CHAPTER 7
COMPUTER SOFTWARE

Q1. Describe (a) System Software and (b). Application Software.

a). System Software

The software which coordinates the operation of the computer and helps the computer to carry out its basic tasks like saving data and printing a document etc, is called system software.

System Software are:

- Operating Systems. (DOS, UNIX, WINDOWS)etc
- Language Translators (Compilers, Interpreter) etc
- Utility programs (Drivers, Linkers, Loaders) etc.

b). Application Software

The program created to perform a specific task for a user, like MS-WORD for Documents and MS-EXCEL for spreadsheets.

Some application software are as under:

- Business Software.(Accounting, Billing, Payroll) etc
- Education Software. (related to knowledge & Learning) etc
- Entertainment Software. (Games, Music) etc.

Q2. What is DOS? How is it different from windows?

DOS stands for Disk Operating System. It is a single user operating system. It was designed by IBM (International Business Machine). It resides on disk and control overall functioning of the computer. It dose not provides networking features.

Main functions of DOS:

1. Control I/O devices
2. 2. Execute user program
3. Manage memory and system resources. Etc

Difference between DOS and Windows:

DOS	WINDOWS
1. DOS provides Command Line Interface	Windows provides GUI (Windows, Menus, Icons)
2. Required a command for every instruction	Need to click on icons, menu options etc
3. Difficult to learn and understand all commands	Easy to learn and work
4. Does not provide user friendly environments	Provides user friendly environment
5. Requires correct command syntax and format	Requires just left/right click

Q3. How many types of commands are available in DOS? Discuss briefly.

There are two types of DOS commands:

- Internal commands, External commands

Internal commands are stored in the COMMAND.COM file. These are loaded automatically into the memory (RAM) during the booting process. These remain in memory during the execution of DOS. Some commonly used internal commands are CLS, CD, COPY, DATE , DEL, REN etc.

External commands are those which need special files for their execution. DOS commands which are not frequently used are given as external commands. The three types of files that can run as an external commands are COM, EXE and BAT. Some commonly used external commands are DELTREE, FORMAT, XCOPY etc.

Q4. What is a language translator? Describe its types briefly.

Language translators are very important type of system software. They played an important role in the development of general-purpose computer. There are three types of language translators are as under.

Assembler: Assembler is a program that converts an assembly language program into machine language.

Compiler: A compiler is a program that translates a **Source Program** (written in high-level language) into machine code as a whole. Compiler first reads the whole program before executing it. The error in the code is pointed out and then the machine language code is generated, called **Object Program.**

Interpreter: An interpreter looks at each line of the source program, decides what that line means, checks it for possible errors and then executes that line. It executes program line by line. If an error is encountered, the execution is stopped. This process slows down the performance of the interpreter as compared to the compiler.

Q5. What are switches and wild card? Discuss their uses in DOS with examples.
Switches are used to extend the command functionality, so that we can use the command according to the requirement. Like / P is a switch which displays output one screen at a time with DIR/P command.

Wildcards: These are two wildcard characters * and ?. These are used when we may want to list all executable files or we may want to see list of all files starting with character A, B or C.

- * is used to denote any number of characters.
- ? is used to denote exactly one missing character.

Q6. Define operating system. List important functions of Operating System.
An operating system is a set of programs running on a computer. It provides an environment in which other programs can be executed. With the help of Operating System computer can used effectively.

Q7. What is the difference between .COM and .EXE files.
There are three important files in DOS. Batch files, Command Files, and Executable Files. These are identified by their extensions which are .bat, .com, and .exe.
.EXE: Executable files are ready to run on the computer. These files contain instructions in machine language where as **(.COM)** command files contain DOS commands.

Q8. What is a directory, a volume label, and drive name?
Directory is used to organize files and subdirectories on the computer.
Volume Label is the identification Name and the Serial No of the disk (HD, FD) is called volume label.
Drive Names are the logical names used to identify the disk drive like C:, D:, or E: drive.

