 a) An assembly language (b) **A third generation high level language**  
 c) A machine language (d) None of the above

- 30) A graph prepared by a computer  
a) is its output    b) is the piece of information to use    c) is a hard copy  
**d) all of the above**
- 31) Which of the following does not represent an I/O device  
a) speaker which beeps    b) joystick    c) plotter    **d) ALU**
- 32) The communication line between the CPU, memory and peripherals is called a  
**a) Bus**    b) line    c) media    d) none of these
- 33) Memories which can be read only are called..... memories  
a) RAM    **b) ROM(read only memory)**    c) PROM  
d) EPROM
- 34) Example of non-numerical data is  
**a) Employee address**    b) Examination score    c) Bank balance  
d) None of the above
- 35) One thousand bytes represent a  
a) Megabyte    b) Gigabyte    **c) Kilobyte**    d) None of the above
- 36) The language that the computer can understand and execute is called  
**a) Machine language**    b) Application software    c) System program  
d) None of the above
- 37) A step by step procedure used to solve a problem is called  
a) Operating system    **b) Algorithm**    c) Application Program    d) None of the above
- 38) Which of the following holds the ROM, CPU, RAM and expansion cards  
a) Hard disk    b) Cache memory    **c) Mother board**    d) None of the above
- 39) The errors that can be pointed out by the compiler are  
**a) Syntax errors**    b) Semantic errors    c) Logical errors    d) None of the above
- 40) A computer cannot "boot" if it does not have the  
a) Compiler    b) Loader    **c) Operating system**    d) Assembler
- 41) WAN hardware includes  
**a) Multiplexors and routers**    b) EDF    c) Bridger and modems  
d) None of the above

42) Third generation computers

- a) Were the first to use built-in error detecting device
- b) Used transistors instead of vacuum tubes
- c) Were the first to use neural network
- d) None of the above**

43) A Winchester disk is a

- a) Disk stack**
- b) Removable disk
- c) Flexible disk
- d) None of the above

44) A computer can be defined as an electronic device that can be (choose the most precise definition):

- a) carry out arithmetical operation
- b) carry out logical function
- c) accept and process data using a set of stored instructions**
- d) present information on a VDU

45) The Central Processing Unit:

- a) is operated from the control panel.
- b) is controlled by the input data entering the system
- c) controls the auxiliary storage unit
- d) controls all input, output and processing.**

46) Computer follows a simple principle called GIGO which means:

- a) garbage input good output
- b) garbage in garbage out**
- c) great instructions great output
- d) good input good output.

47) The term 'baud' is a measure of the:

- a) speed at which data travels over the communication line**
- b) memory capacity
- c) instruction execution time
- d) all of the above

48) A bootstrap is:

- a) a memory device
- b) a device to support the computer
- c) a small initialisation program to start up a computer**
- d) an error correction technique

49) Which of the following is not hardware:

- a) Magnetic tape    b) Printer    c) VDU terminal    **d) Assembler**

50) Pick out the wrong definition :

- a) Access time – time needed to access the output**  
b) EDP- acronym for Electronic Data Processing  
c) COBOL – a language used for business data processing  
d) Control unit – heart of a computer.

51) Terminal is a:

- a) device to give power supply to computer  
**b) point at which data enters or leaves the computer**  
c) the last instruction in a program  
d) any input /output device.

52) Multiple choice examination answer sheets can be evaluated automatically by

- a) Optical Mark Reader**    b) Optical Character Reader    c) Magnetic tape reader  
e) Magnetic ink character reader.

53) An operating system

- a) is not required on large computers    b) is always supplied with the copmputer  
c) is always supplied with the BASIC  
e) **consists of programs that help in the operation of computer.**

54) Which of the following would cause quickest access

- a) direct access from a magnetic tape  
**b) direct access from a hard disk**  
c) direct access from a floppy disk  
d) direct access from a cassette tape

55) The process of retaining data for future use is called

- a) reading    b) writing    **c) storing**    d) coding

55) A file is corrected immediately after the input of a transaction. This is an example of

- a) sorting    b) batching    **c) on-line updating**    d) off-line updating

- 56) Magnetic tapes are good storage media for
- backup and low volume data
  - backup and high volume data**
  - storing original but low volume data
  - storing original but high volume data
- 57) Which of the following is a computer code
- EPROM
  - JAVA
  - EBCDIC**
  - None of the above
- 58) Data is generally coded in 8-bit units, such a unit is also called
- k
  - Word
  - field
  - byte**
- 59) Half adder is logic CKT that adds. ....Digit at a time
- Two**
  - one
  - three
  - zero
- 60) Half adder consist of. ....&....Gates
- EX-OR&AND**
  - EX-OR&OR
  - EX-OR&NOT
  - None of this
- 61) In half adder EX-OR gate O/P is .....
- Carry
  - Remainder
  - Sum**
  - Non of this
- 62) In half adder AND gate O/P is .....
- Carry**
  - Reminder
  - Sum
  - Non of this
- 63) Subtract  $(1010)_2$  from  $(1101)_2$  using 1<sup>st</sup> complement..
- $(1100)_2$
  - $(0011)_2$**
  - $(1001)_2$
  - $(0101)_2$
- 64) Using 2's Complement, subtraction, of  $(1010)_2$  from  $(0011)_2$  is
- $(0111)_2$
  - $(1001)_2$
  - $-(0111)_2$**
  - $-(1001)_2$
- 65) In 1<sup>st</sup> Complement a number to be subtracted is known as.....
- Subtrahend**
  - Minuend
  - carry
  - none of thi
- 66) In 1<sup>st</sup> Complement a number which is Subtracted from other number  
Is known as.....
- Carry
  - subtrahend
  - minuend**
  - Non of this
- 67) In a 2<sup>nd</sup> Complement a number which is subtracted from other  
Number is known as.....

- a) Carry b) **Subtrahend** c) Minuend d) Non of this
- 68) In 2<sup>nd</sup> Complement a number which is subtracted from other number  
Is known as.....
- a) Carry b) Subtrahend c) **Minuend** d) Non of this
- 69) The full adder CKT adds. ....Digit at a time
- a) 1 b) 2 c) **3** d) 4
- 70) Full adder is constructed by using .....
- a) **Two Half Adder & one OR gate** b) two OR gate & one HA  
c) One HA & two OR gate d) One OR gate & one HA
- 71) HA gives..... O/P
- a) 1 b) **2** c) 3 d) non of this
- 72) FA gives..... O/P
- a) 1 b) **2** c) 3 d) non of this
- 73) The O/P of Half adder is in the form of.
- a) Sum b) carry c) **sum & carry** d) none of these
- 74) The O/P of Full adder is in the form of .....
- a) Sum b) carry c) **sum & carry** d) none of these
- 75).....Are used for converting one type of number system in to other form.
- a) **Encoder** b) logic gate c) half adder d) FA
- 76)..... Are used for converting one type of number system in to the other form
- a) **Decoder** b) logic gate c) half adder d) Full adder
- 77) Multiplexer means .....
- a) One in to many b) **many in to one** c) many in to many d) none of these
- 78) Multiplexers is also known as.
- b) **mux** b) demux c) adder d) subtractor
- 79) ASCII code is a ..... bit code.
- a) 1 b) 2 c) **7** d) 8
- 80) 8421 codes is also called as.
- a) Gray code b) ASCII code c) excess 3-code d) **BCD code**
- 81) The decimal number is converted in to excess 3 codes by adding. to each decimal digit.

a) 4 b) 8 c) 2 d) **3**

82) The binary system,  $1+1=$ .....

