Chapter-1: Computer Fundamentals

Question and Answer Session

✓ G) Answer the following questions:-

1. Differentiate between the following.

(a) High-level language and machine level language

Answer:- High-level language

i) Programs written in this language are easy to read and understand by the programmers
ii) It cannot understand by computer directly
iii) It is portable language

But

Machine level language

i) It is very difficult to write any program in this language
ii) It can understand by the computer directly
iii) It is non-portable language

(b) Compiler and Interpreter

Answer:- Compiler

i) It converts high-level language into machine language at a time
ii) Compiler find all errors during execution and then remove them

But

Interpreter

i) It is also use to convert high-level language into machine language line by line source code execution
ii) Interpreter find error line by line during execution

(c) System Software and Application Software

Answer:- System Software

i) This software is used to control the operations of a computer system.
ii) The example of system software are operating system,language processor and utility software

But

Application Software

i) The software that are used to perform specific tasks.
ii) The example of application software are DBMS, Desktop publishing software and office pachage.

2. What are the two categories of application software?Name and define them by giving suitable examples of each.

Answer:- The two categories of application software are-

I) General purpose application software and
II) Specific purpose application software

General purpose application software:-

It is a type of application software developed keeping in mind the requirements of an organization.

Example of General purpose application software are:-

Word Processor ,DBMS,Multimedia Software etc

Specific purpose application software:-

It is a type of software developed keeping in mind the general needs and requirements of a large number of people.

Example of Specific purpose application Software are:-

Account Management System ,Reservation System,Attendance System etc

3. Name any two functions performed by operating system.

Answer:-

i) It act as an interface between the user and the hardware.
ii) It control many resources such as I/O devices,file storage and CPU etc

4. What is the advantage of an open-source software? Give two examples of open-source software.

Answer:- The main advantage of open source software that it gives the permission to the user to access software with source code and also do any changes in the software.

Example of Open source software are:-

Ubunto, Android and VLC etc.

E) Convert the following decimal numbers to their equivalent binary form.

(1) 126 (2) 76 (3) 172 (4) 512

(1) Solution:-

		Remainder
2	126	0
2	63	1
2	31	1
2	15	1
2	7	1
2	3	1
	1	

Base of binary number = 2

Base of decimal number = 10

$(1111110)_2$ This is the binary form of decimal no. $(126)_{10}$.

(2) Solution:-

2	76	0
2	38	0
2	19	1
2	9	1
2	4	0
2	2	0
	1	

$(1001100)_2$ is the binary form of decimal number $(76)_{10}$.

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(3) Solution:-

2	172	0
2	86	0
2	43	1
2	21	1
2	10	0
2	5	1
2	2	0
	1	

$(172)_{10}$
=
$(10101100)_2$
is the form of binary number.

(4) Solution:-

2	152	0
2	76	0
2	38	0
2	19	1
2	9	1
2	4	0
2	2	0
	1	

$(10011000)_2$
is the binary form of the decimal number
$(152)_{10}$

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F.) Convert the following binary numbers to their equivalent decimal forms.

① $(111110)_2$ ② $(110001)_2$ ③ $(1010011)_2$ ④ $(11101011)_2$

① Solution:-

Binary number	1	1	1	1	1	0
Positional Value	2^5	2^4	2^3	2^2	2^1	2^0

The bits are multiplied with positional values and the products are added.

$= 1\times2^5 + 1\times2^4 + 1\times2^3 + 1\times2^2 + 1\times2^1 + 0\times2^0$ $\quad [2^0 = 1]$

$= 1\times32 + 1\times16 + 1\times8 + 1\times4 + 1\times2 + 0\times1$

$= 32 + 16 + 8 + 4 + 2 + 0$

$= (62)_{10}$ Ans

② Solution:- $(1\ 1\ 0\ 0\ 0\ 1)_2 = (49)_{10}$

1	1	0	0	0	1
2^5	2^4	2^3	2^2	2^1	2^0

$= 1\times2^5 + 1\times2^4 + 0\times2^3 + 0\times2^2 + 0\times2^1 + 1\times2^0$

$= 32 + 16 + 0 + 0 + 0 + 1 = (49)_{10}$

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