

SOLVED PAST PAPER INFORMATION SYSTEM

2013

SHORT QUESTIONS:

Define The Followings:

I. Information and its characteristics ?

A: Information : Information is the product of data processing. Information is interrelated data. Information is equivalent to finished goods produced after processing the raw material. The information has a value in decision making. Information brings clarity and creates an intelligent human response in the mind. Information is that which informs. In other words, it is the answer to a question of some kind. It is also that from which data and knowledge can be derived, as data represents values attributed to parameters, and knowledge signifies understanding of real things or abstract concepts.

Characteristics of Information :

Availability , Accuracy, Reliability or objectivity, appropriateness, Completeness, timing and cost of information,

The parameters of a good quality are difficult to determine for information. Quality of information refers to its fitness for use, or its reliability. Following are the essential characteristic features:

i) Timeliness:

Timeliness means that information must reach the recipients within the prescribed timeframes. For effective decision making, information must reach the decision-maker at the right time, i.e. recipients must get information when they need it. Delays destroys the value of information. The characteristic of timeliness, to be effective, should also include up-to-date, i.e. current information.

ii) Accuracy:

Information should be accurate. It means that information should be free from mistakes, errors &, clear. Accuracy also means that the information is free from bias. Wrong information given to management would result in wrong decisions. As managers decisions are based on the information supplied in MIS reports, all managers need accurate information.

iii) Relevance:

Information is said to be relevant if it answers especially for the recipient what, why, where, when, who and why? In other words, the MIS should serve reports to managers which is useful and the information helps them to make decisions..

iv) Adequacy:

Adequacy means information must be sufficient in quantity, i.e. MIS must provide reports containing information which is required in the deciding processes of decision-making. The report should not give inadequate or for that matter, more than adequate information, which may create a difficult situation for the decision-maker. Whereas inadequacy of information leads to crises, information overload results in chaos.

v) Completeness:

The information which is given to a manager must be complete and should meet all his needs. Incomplete information may result in wrong decisions and thus may prove costly to the organization.

vi) Explicitness:

A report is said to be of good quality if it does not require further analysis by the recipients for decision making.

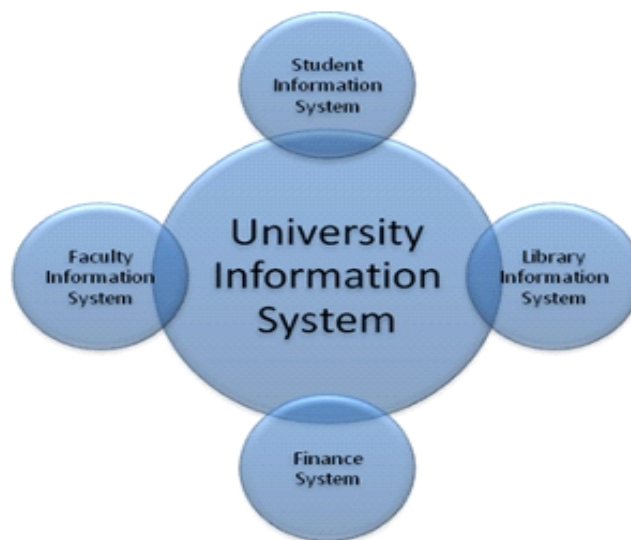
vii) Impartiality:

Impartial information contains no bias and has been collected without any distorted view of the situation.

II. INFORMATION SYSTEM WITH EXAMPLES?

A: An information system is any organized system for the collection, organization, storage and communication of information. More specifically, it is the study of complementary networks of **hardware and software** that people and organizations use to **collect, filter, process, create** and **distribute data**. A computer **Information System (IS)** is a system composed of people and computers that processes or interprets information. The term is also sometimes used in more restricted senses to refer to only the software used to run a computerized database or to refer to only a computer system. There are various types of information systems,

for example: transaction processing systems, decision support systems, knowledge management systems, learning management systems, database management systems, and office information systems.



III. Business process with examples ?

A: A business process is a set of related tasks or activities performed to produce a product or service. Business processes exist in any type of company, independent of size or industry. Internal and cross-company processes are the nerve tracts of any given company. If they are clearly defined and also optimized on a regular basis, they will drive competitiveness in the long run. Customers must be provided with products and services before competitors can establish themselves, and the ability to respond to changing market requirements is a major factor of business success.

A business process is an activity or set of activities that produce a specific service or product for a particular customer.

Example

- ❖ Manufacturing and production

May Include Welding, cutting, stamping, assemble, paint and polish the product

- ❖ Sales and marketing

Identifying customers

IV. ORGANIZATION AND ITS DIFFERENT FEATURES ?

A: Organization is the foundation upon which the whole structure of management is built. Organization is related with developing a frame work where the total work is divided into manageable components in order to facilitate the achievement of objectives or goals. Thus, organization is the structure or mechanism (machinery) that enables living things to work together. In a static sense, an organization is a structure or machinery manned by group of individuals who are working together towards a common goal. An organization is an entity comprising multiple people, such as an institution or an association, that has a collective goal and is linked to an external environment.