(a) 2 (b) 0 (c) **1** (d) none of these

83)  $1_{10}+1_{10}=$ .....

(a) **2** (b) 0 (c) 1 (d) none of these

84)  $1_2+1_2=$ .....

(a) 2 (b) 0 (c) **1** (d) none of these

85) The digital system usually operated on .....system.

(a) **binary** (b) decimal (c) octal (d) hexadecimal

86) The binary system use powers of.....for positional values.

(a) **2** (b) 10 (c) 8 (d) 16

87) After counting 0, 1, 10, 11, the next binary number is

(a) 12 (b) **100** (c) 101 (d) 110

88) The 2's complement of  $1000_2$  is

(a) 0111 (b) 0101 (c) **1000** (d) 0001

89) The chief reason why digital computers use complemental subtraction is that is

(a) **simplifies their circuitry** (b) is a very simple process  
(c) can handle negative numbers easily (d) avoids direct subtraction

90) In logic algebra, variables can assume only two values: either.....or 1.

(a) 2 (b) **0** (c) 3 (d) 4

91) The..... gate is also called any-or-all gate.

(a) OR (b) AND (c) NOT (d) EX-OR

92) In a 2-input OR gate, output is 0 if and only if .....input are 0.

(a)

93) A logic gate is an electronic circuit which

(a) **makes logic decisions** (b) allows electron flow only in one direction  
(c) works on binary algebra (d) alternates between 0&1 values

94) In positive logic, logic gate 1 corresponds to

(a) positive voltage (b) **higher voltage level**  
(c) zero voltage level (d) lower voltage level

- 95) In negative logic, the logic state 1 corresponds to  
 (a) negative logic (b) zero voltage  
 (c) more negative voltage **(d) lower voltage level**
- 96) The output of a 2-input OR the gate is 0 only when it's  
**(a) both inputs are 0** (b) either input is 1  
 (c) both inputs are 1 (d) either input is 0
- 97) An X-OR gate produces an output only when it's two inputs are  
 (a) high (b) low **(c) different** (d) same
- 98) An AND gate  
 (a) implements logic addition **(b) is equivalent to a series switching circuit**  
 (c) is an any-or-all gate (d) is equivalent to a parallel switching circuit
- 99) When an input electrical signal A=10100 is applied to a NOT gate, it's output  
 Signal is  
**(a) 01011** (b) 10101 (c) 10100 (d) 00101
- 100) The only function of a NOT gate is to  
 (a) stop a signal (b) recomplement a signal  
**(c) invert an input signal** (d) act as a universal set
- 101) A NOR gate is ON only when all it's inputs are  
 (a) ON (b) positive (c) high **(d) OFF**
- 102) The truth table as shown in fig.  
 Is for a/an ..... gate.

A	B	C
0	0	0
0	1	1
1	0	1
1	1	1

- (a) XNOR** (b) OR (c) AND (d) NAND (e) XOR
- 103) For getting an output from an XNOR gate, its both inputs must be  
 (a) high (b) low **(c) at the same logic level** (d) at the apposite logic level



108) This is K-map For ----- Variables

	— B	B
$\bar{A}$	0	1
A	1	0

a) 1 **b) 2** c) 3 d) 4

109)

	— C	C
— AB	1	1
$\bar{A}\bar{B}$	0	1
AB	1	0
— AB	1	0

This is K-map for ----- Variables

a) 10 **b) 6** c) 3 d) 8

110) The K-map for  $AB + \bar{A}\bar{B}$  is -----

a)

	— B	B
$\bar{A}$	0	
A	1	1

**b)**

c)

	— B	B
$\bar{A}$	1	0
A	1	0

	$\bar{B}$	<b>B</b>
$\bar{A}$	0	1
<b>A</b>	0	1

d) None of these .

111) In K-map a quad is group of ----- 1's

- a) 2 b) 6 **c) 4** d) 8

112) An octal is group of -----1's

- a) 2 b) 6 c) 4 **d) 8**

113) K-map for Half adder is of ----- Variables

- a) 2** b) 3 c) 4 d) None of these

114) K-map for Full adder is of ----- Variables

- a) 2 **b) 3** c) 4 d) None of these

115) A Register is a group of -----

- a) OR gates b) OR & AND gate **c) Flip-flops** d) None of these

116) Each Flip-flop stores ----- bits

- a) 1 bit** b) 8 bit c) 16 bit d) 2 bit

117) This is truth table for ----- gate

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

- a) OR gate b) AND gate  
c) NAND gate **d) EX-OR gate**

118) This is truth table for ----- gate

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

- a)OR gate                      **b)AND gate**  
 c)NAND gate                      d)EX-OR gate

118) This is truth table for ----- gate

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

- a)OR gate                      b)AND                      **c)NAND gate**                      d)NOR

119) In Boolean algebra ,  $A + \bar{A} =$  -----

- a)A                                      **b)1**                                      c)0                                      d)None of these

120) In Boolean algebra ,  $A \cdot \bar{A} =$ -----

- a)  $A^2$                                       **b) A**                                      c)2A                                      d)1

121) In Boolean algebra  $A + AB =$ -----

- a) B    **b) A**    c)AB    d)A+B

122)The First Microprocessor was\_\_\_\_\_

- a) **Intel 4004**    b) 8080    c) 8085    d) 4008

123)8085 was introduced in \_\_\_\_\_

- a) 1971    b) **1976**    c) 1972    d) 1978

124)In 1978 Intel introduced the 16 bit Microprocessor 8086 now called as\_\_\_\_\_

- a) M6 800    b) **APX 80**    c) Zylog z8000    d) Intel 8086

125)Which is a 8 bit Microprocessor \_\_\_\_\_

- a) Intel 4040    b) Pentium – I    c) 8088    d) **Motorala MC-6801**

126)Pentium-I, Pentium-II, Pentium-III and Pentium-IV are recently introduced microprocessor by\_\_\_\_\_

