MODULE:1

SE-Overview of it Industry

Q.1 What is Software?

A.1 Software: s/w is the language of computer.

is a collection of computer programs and related data that provide the instructions for telling a computer what to do and how to do it.

- Just like human language.

- 3 main groups depending on their use and application.

1) System software / operating system.

2) Application s/w

3) Programming language

------------------------------------------------------------------------------------------------------------------

Q.2 what is software engineering?

A.2 Software engineering refers to the engineering in which software is created for computer systems and other electronic devices.

In other words, "Software engineering is a process in which user's needs are analyzed and software is created based on these needs."

Software engineers create these software and applications by programming and designing.

Software engineering is made up of two words. First is software and second is engineering. Software is a collection of programs. Software is developed using many programming languages. Engineering means developing products using scientific principles and methods.

------------------------------------------------------------------------------------------------------------------

Q.3 Explain types of software.

A.3

1) System s/w or OS: - provides the basic functions for computer usage and helps to run the computer hardware and system.

- is the s/w used by the computer to translate inputs from various sources into a language which a machine can understand. -

Basically OS coordinates the different hardware components of a computer. - Ex. Linux, window, macOS, Android, iOS

2) Application s/w: - is the general designation of computer programs for performing user tasks. -

Types of application s/w

1) Mobile app: - Application that run on mobile - Ex. Instagram, facebook, etc

2) Desktop app: - That run stand-alone in a desktop or laptop computer. - Ex. Microsoft office suite which includes Word, Excel and PowerPoint. - Ex. Outlook for email, and firefox, Google Chrome, Mozilla are the web browser. - Anti-virus is an application and so is the media player.

3) Web app: - That run on a web browser - ex. google.com, facebook.com, etc

3) Programming s/w: - is the process of designing, writing, testing, debugging, and maintaining the source code of computer programs. - This s/w is pawritten in a programming language. - The purpose of programming is to create a program that exhibits a certaindesired behavior.

------------------------------------------------------------------------------------------------------------------

Q.4 What is SDLC? Explain each phase of SDLC

A.4 The full form of SDLC is software development life cycle. It is also called system development life cycle.

SDLC explains the life cycle of a software or system. Database design is a fundamental component of SDLC. All the steps or processes involved in developing any system (software) are collectively called SDLC.

1.Planning 2.Analysis 3.Detailed system design 4.Implementation 5.Maintenance

1:-Planning:- In the planning phase, we discuss what we want the software to achieve or what are its goals? The quality requirements of the software and risk identification also come in the planning phase.

2: Analysis:- Problems are defined in the planning phase and in the analysis phase those problems are examined in more details.

In the analysis phase, the user requirements are examined, what are the needs of the end users. In this phase the hardware and software of the system are studied thoroughly. In this, both end users and designers together solve the problem areas.

3:-Detail system design:- In the detail system design phase, the designer completes the process design of the system. Complete technical specifications are included in the system so that the system becomes more interactive and efficient.

4.implemention:- this phase, the hardware, DBMS software and application programs are installed and the database design is implemented.

5. Maintenance:- This is the last phase of SDLC. When the system (software) is ready and the users start using it, then the problems that arise in it have to be solved from time to time.

------------------------------------------------------------------------------------------------------------------

Q.5 What is DFD?

A.5 A data flow diagram is a graphical representation of the flow of data through an information system. As the name suggests, it focuses solely on the flow of data (information), where the data comes from, where it goes, and how it is stored.

Data flow diagrams are used to create an overview of a software system.

Data flow diagram presents the incoming (input) data flow, outgoing (output) data flow and stored data in a graphical form but DFD does not explain its process in detail. But there is a flow chart for this. Flow chart and DFD are two different topics

------------------------------------------------------------------------------------------------------------------

Q.6 what is flow chart.?

A.6 Displaying an algorithm or program in the form of pictures is called Flowchart. That is, in a flowchart, the algorithm or program is displayed with the help of pictures.

Flowchart proves to be very useful in writing programs, through this we can easily understand difficult programs.

Many symbols are used in flowcharts which show the flow of the program.

Flowcharts are used to perform many tasks in programming such as creating programs, debugging programs, and solving difficult programs.

------------------------------------------------------------------------------------------------------------------

Q.7 What is Use case Diagram?

A.7 A use case diagram is a type of UML diagram that shows the interactions between a system and its external users (called actors), to provide a high-level overview of what the system does and who interacts with it,

It delineates the functionalities of the system and describes how users interact with the system to achieve a specific goal.

------------------------------------------------------------------------------------------------------------------