Q9. How do you launch the command processor under windows XP?
Method1. click on **Start button** 2. Select **Programs** 3. Select **Accessories** 4. Select **Command Prompt**
Method12. Click on **Start Button**. 2. Select **Run** option and type **COMMAND**

Q10. Describe the following terms. (i). Path (ii). Parent directory (iii). Subdirectory.
PATH: Path command is used to set path for searching executable files. To see the current path use this command **C:\>PATH**. You can also set path like **PATH=C:\WINDOWS\COMMAND;C:\GAMES**
PARENT DIRECTORY: The current directory (opened folder) is called **PARENT** Directory.
SUBDIRECTORY: Directory with in another Directory is called **Subdirectory.** e.g.**C:\>NOTES\CH1\CH2**

Q11. How do you (i). List all text files in subdirectory **b:\report\. C:\> DIR B:\REPORT**
(ii)List all files with name accounts under directory **a: C:> DIR A:\ACCOUNTS**

Q12. Suppose you are working in directory C:\testdirectory. How would you perform the following?
i). create a new directory named **user** **C:\> MD USER**
ii). Change directory to C: by changing to parent directory twice. **(i). C:\> CD..** **(ii)C:\> CD..**
iii). Delete file named sample3.doc under the testdirectory **C:\testdirectory> DEL SAMPLE3.DOC**
iv). Remove the testdirectory after deleting files sample2.txt and sample3.doc.

i). C:> DEL TESTDIRECTORY*.* **ii). C:\>RD TESTDIRECTORY**

Q13. Writ DOS commands:
i). to view current date. **C:\> DATE**
ii). Change date to new date **2004-06-25:** **C:\>DATE 06-25-2004**
iii). Change date back to 2004-06-16 in one statement. **C:\>DATE 06-16-2004**

Q14. **Take listing of:**
a). All files under Test directory when you are under C:\> **C:\> DIR TEST**
b). List all files of name sample under the Test directory and **C:\>DIR TEST\SAMPLE.***
c). Listing of all files of extension .doc under the Test director.**C:\> DIR TEST *.DOC**

Q15. Write DOS command to Erase

a). Sample.doc file under C: **C:\> DEL SAMPLE.DOC**

b). Sample4.doc file under test directory **C:\> DEL TEST\SAMPLE4.DOC**

iii). All files under test directory. **C:\> DEL TEST*.***

Q16. Make testdirectory2 under subdirectory testdir when you are under C:\> **MD TEST\TEST2**

Q17. Explain the following commands:

i). Format **ii). Exit** **iii). Find** **iv). Pause** **v). Print**

FORMAT Command:	
1. To create new root directory and File Allocation Table (FAT)	3. To check bad areas on disk
2. To create tracks and sectors and to make the disk useable	4. It can delete all data on the disk.
5. Example: C:\>FORMAT A:/S/Q/U	

Exit command will quit the **command.com** program and **return** back to the **windows. C:\>EXIT**

Find Command is used to searches for a text string in a file. **C:\> FIND "WASEEM" FILNAME**

Pause Command Suspends processing of a batch file and displays a message. **Press any key to continue.**

Print Command is used to **PRINT** the text file on the printer.

Q18. Change prompt to:

a). Current time: **C:> PROMPT $T** b). Version number: **C:>PROMPT $V**

c). Default drive: **C:> PROMPT $P** d). > Character: **C:> PROMPT $G**

e). < Character: **C:> PROMPT $L**

Q19. Write down the procedure for writing AUTOEXEC.BAT file.

Ans: Write the following commands line by line in DOS Editor (C:\>EDIT AUTO.BAT).

1. EDIT AUTOC.BAT	**2. @ECHO OFF**	**3. CLS**	**4. TIME**	**4. DATE**
5. ECHO "Any Message"	**6. PROMPT DLPG**	**7.**	**8.**	**9.**

Then Save your file and Exit. Then write as (C:\> AUTO)

Q20. Explain SORT and SYS commands.

SORT Command is used to sort the text files alphabetically/Numerically in DOS. **C:\> SORT /R FILE.TXT**

SYS Command is used to transfer the system files (**COMMAND.COM, IO.SYS and MS-DOS.SYS**) to the specified disk. **C:\> SYS A:** **OR** **A:\> SYS C:**

Q21. Explain TYPE, VOLUME and XCOPY commands.

TYPE: Displays contents of text file on screen. Its syntax is TYPE [Drive:] [Path] filename.

VOLUME: Displays the disk volume label and serial number. Its syntax is VOL [drive:]

XCOPY: Copies files and directories. Its syntax is XCOPY Source File [Destination] /S

GENERAL QUESTIONS

Q1. COBOL (Common Business Oriented Language)

COBOL was developed in 1959. It is an internationally accepted high level language developed for general, commercial and business purpose. COBOL was the first high level language suitable for handling large amount of data related to payroll, accounts, and a variety of other business applications.

Q2. What is the significance of an Assembly Language?

Ans: An assembly language is low level language. It uses symbolic codes instead of binary codes, which are called **Mnemonic Codes**. . It is also known as **Symbolic Language.** Assembler is used to translate the Assembly Language program. This language is different for different computers.

It has the following advantage over the machine language:

- Easy to understand, Easy to locate and correct errors, Easy to modify

Q3. What is meant by operating system? Mention various types of operating systems.