- a) Motorala    b) **Intel**    c) Stephen Mors    d) None

127)The address bus flow in \_\_\_\_\_

- a) bidirection    b) **unidirection**    c) Mulidirection    d) Circular

128)Status register is also called as \_\_\_\_\_

- a) Accumulator    b) Stack    c) Counter    d) **flags**

- 129)The 8085 is based in a \_\_\_\_\_ pin DIP  
a) **40** b) 45 c) 20 d) 35
- 130)The 8085 Microprocessor uses \_\_\_\_\_ V power supply  
a) **+5V** b) -5V c) +12v d) -12v
- 131)The address / data bus in 8085 is \_\_\_\_\_  
a) **Multiplexed** b) demultiplexed c) decoded d) loaded
- 132)The Stack pointer holds \_\_\_\_\_  
a) 16 bit address b) 16 bit data c) 8 bit address d) 8 bit data
- 133)The First electronic computer was completed in \_\_\_\_\_  
a) **1946** b) 1938 c) 1941 d) 1950
- 134)The First Generation of computer appeared during the period \_\_\_\_\_  
a) **1945 to 1954** b) 1964 to 1974 c) 1934 to 1944 d) 1937 to 1949
- 135)The Second Generation of computers used \_\_\_\_\_  
a) IC-Chip b) **Transistors** c) Vaccum tubes d) Microprocessor chip
- 136)The fourth Generation began in \_\_\_\_\_  
a) 1974 b) 1935 c) **1965** d) **1975**
- 137)\_\_\_\_\_ is used to create Large program on internet  
a) C++ b) HTML c) C language d) **Java script**
- 138)The Device which converts instructions into the binary form that is understood by the computer and supply to the computer is known as \_\_\_\_\_  
a) **Input** b) Output c) Automatic d) Memory
- 139)Laptop PCs are also known as \_\_\_\_\_ Computers  
a) Mainframe b) Super c) **Notebook** d) personal
- 140)  is a \_\_\_\_\_ symbol  
a) Processing b) Terminal c) Input/ Output d) decision
- 141)The symbol is used to indicate a point at which decision has to be made \_\_\_\_\_  
a) Connector b) **decision** c) processing d) Terminal

- 142) Windows 98 is \_\_\_\_\_
- a) Graphics System    b) **Operating System**    c) Drawing system    d) Processing system
- 143) A common topology to any network is \_\_\_\_\_ topology
- a) Bus    b) **Star**    c) Tree    d) Ring
- 144) A flip flop has \_\_\_\_\_ stable status
- a) Two    b) **Three**    c) four    d) five
- 145) Flip flop is also called as \_\_\_\_\_
- a) Stable    b) **bistable**    c) Tri stable    d) not stable
- 146) The number system that we use in our day to day life is called the Number System \_\_\_\_\_
- a) Octal    b) Binary    c) hexadecimal    d) **Decimal**
- 146) The Binary system has base \_\_\_\_\_
- a) 8    b) **2**    c) 10    d) 16
- 147) The Octal Number system has base \_\_\_\_\_
- a) 2    b) 10    c) **8**    d) 10
- 148) The Decimal Number system has base \_\_\_\_\_
- a) **10**    b) 8    c) 16    d) 2
- 149) The Hexadecimal Number system has base \_\_\_\_\_
- a) 2    b) 10    c) **16**    d) 8
- 150)  $11010011_2 = ?_{16}$
- a) **D3**<sub>16</sub>    b) A3<sub>16</sub>    c) B3<sub>16</sub>    d) D2<sub>16</sub>
- 151)  $25?_{10} = ?_2$  \_\_\_\_\_
- a) 10001<sub>2</sub>    b) 11001<sub>2</sub>    c) 11000<sub>2</sub>    d) 10101<sub>2</sub>
152. Binary equivalent of decimal 8 is
- a. 111    b. 1001    c. 1000    d. 10001
153. What will be the decimal equivalent of  $(111011.10)_2$
- a. 48.625    b. 59.487    c. 48.487    d. 59.625
154. What will be the hexadecimal equivalent of decimal number (54977)
- a. D6C1    b. DC61    c. D6C5    d. none

155. What will be the binary equivalent of  $(24.1875)_{10}$   
a. (11100.0011) b. (11001.0101) c. (10110.0011) d. None.
156. Which of the following is not an octal number?  
a. 44 b. 29 c. 6632 d. 74
157. Hexadecimal number system has ..... symbols.  
a. 15 b. 12 c. 16 d. 10
158. Octal number system has ..... symbols.  
a. 15 b. 16 c. 8 d. 10
159. Binary number system has ..... symbols.  
a. 15 b. 16 c. 2 d. 10
160. Decimal number system has ..... symbols.  
a. 15 b. 16 c. 2 d. 10
161. The octal equivalent of  $(13)_{10}$  is  
a. 18 b. 14 c. 15 d. 16
162. Convert decimal number  $(100)_{10}$  to octal equivalent will give  
A. 100 b. 120 c. 144 d. 154
163. Hexadecimal equivalent of  $(58)_{10}$  will be  
a. 72 b. 111010 c. 3A d. 3C
164. The result after converting binary number  $(100011)_2$  to decimal will be  
a. 30 b. 43 c. 35 d. None
165. The decimal equivalent of sum of two binary numbers is  $(1010101)_2$  and  $(1001010)_2$   
a. 300 b. 200 c. 326 d. 226
166. Conversion of hexadecimal number  $(69)_{16}$  to octal equivalent will give  
a. 451 b. 351 c. 251 d. 151
167. Converting binary number  $(100110)_2$  to hexadecimal equivalent will give  
a. 46 b. 36 c. 26 d. 34
168. The difference between two decimal numbers 87 and 63 in binary format will be :  
a. 10100 b. 11000 c. 10010 d. None
169. The sum of two hexadecimal numbers (37) and (63) will be :

a. 100 b.9A c.45 d.8A

169. The sum of octal numbers  $(25)_8 + (52)_8 + (33)_8$  is :

a.  $(90)_{10}$  b.  $(132)_8$  c.  $(5A)_{16}$  **d. All above.**

170. What are the essential features of any number system?

a. Operators b. Radix c. Base **d. b and c.**

171. The binary equivalent of  $(64)_{10}$  is :

a. 11000000 b. 1100000 **c. 1000000** d. 1100010

172. The binary equivalent of octal number  $(43)_8$

a. 11000 b. 11111 **c. 10011** d. 10111

173.  $(72)_{10}$  is equivalent to :

a.  $(108)_8$  b.  $(27)_8$  c.  $(F3)_8$  d.  $(110)_8$

174. Find complements of the following numbers :

a. 10 b. 101 c. 101101 d. 011011

175. Subtract 0110111 from 1101110

333. Subtract 01110 from 10101.

176. Logic gate is an electronic circuit which makes-

i) *Logical decision* ii) Boolean algebra

177. Which gate has only one input and only one output.

i) *NOT Gate*

178. In a positive logic system, a positive voltage level (LOW) represents...

i) *Logical 1 state* ii) Logical 0 state

179. In a positive logic system, a most negative voltage level (LOW) represents

- *Logical 0 state*

180. In a negative logic system – a most positive voltage level (High) represents

- *Logical 0 state*

181. In a negative logic system, a most negative voltage level (LOW) represents

- *Logical 1 state*

182. Draw symbols of OR gate

183. Draw symbols of AND gate

184. Draw symbols of NOT gate  
 185. Draw symbols of NOR gate  
 186. Draw symbols of NAND gate  
 187. Draw symbols of Ex-OR gate

This logical expression

- 188)  $Y=A+B$  is of \_\_\_\_\_ gate.  
 189)  $Y=A.B$  is of \_\_\_\_\_ gate.  
 190)  $Y=A$  is of \_\_\_\_\_ gate.  
 191)  $Y=A+B$  is of \_\_\_\_\_ gate.  
 192)  $Y=A.B$  is of \_\_\_\_\_ gate.  
 193)  $Y=A.B+A.B$  is of \_\_\_\_\_ gate.

