

# EXERCISE

## Q.1 Fill in the blanks:

1. DMA stands for direct memory access.
2. In full duplex transmission mode, data can be transmitted in both directions simultaneously.
3. The lexical analyzer also commonly known as control unit.
4. The control unit CU reads the instructions from the memory and decodes these instructions.
5. The Graphical user interface (GUI) consists of windows, menus, Icons and pointers.
6. EEPROM stands for electrically erasable programmable read only memory.
7. Stack pointer register is used for managing stack.
8. DRAM requires periodic electric refreshing to maintain data storage.
9. COBOL language was developed for business applications.
10. GPR (General Purpose Register) or Accumulator is used in mathematical and logical operations.
11. DVD stands for digital video disk.
12. BIOS stand for basic input output system.
13. Initial work on the internet was done in UNIX operating system.
14. The instruction that are use to transfer data from one unit to another during program execution is called data transfer instructions.
15. General Purpose Register is used in mathematical and logical operations.
16. The backbone of the computer is computer bus.
17. Typically CPU can provide between 4000 to 64000 bytes of memory on its cache.
18. A parallel port transmits multiple bits at a time.
19. In 1951, John Von Neumann and his team proposed a design of stored program computer.
20. A sequence of instructions is called a program.
21. All the data and the programs are stored in memory.
22. The machine reads all the instructions one by one and executes these instructions sequentially.
23. The organization and interconnection of various computer components is called computer architecture.
24. CPU stands for "central processing unit".
25. CPU is a small chip mounted on the circuit board (mother board).

26. CPU is the brain of computer in term of computing power and it controls all the functions of computer system.
27. CPU performs data processing.
28. CU stands for "Control Unit".
29. The Control Unit reads the instruction from memory, decodes and executes these instructions.
30. ALU stands for "Arithmetic and Logical Unit".
31. All the program instructions and data are stored in memory for the execution.
32. Memory unit temporarily stores the data and instructions.
33. Memory unit is also called working area of the computer.
34. RAM Stands for Random Access Memory.
35. ROM stands for Read Only Memory.
36. Secondary Memory is used to store data permanently in the computer for later use.
37. I/O Unit handles the processor's communication with its peripheral devices.
38. Register are the high speed memory locations built into the microprocessor. The CPU uses these locations to store data and instructions temporarily to accomplish certain operations.
39. Data is processed and transferred from one component to another with the help of registers.
40. Bus Interconnection is used to connect different parts of the computer.
41. SRAM stands for static random access memory.
42. No refreshing of electric states is required in SRAM.
43. SRAM chips are faster than DRAM.
44. SRAM uses less power than DRAM.
45. The design of SRAM is more complex than DRAM.
46. SRAM is more expensive than DRAM.
47. DRAM stands for dynamic random access memory.
48. DRAM must have an electric current to maintain its electric states.
49. ROM is referred as non-volatile, or system memory.
50. When the power is switched off, the contents of ROM is not lost.
51. PROM stands for programmable read only memory.
52. EPROM stands for erasable programmable read only memory.
53. Information can be erased using ultraviolet rays in EPROM.
54. EEPROM stands for electrically erasable programmable read only memory.
55. Cache Memory is very high speed buffer or memory used to increase the speed of processing.
56. Cache Memory is small memory between CPU and main memory whose access time is close to the processing speed of CPU.

57. Computer BUS is circuits provide a communication path between two or more devices of a digital computer.
58. A computer has more than one bus interconnection.
59. All the components of a computer are connected with a set of parallel lines. These lines are used to transfer data in the form of bits from one component to another component. These lines are called BUS.
60. The System Bus is used to connect main components of the computer.
61. There are 70-100 parallel lines in system bus.
62. The System Bus is divided into three main categories.
63. Control Bus is the lines that are used to transmit commands or control signals from one component to another.
64. MEMORY WRITE is used to write data to a given memory location.
65. MEMORY READ is used to read data from a given memory location.
66. I/O WRITE is used to write some data on output device.
67. I/O READ is used to read some data from input device.
68. BUS REQUEST is used to request a control on the bus so that the requesting device can use it to transmit data.
69. BUS GRANT is used by the bus controller to indicate the grant of the bus to a device.
70. TRANSFER ASK is used by the bus controller to indicate the grant of the bus to a device.
71. Address Bus is a part of system bus and it carries the address of various memory locations to perform read and write operations.
72. Data Bus is used to transfer the data from one component to another.
73. The amount of data that a bus can transmit is called bus-width.
74. The major components are connected to the system bus and the remaining components are connected to another bus called expansion bus and the expansion bus is connected to the system bus.
75. The I/O unit is responsible to compensate the speed difference between processor and I/O devices.
76. Interrupts are the signals generated by I/O devices. These signals inform the CPU of the occurrence of certain events such as completion of an I/O operation.
77. DMA stands for direct memory access.
78. DMA is a technique of performing an I/O operation in which I/O operation is completed without involving the CPU.
79. PC stands for Program Counter.
80. PC holds the address of the next instruction to be fetched and executed.
81. IR stands for Instruction Register.
82. IR holds the current instruction that is being executed.

