

## **SYSTEM ENVIRONMENT**

**Question 1.** *What do you mean by information system and what is its importance to the organization?*

**Answer:**

- ◆ Information system is a collection of components working together to provide information to people in an organization.
- ◆ There are many people working in an organization. Similarly, there are many other people interacting with the organization.
- ◆ All such people need information about the system.
- ◆ The information provided to such people should be meaningful and should serve the purpose of making the organization work in a way that is beneficial to it.
- ◆ The information system provides such information.
- ◆ Hence, we can say that information system is important to an organization because it performs the task of providing the required information to the people requiring it.

**Question 2.** *How many types of information system are there in an organization?*

**Answer:**

There can be various kinds of information systems in an organization. Some of them are:

**i. Transaction Processing system**

- ◆ Computer programs that can be used to allow people to access the database, make any necessary changes to it and use them to initiate a further transaction are called Transaction Processing Systems (TPS).
- ◆ The transaction processing system provides responses to the user as the transaction progresses through the system.
- ◆ Any errors and inconsistencies, as well as the result of the final updated database, are reported.
- ◆ Responses can be provided in a number of ways, depending upon the transaction system mode. Transactions can be input in on-line or batch mode.

**ii. Management Information System**

- ◆ Management Information System (MIS) takes relatively raw data available through a TPS and converts them into a meaningful aggregated form that managers need in order to conduct their responsibilities.
- ◆ Developing an MIS requires good understanding of what kind of information managers require and how managers use information in their jobs.
- ◆ For this it is important to draw on data from various subject areas and hence developing a comprehensive and accurate model of data is essential in building an MIS.

**iii. Decision Support System**

Decision support systems assist groups to make complex decisions. Some decisions require an optimization algorithm, while many decision support systems are experimental in nature, where the user tries different inputs to see their effects. A third kind of decision is one of policy nature where one develops alternate positions and then justifies them by

argumentation. Decision support usually assumes asynchronous interaction, although there can be some advantage in synchronous discussion to resolve conflicts.

iv. **Expert System**

An Expert System (ES) attempts to manipulate knowledge rather than information. Users communicate with an ES through an interactive dialogue. The ES asks questions (that an expert would ask) and the end user supplies the answers. The answers are then used to determine which rules apply and the ES provides a recommendation based on the rules. The focus while developing an ES is on acquiring the knowledge of the expert in the particular problem domain.

v. **Office Automation System**

Office Automation (OA) Systems support the wide range of business office activities that provide for improved workflow and communication between workers, regardless of whether or not those workers are located in the same office. Office Automation functions include word processing, electronic messages, work group computing, fax processing, etc. OA systems can be designed to support both individuals and work groups.

**Question 3. *What do you know about methods and tools to build an information system?***

**Answer:**

- ◆ Methods and tools are used to build a system effectively.
- ◆ System development methodology defines a set of steps followed to build the systems.
- ◆ It also provides a variety of supporting methods and tools.
- ◆ It includes modeling methods used to produce models that help us to understand the system and its requirements and then to develop system specifications and are primarily used in analysis.
- ◆ Productivity tools that help people develop models and convert them to working systems are also available.
- ◆ It is always necessary to choose the right methods and tools to build a quality system.

**Question 4. *What are the different approaches based on the methods for developing the system?***

**Answer:**

The different approaches based on methods for developing the system are:

i. **Prototyping**

Prototyping is an iterative process of systems development in which requirements are converted to a working system that is continually revised through close work between an analyst and users. In other words, building a scaled down but functional version of a desired system is called prototyping. A prototype can be developed with some fourth-generation languages, with the query and screen and report design tools of a database management system, and with Computer-Aided Software Engineering (CASE) tools. Prototyping is a form of rapid application development (RAD).

ii. **Joint Application design**

Joint Application Design (JAD) is a structured process in which users, managers and analysts work together for several days in a series of intensive meetings to specify or review system requirements. Because of bringing the people directly affected by the system in one place and time, time and organizational resources are better managed. Also, group members develop a shared understanding of what the system is supposed to do.

iii. **Participatory design**

Participatory Design (PD), the end users of the system and improvements in their work is given central focus. PD may involve either the entire user community or an elected group of users in the development process. The organization's management and outside consultants provide advice rather than control.

**Question 5. How is system structure defined with the view of Information System?**

**Answer:**

- ◆ System structure defines the boundary of the system and the environment in which the system works.
- ◆ System boundary defines the components that make up a system.
- ◆ Anything outside the system boundary is the system environment.
- ◆ Within the system boundary there can be a number of subsystems, which carry out parts of the system function.

The system structure of an information system can be viewed as a collection of people, process and data.

- **People**  
The information produced by information systems is used by people in the organization in their everyday activities, such as in making decisions.
- **Process**  
In order to support the user activities and the interaction between the various users, information systems include processes that ensure that the right people receive the right information at the right time. These processes determine what is to be done with data as it enters and passes through the system.
- **Data**  
Data is used in the information systems for generating meaningful information. Data is stored in various equipments such as hard disks. Similarly, data needs to be transferred from one place to another through communication links.

**Question 6. Describe Centralized system.**

**Answer:**

- ◆ In a centralized system, users are connected to a computer system through terminals or workstations.
- ◆ The computer system supports a number of databases.
- ◆ The computer system contains the program that allows the users to access the database.
- ◆ Many centralized systems support structured processes made up of a predefined sequence of steps.
- ◆ An example of centralized systems is data warehousing and data mining.
- ◆ **Data warehousing** refers to maintaining a central repository of records.
- ◆ Access to historical information that helps analysts to study patterns in past activities is called **data mining**.