Options: i) OR    ii) AND    iii) NAND    iv) NOR    v) Ex-OR    vi) NOT

194) \_\_\_\_\_ gate is also called as inverter...*NOT*

195) \_\_\_\_\_ & \_\_\_\_\_ gate are universal building block.

i) *NAND & NOR* II) AND & OR    iii) EXOR & OR iv) AND & NAND

196. The two input OR gate will always give the output zero when :

a.both the inputs are 1. b. both inputs are zero c. any one input 1 d. any one 0

197. A NOR gate is OFF when ...

a.all its input are ON b. all its input are OFF c. either of its input is OFF d. a and c

198. What is the main function of NOT gate

a.It has no effect b. It act as Universal gate c. to invert an output signal d. None.

199. In this adder, the bits of the operand are added one after another :

a.Half adder b. Half Duplex c. Serial adder d. Parallel adder

200. The NOT symbol at the output of an OR gate :

a. Converts it into AND gate    b. Converts it into NAND gate  
 c. Converts it into XOR gate    d. Converts it into NOR gate

201. This gate transmits 1 through it, only if neither of its terminals receives a pulse .  
What is its name?

*a. NOR* b. NOT c. AND d. OR

202. Pictorial representation of Boolean algebra is known as

*a. Venn Diagram* b. Flow Chart c. Data Flow Diagram d. Truth Table.

203. The three logical operations , which are said to be logically complete, as any Boolean function may

be realized using these three operations are :

*a. AND,OR and NOT* b. AND,OR and XOR c. AND,OR and  
NAND d. XOR,NOR,and NAND.

204.A full adder :

a.adds 2 bits fed to it b. adds 3 bits fed to it c. adds 2 bits fed to it and produces sum  
and carry bit

*d. adds 3 bits fed to it and produces sum and carry bit*

205.When an input signal 110010 is applied to a NOT gate, it generates the output:

a. 110010 b. 001110 *c. 001101* d.111111

206.Boolean algebra invented by – Scientist

- George Bool

207.Boolean algebra can be used for

- Simplifying the design of logic circuit

208.Binary 1 represents

- HIGH Level

209.Binary 0 represents

- LOW Level

210.Define OR Laws of Boolean algebra

-  $A+1=1$ ,  $A+0=A$ ,  $A+A=A$ ,  $A+A=1$

211. Define AND Laws of Boolean algebra.

-  $A.1=A$ ,  $A.0=0$ ,  $A.A=A$ ,  $A+A=0$

212. Define Commutative Laws of Boolean algebra.

-  $A+B=B+A$        $A.B=B.A$

213. Define NOT Laws of Boolean algebra

-

214. Define Associative Laws of Boolean algebra.

-  $A+(B+C)=(A+B)+C$

$A-(B-C)=(A-B)-C$

215. Define Distributive Laws of Boolean algebra.

-  $A+BC=(A+B)(A+C)$

$A.(B+C)=A.B+A.C$

216. Define Absorption Laws of Boolean algebra.

-  $A+AB=A$

$A(A+B)=A$

$A+AB=A+B$

217. Arithmetic rules for binary Addition

-  $0+0=0$ ,       $0+1=1$ ,       $1+0=1$ ,       $1+1=0$

218. Arithmetic rules for binary Subtraction

-  $0-0=0$ ,       $0-1=1$ ,       $1-0=0$ ,       $1-1=0$

219. What is 1's complement?

220. What is 2's complement?

221. Symbol of Half Adder?

222. Symbol of Full Adder?

223. .... Is the name of the logic circuit which can add two binary digits.

a. Buffer   b. RAM   c. Half Adder   d. Full Adder

224. An AND gate :

a. is used to implement logic addition   b. is same as parallel switching ckt.

c. is same as serial switching ckt.      d. None

- 225) Output Of Digital Circuit- input
- 226) Device or Circuit whose output will remain unchanged once set
- 1)FilpFlop
  - 2)gate
  - 3)Boolean Algebra

- 227) FilpFlop is
- 1)Unstable
  - 2)Prestable

228) Symbol of RS FilpFlop

229) ----- is the process of transmit a large number of information over a single Line.

230) -----is also called data selector.

231) What is Multiplexer..

232)Multiplexer means many to one

233)Demultiplexer means one to many

234)Draw symbol of Multiplexer..

235)What Is data selector

236) What is Demultiplexer..

237) Draw symbol Demultiplexer

238)What is Encoder

239) What is application of Encoder

240)Taking information from one input and transmit the same over one of several called Demultiplexer.

241)The main feature of integrated circuit is :

- a. its complicated circuit
- b. Its cost , which is very high

c.Its size, it is fabricated on small square or rectangle shape silicon chip.

- d. It cannot be repaired

242. Why registers are used?
243. Why memory is used?
244. What is Word.
245. What is function of Read / write signal in memory.
246. What is MBR.
247. What is address of word.
248. Where address of word is stored.
249. What is destructive memory cell. With example.
250. What is non-destructive memory cell, with example.
251. Define Access time of memory
252. Define Write time of memory
253. Define Memory cycle time of memory
254. Define Cycle time of memory
255. The semiconductor memory cell is an ----- R-S Flip flop.  
 I] *Unclocked* ii] Clocked iii] Edge triggered iv] None
256. The semiconductor memory cell is fabricated with -----  
 I] Register ii] Capacitor iii] *Transistor* iv] None
257. .... Technology is used in fabrication of main memory  
 I] Bipolar ii] *TTL gates* iii] MOS Technology iv] None
258. Static MOS cell stores information -----  
 I] *Indefinitely as long as power applied.*  
 ii] For short time, must be refreshed.  
 iii] None  
 iv]
259. Dynamic Memory cell uses .....  
 I] TTL gate ii] *Charged Capacitor* iii] Register iv] None
260. Which memory cell requires external circuitry  
 I] Static ii] *Dynamic* iii] Ram iv] ROM

261. SMAC mean -----
262. SMAC is ---  
 I] Personnel Computer ii] Computer for Simulation  
 Iii] Hypothetical Computer iv] None
263. .... hold address of word in memory  
 a] MAR b] MDR c] MBR d] MVB
264. .... hods data of word in memory.  
 a] MAR b] MDR c] MBR d] MVB
265. What is MBR.
266. Reading from and writing into memory id signaled by  
 A] Read/Write signal b] So & S1 c] ALE d] None
267. Read/Write signal is sent by.....  
 A] CPU b] ALU c] Computer d] NOne
268. If the memory location is to be read CPU places address in .....  
 a] MAR b] MDR c] MBR d] MVB
269. If the datum is to be written into memory then CPU places it in .....  
 a] MAR b] MDR c] MBR d] MVB
270. General Purpose register built with .....  
 a] TTL b] High Speed buffers c] Logic gates d] DGA
271. Explain instruction format of SMAC.
272. Negative numbers are stored in.....  
 A] Binary form b] 1's Complement c] 2's Complement d] None
273. What is function of Multiplier Quotient register.
274. What is function of status register.
275. What is function of carry bit.
276. What is function of Overflow bit.
277. What is function of Zero bit.