- 83. MAR stands for Memory Address Register.
- 84. MAR holds the address of active memory location.
- 85. MBR stands for Memory Buffer Register.
- 86. MBR holds the contents of the memory location read from or written in the memory.
- 87. SP stands for Stack Pointer Register.
- 88. Arrangement of data is called stack and data is stored in or retrieved from stack using LIFO.
- 89. LIFO stands for last in first out.
- 90. LIFO is also known as FILO (first in last out).
- 91. SP register is used to manage the stack
- 92. EAX, EBX, ECX, EDX are 4 byte registers.
- 93. AX, BX, CX, and DX are 2 byte registers.
- 94. AH, AL, BH, BL, CH, CL, DH and DL are 1 byte registers.
- 95. A stands for Accumulator. It is used for arithmetic and logical operations.
- 96. B stands for Base register. It is used for arithmetic and data movement and special addressing abilities.
- 97. C stands for Counter register. It is used for counting purpose.
- 98. D stands for Data register. It has special role in division and multiplication.
- 99. Address registers are also called segment Registers.
- 100. CS, DS, ES, SS are segment registers.
- 101. The size of each segment register is 2 bytes.
- 102. CS stands for code segment.
- 103. CS holds the base location of all executable instructions in the program.
- 104. CS along with IP register fetches the next instruction.
- 105. DS stands for Data Segment.
- 106. DS is the default base location for memory variables.
- 107. DS points to data in memory using DI or SI registers.
- 108. CPU calculates the offset of variables using the current value of DS.
- 109. ES stands for Extra Segment.
- 110. ES is an additional base location for memory variables.
- 111. SS stands for Stack segment.
- 112. SS contains the base location of the current program stack.
- 113. IP stands for Instruction Pointer.
- 114. The set of all the instructions provided by CPU is called Instruction Set.
- 115. The instruction set increases the performance of a CPU.
- 116. Data Transfer Instructions are used to transfer data from or to the memory.
- 117. Arithmetic and Logical Instructions perform arithmetic and logical operation.
- 118. All arithmetic and logical operations are performed by ALU.

## Types of RAM:

### SRAM, DRAM

#### SRAM:

- It stands for static random access memory.
- No refreshing is required in SRAM.
- These chips are faster than DRAM.
- SRAM uses less power than DRAM.
- Its design is more complex than DRAM.
- SRAM is more expensive than DRAM.

#### DRAM:

- It stands for dynamic random access memory.
- It is slower than SRAM
- It requires refreshing.
- Its design is simple and is not expensive.
- **EDO-DRAM:** EDO-DRAM is an example of DRAM. It stands for Enhanced Data output Dynamic Random Access Memory. It is 50% faster than ordinary DRAM

## CACHE MEMORY:



- It is very high speed memory. It is used to increase the speed of processing
- It is small memory between CPU and main memory.
- Its access time is close to the processing speed of CPU.
- It is used to store the frequently used programs and data.
- By making active programs and data available to the CPU at a rapid rate, it is possible to increase the performance of a CPU.

## ROM (Read Only Memory):

- The contents of ROM are read only.
- New data cannot be written on it.
- Its contents are permanent.
- The system manufacture writes the ROM instructions and data at the time of manufacturing and the data and instructions cannot be changed afterwards.
- It is also called non-volatile, or system memory.
- When the power is switched off, the contents of ROM do not lost.
- As ROM is supplied by the manufacturer therefore it is impossible for the users to modify the stored programs in ROM.

- 141. Assembler is the language translator translates the assembly language into machine code.
- 142. A parallel port transmits multiple bits at a time.
- 143. The backbone of the computer is CPU.