Ans: Operating system is a program that prepares the computer to be used by human. It manages the computer hardware, Central Processing Unit, drives and printers etc. It also runs application software. Operating system programs reside in the main memory of computer and it controls all operations of computer.

Types of Operating Systems: The operating system can be classified as:

- Single User operating system
- Multi-user operating system

Single user operating system

A single user operating system allows a computer to be used by one user only. It provides an interface between the computer and a single user. It is used in personal or micro computers.

Commonly used single user operating systems are:

- MS DOS, PC DOS, Macintosh System, OS/2, Windows

Multi-user operating systems

The operating systems that allow a large number of users to work at the same time on a single computer are called multi-user operating systems. These operating systems are used on large computer systems for commercial, scientific and engineering data processing.

Some of the multi-user operating systems are:

- UNIX/XENIX, NOVELL, LAN, WAN, WINDOWS NT

Q4. What is DOS? Explain.

Ans: DOS stands for Disk Operating System. It is a single user operating system. It is used in microcomputer. It is stored as a master program in the disk of a computer. Every microcomputer has its own DOS because each DOS is written to control a specific microprocessor. The major tasks the DOS must carry out are:

- To control input and output devices
- To enable user to load and execute program
- To maintain an orderly system of data on the disk

The different versions of DOS are MS DOS 3.0, MS DOS 3.1, MS DOS 4.0, PC DOS 5.0 and so on. The most recent versions are DOS 7.0 and DOS 8.0.

Q5. Name the types of commands used in DOS and describe at least five commands of each type.

Ans: There are two types of DOS commands:

- Internal commands, External commands

Internal commands

Following are some internal commands:

- CLS, CD, COPY, DATE , DEL

External commands

Following are some external commands:

- BACKUP COMP DELTREE DISKCOPY SYS

Q6. What are the main functions of operating systems?

Ans: The following are the main functions of the operating systems:

- It manages data and information in internal memory.
- It manages files on the secondary storage.
- It provides a platform to run other software.
- It manages I/O devices such as printer, disk drives, and tapes drives
- It provides an interface between the user and the computer.
- It controls access to the machine.
- It works with ROM to start up or Boot the computer.
- It schedules an efficient use of the CPU while eliminating the need for human intervention.

Q7. State the difference between a high level language and a low level language?

Ans **Difference**

High Level Language	Low Level Language
1. High level language is close to English	1. Low level language is close to machine language
2. Easy to learn and understand	2. Difficult to learn and understand
3. More suitable for human use	3. Less suitable for human use
4. Use English like words	4. Use binary digits 0s and 1s
5. Take less time to program	5. It is more time consuming to program
6. Can be executed on any computer	6. Every computer has its own machine code
7.Need to be translated	7. Directly executable

Q8. What is software? Mention types of software.

Ans: The set of programs run in the computer is called software. These are simple instructions that tells the computer what to do.

Software can be divided into two main groups:

- System Software
- Application Software

Q9. What is meant by machine language? Explain.

Ans: The set of binary instruction codes, which is directly understood by the CPU, called a machine language. It is different for different computers. Machine language is the fundamental language in the form of groups of binary digits (0s and 1s) and does not require further modification before execution by the computer.

Q10. Describe different operating systems briefly.

Ans: **Operating Systems:** An operating system is a collection of programmes that control and coordinate the overall operations of a computer system.

Different Operating System used nowadays are given below

Disk Operating Systems (DOS): IBM developed an operating system called PC DOS (personal computer disk operating system) for IBM.8086 micro processor. Microsoft later developed MS DOS (microsoft disk opearing sytem), a portable version of PC DOS that would run on any 8086 family microprocessor. DOS is the most successful operating system in microcomputer history.

Operating System 2 (OS/2): OS/2 is developed by IBM in 1987. It was designed for IBM compatible microcomputers. It is a powerful micro computer operating system with GUI.

UNIX: Unix operating system was developed for mini and mainframe computers but now it is used on microcomputer as well. Unix is a portable multitask and multi user operating system. It is written in C language.

XENIX: XENIX operating system is developed by Microsoft for micro computers. It has multiprogramming capabilities with many useful utilities and GUI.

Windows: Windows is an operating system developed by Microsoft for microcomputers using Intel microcomputers.

Windows NT: A true Windows operating system is Windows NT. It is intended to work in computers for multiple manufactures. Applications that run on large computers can now run under Windows NT on PCs. Windows NT can run any programme written for the earlier MS DOS, Windows, and OS/2 operating systems.

Machintosh: Machintosh operating system is used in Apple computers. It has an extremely user-friendly GUI.