278. What is function of Negative bit.
279. What is function of Positive bit.
280. Explain format of status register.
- 281.
282. IC stands for : *Integrated Circuits*
283. SSI means : *Small scale integration.*
284. MSI : *Medium scale Integration.*
285. LSI : *large scale Integration.*
286. VLSI : *Very large scale integration.*
287. SLSI : *Super large scale integration.*
288. First 4 bit microprocessor was designed by : *Intel.*
289. Which is first 4 bit microprocessor : Intel 4004
290. Which is first 4 bit microprocessor : Intel 8008
291. Which are the microprocessors designed in first generation : Intel 4040  
,Toshiba 3472
292. Which are the microprocessors designed in second generation : Intel 8048,
293. Which are the microprocessors designed in Third generation : Intel 8086,
294. Which are the microprocessors designed in Fourth generation :
295. What is System bus?
296. What is data bus?
297. What is address bus?
298. ALU stands for :...
299. LED : Light Emitting diode
300. CRT : Cathode ray tube
301. Why registers are used in microprocessors.
302. Enlist several registers used in microprocessor.
303. Bi-direction bus is :
304. Uni-Directional bus are :
305. How many address lines in 8085 microprocessor.
306. What is function of Instruction register.

307. What is function of Instruction decoder.
308. What is function of accumulator.
309. Status register is also called as ...Flags
310. What are Function of status register.
311. What is function of Program Counter.
312. What is function of Stack Pointer.
313. What is function of Temporary register.
314. What is HLDA ? Explain Function.
315. What is HOLD ? Explain Function.
316. What is SID ? Explain Function.
317. What is SOD ? Explain Function.
318. What is ALE ? Explain Function.
319. What is IO/M ? Explain Function.
320. What is Vcc ? Explain Function.
321. What is Vss ? Explain Function.
322. What is RD ? Explain Function.
323. What is WR ? Explain Function.
324. What is S0 & S1 ? Explain Function.
325. What is x1-x2 ? Explain Function.
326. What is INTR ? Explain Function.
327. What is INTA ? Explain Function.
328. CR stands for ...
- i. Control Register ii. Control Room iii. *Carriage return* iv. None
329. Microprocessor was invented by :
- a. Charles Babbage b. Graham bell c. Marcian E Huff d. Bill gates
330. Mnemonics are used in
- a. High level language b. Middle level language c. Assembly level language d. Machine level lang.
331. The program written in any particular computer language is known as :
- a. Source code b. Object code c. Intermediate code d. Assembly code

332. The language which is readily understood by the computer system is :  
a. Low level b. Assembly c. Middle level d. High level e. None
334. BCD stands for .....
335. Decimal Number system contains digits.....
336. Decimal position values has power .....
337. Binary position values has power ....
338. Binary number system contains digits.....
339. Octal position values has power ....
340. Octal number system contains digits.....
341. Hexadecimal position values has power ....
342. Hexadecimal number system contains digits.....

## Question 2 Answer in One Line

- 1) What is computer
- 2) What are the basic 3 part of the computer .
- 3) What is memory cell
- 4) What is volatile memory
- 5) What is non-volatile memory
- 6) What is memory
- 7) List the types of computer
- 8) How many disk are present in one hard disk ?
- 9) How many generations are present at this time ?
- 10) What is i/p device  
o/p device
- 11) What is the purpose of ALU unit in CPU ?
- 12) List the different types of scanner
- 13) What is impact printer.
- 14) What is non-impact printer.
- 15) List the different input devices.
- 16) List the different output devices.
- 17) List any five secondary storage devices/memory.
- 18) What is algorithm?
- 19) Give the definition of flow chart.
- 20) What is program
- 21) What is compiler
- 22) What is assembler
- 23) What is interpreter
- 24) What is hardware
- 25) What is software
- 26) List the symbols used for flowchart
- 27) What are the different programming languages

- 28) List the 3 translator's name
- 29) What is computer network
- 30) What is LAN
- 31) What is WAN
- 32) What is MAN
- 33) What is internet
- 34) List various transmission medias?
- 35) What is operating system
- 36) What is RAM
- 37) How many bits forms 1 byte?
- 38) What is system software?
- 39) What is application software?
- 40) List the different types of keys present on keyboard?
- 41) What is QWERTY keyboard?
- 42) What is EAPROM?
- 43) When we use the secondary memory?
- 44) It is more suitable to use pen drive rather than floppy? Why.
- 45) What is the longform of MICR scanner.
- 46) List the topologies of computer network.
- 47) List the different types of operating system.
- 48) What are the binary digits?
- 49) When the first generation introduced?
- 50) At which time second generation developed.
- 51) In which year third generation introduced.
- 52) What is printer?
- 53) Define analog computer.
- 54) Give the definition of digital computer.
- 55) Define bit.
- 56) What is Bug?
- 57) What is Bus?

- 58) Which type of printer having superior print quality?
- 59) Define on-line devices.
- 60) What's the meaning of off-line devices?
- 61) Explain or give the meaning of parity bit?
- 62) Which was the electronic component used in first generation computer?
- 63) Give the name of electronic component that was used in development of the second generation of computer.
- 64) From which electronic component the third generation computers was developed?
- 65) What is multiprocessing operating system?
- 66) Give the name of any 3 system software.
- 67) Give the name of any 3 application software.

- 68) What is the alternate name to BCD code ?
- 69) How to obtain BCD code ?
- 70) How to convert decimal number into excess 3 code ?
- 71) What is the long form of ASCII code ?
- 72) What is logic gate.
- 73) List the basic gates.
- 74) What is OR gate.
- 75) What is AND gate.
- 76) What is NOT gate.
- 77) What are the derived logic gate.
- 78) How to build derived gate.
- 79) List out the derived logic gate.
- 80) How many derived logic gates are available?
- 81) What is NOR gate.
- 82) What is NAND gate.
- 83) What is XOR gate.
- 84) What is X-NOR gate.
- 85) What is even parity.

- 86) What is odd parity.
- 87) List out the basic laws of Boolean algebra.
- 88) State the first De-morgan's theorem.
- 89) State the second De-morgan's theorem.
- 90) How many universal gates? List out them.
- 91) What are the basic rules of binary addition?
- 92) What are the basic rules of binary subtraction?
- 93) How to obtain 1's complement.
- 94) How to obtain 2'nd complement.
- 95) What is half adder?
- 96) What is full adder?
- 97) What's the meaning of multiplexer.
- 98) Give the meaning of 2 to 1 line multiplexer
- 99) Give the definition of 4 to 1 line multiplexer.
- 100) .What 8 to 1 line multiplexer.
- 101) What is Decoder?
- 102) What is Encoder?
- 103) Define flip-flop.
- 104) What register.
- 105) What is shift register.
- 106) What is clocked D flip-flop.
- 107) Give the four basic types of shift register?
- 108) What is the basic element of semiconductor memory?
- 109) Sequential access memory.
- 110) What is the meaning of PROM?
- 111) What is EEPROM?
- 112) What is EPROM?
- 113) What is J-K flip-flop?

