

## Assignment No. 01

Q. 29) The fundamental goal of computer systems is to execute and to make solving user problem easier.

☐ System programs

☒ User programs

☐ Application programs

→ Ans : User programs

i) Operating systems exist because they offer a reasonable way to solve the problem of creating a usable operating system.

ii) The fundamental goal of computer systems is to execute user programs and to make solving user problem easier.

iii) Computer hardware is constructed towards this goal.

Q. 30) When a computer system is powered up or rebooted - it needs to have an program to run.

☐ System program

☐ Application program

☐ Operating system

☒ bootstrap program.

→ Ans : bootstrap program

i) For a computer to start running, i.e. when it is powered up or rebooted, it needs to have an initial program to run.

ii) This initial program is also known as bootstrap program.

iii) It is stored in computer's Read-only memory (ROM) or the Electrically Erasable Programmable read-only memory (EEPROM).

iv) It initializes all concepts of the aspects of the system, from CPU registers to device controllers to memory contents.

v) The bootstrap program must know how to load the operating system and how to start executing the system.



Q 29) The fundamental goal of computer systems is to execute to make solving user problem easier.

- ☐ System Program
- ☒ User programs
- ☐ Application programs.

→ Correct option: User Programs.

Incorrect options:

i) System Programs :

- i) System programs are a set of programs written to service other programs.
- ii) The system softwares are used for heavy interaction with computer hardware, heavy usage by multiple users, complex data structures, and multiple external interfaces, etc.
- iii) Thus, the system program does the work of supporting the application programs and user programs, and doesn't execute them.
- iv) Hence, System programs execution is not the fundamental goal of computer systems.

iii) Application Programs :

- i) Application programs <sup>are stand alone programs</sup> that solve a specific business needs.
- ii) Application in this ~~area~~ process business or technical data in a way that facilitates business operations or management/technical decision making.
- iii) Hence, application programs are not used to execute fundamental goals of computer systems programs.



Q. 30) When a computer system is powered up or rebooted - it needs to have an program to run.

→ Incorrect options:

i) System programs:

- i) System programs are a set of programs written to service other programs.
- ii) The system programs gets executed after the operating system starts.
- iii) Hence, it is not a the first program to run when computer starts.

ii) Application program:

- i) Application programs are stand alone programs that solve a specific business needs.
- ii) Application programs are either run by user or they run on startup.
- iii) Hence, it is not the first program to run when computer start.

iii) Operating System:

- i) An operating system is a program that manages a computer's hardware.
- ii) It also provides a <sup>platform</sup> basis for application programs to run, but it needs an bootstrap program to instantiate and initialize itself.
- iii) Hence, it is not the first program to run when a computer starts.