114. Enlist input devices?
115. Enlist output devices?
116. Define – impact and non-impact printer?
117. Define – Algorithm and flowchart?
118. Explain software with their types?
119. what is application software? Enlist them?
120. what is system software ? enlist them?
121. what is hardware? Enlist hardware components?
122. Define flowchart, draw any two flowchart symbols?
123. Define compiler and interpreter
124. Explain central processing unit.
125. Explain first generation of computer.
126. Explain second generation of computer.
127. Explain third generation of computer.
128. Explain fourth generation of computer.
129. Explain fifth generation of computer.
130. Describe unit of storage in detail.
131. Define bit, byte, nibble, word.
132. Explain speed characteristics of computer
133. Explain accuracy characteristics of computer
134. Explain diligence characteristics of computer
135. Explain versatility characteristics of computer
136. Explain analog computer.
137. Explain digital computer.
138. Explain hybrid computer.
139. Explain micro computer.
140. Explain mini computer.

141. Explain mainframe computer.
142. Explain super computer.
143. what is primary memory.
144. what is secondary memory.
145. Describe RAM.
146. Describe ROM.
147. Describe PROM.
148. Describe EPROM.
149. Describe EAROM.
150. Explain pen drive.
151. Explain zip drive.
152. what is lower level language, enlist LLL.
153. what is middle level language, enlist them.
154. what is higher level language, enlist them.
155. what is 4 GL, enlist them.
156. what are the advantages of computer network.
157. what do you mean by LAN.
158. what do you mean by WAN.
159. what do you mean by MAN.
160. Differentiate LAN & MAN.
161. Differentiate LAN & WAN.
162. Differentiate WAN & MAN.
163. What do you mean by Bus Topology.
164. What do you mean by Ring Topology.
165. What do you mean by Star Topology.
166. What do you mean by Tree Topology.
167. Differentiate between Bus & Star Topology.
168. Differentiate between Bus & Ring Topology.
169. Differentiate between Bus & Tree Topology.
170. Differentiate between Ring & Star Topology.

171. Differentiate between Tree & Star Topology.
172. Differentiate between Ring & Tree Topology.
173. Enlist functions of operating system.
174. what is operating system? Enlist them.
175. Describe Twisted wire pair cable.
176. Describe fiber optic cable.
177. Explain 1's & 2's compliment.
178. Explain half adder?
179. Explain full adder?
180. Describe AND gate
181. Describe OR gate
182. Describe NOR gate
183. Describe NAND gate
184. Describe NOT gate
185. Describe XOR gate
186. Explain D-flip-flop.
187. Explain JK-flip-flop.
188. Explain SR flip-flop.
189. Explain flip-flop.
190. what is encoder.
191. what is decoder.
192. what is multiplexer.
193. what is demultiplexer.
194. what is shift register.
195. Describe semiconductor memory cell.
196. Explain instruction format of Assembly language programming.
197. Explain working of ALE and S0,S1 pins of 8085.
198. Explain working of HLDA and HOLD pins of 8085.
199. Explain working of RD & WR pins of 8085.
200. Explain working of AD0 to AD7 pins of 8085.

201. Explain working of A0 to A7 pins of 8085.
202. what is interrupt? Enlist different interrupts in 8085.
203. what do you mean by status flag? List different flags in 8085.
204. Describe any two interrupts in 8085.
205. what is instruction? Explain any 2 instructions in 8085.
206. Enlist different registers used in 8085.
207. Draw timing & control unit of 8085.
208. Explain ASCII, BCD,EBCDIC.
209. what do you mean by 2's compliment.
210. what is use of stack in 8085.
211. explain significance of program counter and accumulator in 8085.
212. Describe truth table of AND gate.
213. Describe truth table of OR gate.
214. Describe truth table of NOR gate.
215. Describe truth table of NOT gate.
216. Describe truth table of NAND gate.
217. Describe truth table of EXOR gate.
218. Describe Dos operating system.
219. Describe Windows operating system.
220. Describe Unix operating system.
221. Describe Linux operating system.
222. Describe Windows-vista operating system.
223. Why there is need of operating system.

## 4 marks Questions

- 1) Give the history of computer.
- 2) Explain the generations of computers.
- 3) List & explain the types of computer.
- 4) special purpose & General purpose computer.
- 5) Explain Analog Digital & hybrid computer.
- 6) Explain micro computer .
- 7) Explain in brief mini computer.
- 8) Explain in brief mainframe computer.
- 9) Explain the super computer.
- 10) Explain the concept of memory cell.
- 11) Explain in brief primary memory.
- 12) What is Rom? Describe its various types.
- 13) What is secondary memory? Explain Floppy Disk.
- 14) Explain Hard disk.
- 15) Explain magnetic tape.
- 16) Explain in brief the concept of zip drive.
- 17) Give the description of pen drive.
- 18) Explain compact Disk.
- 19) Describe the concept of 'DVD'.
- 20) Write a short note on Keyboard.
- 21) Write a short note on mouse.
- 22) Explain scanner.
- 23) Describe web camera.
- 24) Draw neat labeled block diagram of computer system & Explain.
- 25) What is impact printer? Explain any one of them.
- 26) Write a note on Dot matrix printer.
- 27) Write a short note on line printer.
- 28) What is non- impact printer? Explain plotter

- 29) Explain inkjet printer.
- 30) Explain Laser printer.
- 31) What is algorithm. ? Give the algorithm & flow chart of addition of first ten (10) number start from 1.
- 32) What is flow chart ? Give the symbols used for flowchart.
- 33) List & explain the symbols for flowchart.
- 34) Explain the following term.
  - 1) compiler
  - 2) assembler
- 35) Explain the concept of software & Hardware.
- 36) Write a algorithm & flowchart for factorial of any number.
- 37) Write a Algorithm & Draw flowchart for palindrome number
- 38) Explain the term “flowchart “ with suitable example.
- 39) Draw a flow chart of reverse number
- 40) What is algorithm. Explain with suitable example
- 41) Explain machine level language
- 42) Explain assembly language
- 43) Explain High level language
- 44) Explain 4GL [4<sup>th</sup> generation language]
- 45) What is computer network? Give the advantages of computer network
- 46) Give the difference between RAM and ROM
- 47) Differentiate between primary and secondary memory
- 48) What is Internet ? Explain Tree Topology
- 49) Explain the concept of LAN and WAN
- 50) Give the difference between WAN and MAN network
- 51) Explain the different topologies of computer network
- 52) Explain Bus and star topology
- 53) Explain Ring and Bus topology
- 54) Explain star and Tree topology
- 55) Describe the twisted wire pair
- 56) Explain optical-fiber transmission media

- 57) Explain wireless transmission media
- 58) Explain need of operating system
- 59) Give the functions of operating system
- 60) Differentiate between twisted wire pair and optical fiber
- 61) Differentiate between DOS and windows
- 62) Differentiate between DOS and linux
- 63) Differentiate between windows and windows-vista
- 64) Explain BCD code
- 65) Explain Excess 3 code
- 67) Explain Gray code in brief ?
- 68) Describe ASCII code in detail .?
- 69) Explain concept of +ve & -ve logic and give the definition of logic gate.?
- 70) Explain Basic gates ?
- 71) Describe OR gate in detail with construction & working ?
- 72) Explain AND gate in detail with construction & working?
- 73) Explain NOT gate in detail with construction & working?
- 74) Explain shortly Derived logic gates?
- 75) Explain NOR gate?
- 76) Describe NAND gate?
- 77) Write short note on X-OR gate?
- 78) Write short note on EX-NOR gate?
- 79) Gives list & Basic laws of Boolean Algebra?
- 80) Explain 1's compliment & 2's compliment?
- 81) Explain 1's compliment subtraction?
- 82) Describe Half adder?
- 83) Describe Full adder?
- 84) Explain in detail 2's compliment subtraction?
- 85) Explain serial in –serial out shift register?
- 86) Explain serial in- parallel out shift register?
- 87) Explain Parallel in serial out shift register?

- 88) Explain parallel in-Parallel out shift register?
- 89) What is flip flop? Explain-S flip flop with truth table?
- 90) How can a R-S flip-flop be constructed using NOR gate? Explain it's working with truth table?
- 91) How can a R-S flip-flop be constructed using NAND gates? Explain it's working with truth table?
- 92) Write short note on J-K flip-flop?
- 93) Explain the concept of memory organization?
- 94) Draw a neat labeled diagram of 8085
- 95) Explain & draw pin diagram of 8085
- 96) Explain semiconductor memory cell?
97. Convert  $(725.25)_8$  to its decimal, binary and hexadecimal equivalent.
98. Convert  $(11001011.01110)_2$  into decimal.
99. Convert following numbers to hexadecimal.  
 $(360)_8$   $(2262)_{10}$   $(10011.1101)_2$   $(10.1)_2$
100. Convert following numbers to its octal equivalent.  
 $(1100101011.1110)_2$   $37.29_{10}$   $672 H$
101. Convert  $(268.75)_{10}$  to binary ,octal, hexadecimal A92H
102. What is radix used in case of decimals, binaries, octal, hexadecimal.
103. What is advantages of octal& hexadecimal numbers over binaries.
104. What do you mean by sign magnitude form of representation.
105. Determine the base x :  $(211)_x = (152)_8$
106. Using 2's complement method , perform  $(156)_{10} - (99)_{10}$   
 $(16)_{10} - (25)_{10}$
107. Perform Subtraction using :  
a) 1's compliment method b) 2's Complement method  
 $(11010)_2 - (10000)_2$   
 $(1000100)_2 - (1010100)_2$

108. Explain the meaning of the term “memory dump”.
109. Find the decimal equivalent of the following binary numbers :  
 a. 1101011 b.11010 c.10110011 d.11011101 e.1110101 f.1000  
 g.10110001100
110. Find the octal equivalent of the following binary numbers :  
 a. 1101011 b.11010 c.10110011 d.11011101 e.1110101 f.1000  
 g.10110001100
111. Find the Hexadecimal equivalent of the following binary numbers :  
 a. 1101011 b.11010 c.10110011 d.11011101 e.1110101 f.1000  
 g.10110001100
112. Convert following numbers to decimal :  
 a.  $110110_2$  b.  $2573_6$  c.  $2A3B_{16}$  d.  $1234_9$
113. Convert following decimal numbers to binary :  
 a. 435 b. 1694 c. 32 d. 135
114. Find decimal equivalent of following numbers  
 a.  $111.01_2$  b.  $1001.011_2$  c.  $247.65_8$  d.  $A2b.D4_{16}$
115. Subtract 01010 from 10000
116. Subtract 01010 from 10000
117. Subtract 011011 from 110111
118. Subtract  $25_{10}$  from  $50_{10}$  using complementary method.
119. Subtract 01010 from 10000 using complementary method.
120. Multiply binary numbers 1100 and 1010.
121. Divide 11001 by 101
122. Describe positive and Negative logic?
123. Explain OR gate – Symbol , Truth table, Logic expression
124. Explain AND gate – Symbol , Truth table, Logic expression
125. Explain NAND gate – Symbol , Truth table, Logic expression
126. Explain NOR gate – Symbol , Truth table, Logic expression
127. Explain Ex-OR gate – Symbol , Truth table, Logic expression

128. Construct NOT, AND, OR gates using NAND gate.
129. Construct NOT, OR, AND gate using NOR gate.
130. Explain applications of Ex-OR gate in detail.
131. Construct logic circuit diagram for half adder using only NAND gate.
132. Construct logic circuit diagram for half adder using only NOR gate.
133. Why are combinational circuits more frequently constructed with NAND and NOR gate than with AND,OR and NOT gates ?
134. Construct a logic circuit diagram for the exclusive OR function using only NOR gates.
135. Construct a logic circuit diagram for the exclusive AND function using only NAND gates.
136. A logic system has three inputs A,B,C .It generates output 1 only when  
 $A=0,B=1,C=0$  or  
 $A=1,B=1,C=0$ . Design a combinational circuit for this system.

**Prove the following using rules of Boolean algebra, OR simplify**

137.  $A+BC = (A+B)(A+C)$
138.  $A+AB = A$   
 $A(A+B) = A$
139.  $A+AB = A+B$
140.  $ABC+ABC+ABC = A(B+C)$
141.  $ABC+ABC+ABC+ABC+ABC = A+ABC$
142.  $ABC+ABC+ABC+ABC+ABC = AB+AB$
143.  $(A+B+C)(A+B+C) = A+BC+BC$
144.  $AB+ABC+AB+ABC = B+AC$

**Draw logic diagram for following Boolean expression**

145.  $AB+CD$
146.  $Y= AB+(B+C)$
147.  $Y= (A+B)(B+C)$
148.  $Y=(A+BC)(AC+B)$
149.  $Y=ABC+ABC+ABC+ABC$

150. Explain 1's complement subtraction ( Subtract smaller from larger)
151. Explain 1's complement subtraction ( Subtract larger from smaller)
152. Explain steps for 2's complement subtraction with an example.
153. State and prove the two basic De Morgan's theorems.
  
154. Explain working of S-R flip flop using NAND gate .
155. Explain working of D-flip flop .
156. Explain working of J-K flip flop.
157. Explain working of Edge triggered J-K flip flop
158. Explain with block diagram Multiplexer
159. Explain with block diagram 2 – 1 line multiplexer .
160. Explain with block diagram demultiplexer .
161. Explain with block diagram 1-2 line demultiplexer .
162. Describe advantages and disadvantages of multiplexer and demultiplexer.
- 163 Describe block diagram of digital system
164. Octal to Binary Encoder
165. Decimal to BCD Encoder
166. 3-8 Decoder or Binary to Octal decoder.
  
167. Describe characteristics of physical storage device.
168. Explain memory with block diagram.
169. Differentiate Volatile & Non-Volatile memory.
170. Describe working of magnetic core with diagram.
171. Differentiate static and Dynamic MOS cell.
172. What is MOS Cell ? Explain with block diagram construction of Dynamic MOS cell.
173. Explain working of static memory cell.
174. Describe , how information is written in memory cell.
175. Describe , how information is Read in memory cell.

176. Explain in detail status register.
177. Describe in detail CPU register.
178. How execution of instruction is performed.
179. Enlist the steps – sequence of operation carried out during instruction fetch cycle.
180. Enlist the steps – sequence of operation carried out during instruction execution cycle.
181. Enlist instruction of SMAC.
  
182. Explain different generations of Microprocessors.
183. What is Microprocessor, explain in detail.
184. What is Micro-computer ? Explain structure of Microprocessor based system.
185. Enlist function - CPU of Microprocessor.
186. Explain with block diagram ALU.
187. Describe working of Memory.
188. Explain in detail following parts of microprocessor  
ALU , Registers, Control Unit.
189. Explain Machine Cycle of 8085
190. Explain commutative & associative laws.
191. Explain distributive & absorption laws.
192. simplify  $(A+B+C)(A+B+C)$
193. Draw logic diagram for following  
a.  $AB+CD$  B.  $Y=AB+(B+C)$
194. What is demorgans theorem.?
195. Differentiate Higher & Middle level language.
196. Explain Multiprogramming operating system.
197. Explain time sharing operating system.
198. Explain multiuser operating system.
199. Explain Multitasking operating system.
200. Explain different generation of computers.

## 6 Marks Questions

1. What is algorithm? Write the algorithm to find the average number of Ovels in passage.
2. Expalin the method problem solving using computers.
3. write a short note on flowchart.
4. Draw a block diagram of a computer. Explain the function of each of the blocks.
5. Formulate an algorithm to find the average number of occurrences of each of the letters Q,X,Y,Z in an English passage.
6. Obtain an algorithm and flowchart to find the average number of letters in each sentences in an English passage.
7. Obtain an algorithm and flowchart to find factorial number.
8. Obtain an algorithm and flowchart to find Palindrome or not.
9. Obtain an algorithm and flowchart to find reverse number of given number.
10. Obtain an algorithm and flowchart to find reverse number of given string.
11. Explain the term 'data in machine readable form'.
12. Describe the operation of a floppy disk reader.
13. wrte a short note on floppy disk.
14. what is the difference between a line printer and a character printer?
15. what is the difference between a drum printer and a chain printer?
16. what is the advantage of a chain printer as compared to a drum printer?
17. what is the difference between a an impact printer and a non-impact printer? Which is capable of higher speed?
18. what is the advantage of an inject printer compared to a dot matrix printer?
19. what is the advantage of microfilm output?
20. Write a short note on line printer.
21. Write a short note on chain printer.
22. Write a short note on drum printer.
23. Write a short note on line printer.

24. Write a short note on Video Display Unit(VDU).
25. Write a short note on Dot matrix printer.
26. Explain in briefly Optical Character Recognition(OCR).
27. Explain in briefly Bar Coding.
28. Explain in briefly Serial printer.
29. what is the difference between a Serial Printer and Chain printer.
30. Write a short note on Plotters.
31. Explain in briefly Laser Printers.
32. What is Graphical Display Device?
33. What is the main application of magnetic ink character readers?
34. What is the main application of an Optical character reader?
35. What is an Optical Scanner? Explain how it works.
36. What is a speech input unit?What are its uses?How many types of speech input units are available?
37. What is a speech output unit? What are its applications?
38. what is the difference between a Primary memory and Secondary memory?
39. Explain in briefly the any three types of Primary memory.
40. Explain in briefly the any three types of Secondary memory.
41. What is harddisk?
42. What is magnetic tape?Explain its working.
43. What is the purpose of the main memory in a computer?
44. What are the main characteristics of a memory cell?
45. what is Volatile memory?
46. What is Non-Volatile memory?
47. what is the difference between a volatile memory and a Non-volatile memory?
48. Explain the magnetic hard disk.
49. Write a short note on CDROM(Compact Disk Read Only Memory).
50. what is the difference between a ROM and RAM?
51. Write a short note on memory cell.
52. Explain in briefly register?

53. Draw a block diagram of a memory which has 4 word 3 bit per word memory and explain it.
54. Write a short note on Serial Access Memory.
55. What is the distinction between the time of a memory and its access time?
56. What is a Read Only Memory? Comment Is a ROM a Random Access Memory?
57. Explain the operation of a controlled switch.
58. Explain the operation of a flip-flop.
59. Explain how information is written on and read from magnetic surfaces.
60. Explain how data is organized on a floppy disk.
61. Explain how data is organized on a hard disk.
62. What are the main difference between a floppy disk and a hard disk?
63. What is a CDRom? In what way is it different from hard disk?
64. How data recorded on a CD ROM ? How is it read?
65. What is a DAT? When is it used?
66. Write a short note on Pen Drive.
67. Write a short note on Zip drive.
68. Write a short note on DVD.
69. What is flowcharts? Explain different symbols used in flowcharts.
70. Define Algorithm, Flowcharts, Program , Compiler, Interpreter, Hardware
71. What is software? Explain System and Application software. Enlist System and Application software.
72. Write an algorithm to find Largest from array of n elements.
73. Write an algorithm to find Smallest from array of n elements.
74. Write an algorithm to find Second Largest from array of n elements.
75. Write an algorithm to find Second smallest from array of n elements.
76. Write an algorithm to find Second Largest, Second Smallest from array of n elements.
77. Write an algorithm to find transpose of given matrix of order  $m \times n$ .
78. Write an algorithm to find Addition of two matrices of order  $m \times n$ .
79. Write an algorithm to find Subtraction of two matrices of order  $m \times n$ .
80. Write an algorithm to find Multiplication of two matrices of order  $m \times n$ .

81. Write an algorithm to check whether the given number is prime or not.
82. Write an algorithm to find sum of following series  $1!+2!+\dots+n!$ .
83. Describe LAN ,WAN and MAN
84. Differentiate Bus and Star topology.
85. Differentiate Bus and Tree topology.
86. Differentiate Bus and Ring topology.
87. Differentiate Ring and Star topology.
88. Differentiate Tree and Star topology.
89. Differentiate Ring and Tree topology.
90. What is Operating System?Enlist the functions of Operating System.
91. What is Operating System?What is the need of Operating System?
92. Differentiate Windows and Linux Operating System.
93. Explain Windows –Vista Operating System.
94. Differentiate Higher level and Middle level language.
95. Explain the advantages of higher level language.
96. Explain the disadvantages of Assembly language.
97. Expalin the disadvantage of machine level language.
98. Write short note on Twisted Wire Pair cable.
99. Write short note on Fiber optic cable.
100. What are the advantages of computer network.
101. Draw block diagram of Generic Microprocessor.
102. Explain different parts of microprocessor in detail.
103. Draw Pin diagram of 8085 Microprocessor.
104. Write SMAC program for, addition of two numbers.
105. Write SMAC program, for subtraction of two numbers.
106. Write SMAC program, for multiplication of two numbers.
107. Write SMAC program, for division of two numbers.
108. Write SMAC program, for square of given number.
109. Write SMAC program, for factorial of given number.
110. Write SMAC program, for GCD of given two number.

111. Write SMAC program, for LCM of given two number.
112. Write SMAC program, for finding largest from 5 numbers.
113. Write SMAC program, for finding smallest from 5 numbers.
114. Explain half adder – symbol, circuit diagram, truth table.
115. Explain full adder – symbol, ckt diagram, truth table.
116. Explain in detail shift register.