The following are the features of a good organization structure:

- ❖ Clear line of authority.
- ❖ Adequate delegation of authority.
- ❖ Lesser managerial levels.
- ❖ Proper span of control.
- ❖ Simple and flexible.
- ❖ Effective Sharing of Goals
- ❖ Teamwork
- ❖ Offers Training Opportunities
- ❖ Clearly Defined Structure
- ❖ Understanding Risks

V. EXECUTIVE SUPPORT SYSTEM AND ALSO DISCUSS HOW IS IT DIFFERENT FROM MIS?

A: Executive Support System (ESS) is a reporting tool (software) that allows you to turn your organization's data into useful summarized reports. These reports are generally used by executive level managers for quick access to reports coming from all company levels and departments such as billing, cost accounting, staffing, scheduling, and more.

In addition to providing quick access to organized data from departments, some Executive Support System tools also provide analysis tools that predict a series of performance outcomes over time using the input data. This type of ESS is useful to executives as it provides possible outcomes and quick reference to statistics and numbers needed for decision-making.

Executive Support Systems (ESS) is a type of management information system intended to facilitate and support the information and decision making needs of senior executives by providing easy access to both internal and external information relevant to meeting the strategic goals of the organization.

Difference in MIS and ESS:

- ❖ MIS support Managers while
- ❖ ESS support executives

ESS:

- ❖ ESS support a range of decision making, but more often than not, this tends to be unstructured
- ❖ ESS support the executive level of management, often used to formulate high level strategic decisions impacting on the direction of the organization
- ❖ These systems will usually have the ability to extract summary data from internal systems, along with external data that provides intelligence on the environment of the organization
- ❖ Generally these systems work by providing a user friendly interface into other systems, both internal and external to the organization.

MIS:

- ❖ MIS is generally more sophisticated reporting systems built on existing transaction processing systems

- ❖ Often used to support structured decision making (decisions that can be described in detail before the decision is made)
- ❖ Typically will also support tactical level management, but sometimes are used at other levels
- ❖ Examples of structured decisions supported by MIS might include deciding on stock levels or the pricing of products

LONG QUESTIONS:

Q3. DISCUSS BRIEFLY ROLE OF INFORMATION SYSTEMS IN ORGANIZATION?

A: Role of IS in Business:

Information systems are transforming business and the visible results of this include the increased use of cell phones and wireless telecommunications devices, a massive (huge) shift toward online news and information, booming e-commerce.

Globalization opportunities:

The Internet has also drastically (extremely) reduced the costs of businesses operating on a global scale. These changes have led to the emergence of the digital firm, most of the firm's significant business relationships with customers, suppliers, and employees are digitally enabled and mediated

Cloud Computing:

In the emerging, fully digital firm – Significant business relationships are digitally enabled and mediated (facilitated).

Core business processes are accomplished through digital networks

Digital firms offer greater flexibility in organization and management

Time shifting:

Presents both challenges and opportunities

Operational excellence:

Business improves the efficiency of their operations in order to achieve higher profitability. Information systems are important tools available to managers for achieving higher levels of efficiency and productivity in business operations.

New products, services, and business models:

Information system is a major tool for firms to create new products and services, and also an entirely new business models. A business model describes how a company produces, delivers, and sells a product or service to create wealth.

Customer/supplier intimacy:

When a business serves its customers well, the customers generally respond by returning and purchasing more. This raises revenue and profits. The more a business engages its suppliers, the better the suppliers can provide vital inputs. These lower costs.

Day to day survival:

Business firms invest in information system and technology because they are necessities of doing business. These necessities are driven by industry level changes.

Competitive advantage:

When firms achieve one or more of these business objectives (operational excellence, new products, services, and business models, customer/supplier intimacy, and improved decision making) chances are they have already achieved a competitive advantage

OR

Roles of Information Systems in an Organization:

Information systems play a vital role in an organizations' overall performance. They provide many advantages to their users which range from simple transaction processing at the operational level to difficult tasks such as making important and competitive decisions at the strategic level of the organization. Several roles played by information systems in an organization

can be identified but O'Brien and Marakas (2008) have identified three fundamental roles played by information systems in businesses. These are; Information systems support business processes and operations. Secondly, they support decision making of employees and managers and lastly, they support strategies for competitive advantage. These three fundamental roles encompass any other roles played by information systems in an

organisation. Information systems support business processes and operations of an organization in many ways. In a hotel for instance, customer check - IN and check-outs are done by computers and software which makes work easy unlike the traditional method of using notebooks and paper to record such information. Customers can now even make their own bookings through the hotels website instead of visiting the hotel in person to do so, which may lead to pressure

on front office staff. Systems have now been developed to gather customer information easily and quickly. Now, because of information systems, the various departments of an organization work together with ease. The housekeeping department of a hotel can now inform the front office about which rooms are ready for use and which are not, without personal interactions of staff as a result

of information systems. The running of an organization has now become smoother with well integrated information systems. Information systems also help employees and managers of a business to make well informed decisions. This is because information systems have

the capability of analyzing data that has been collected from both within the organization and from external sources into useful information which can be used by employees and managers in their decision making process. Decision-making is an integral part of management and occurs in every function and at all levels.

Decisions are better made when accurate information is available which aids the decision maker in making an objective decision (Terry Lucy 2005). Information systems types like Management Information System (MIS), Decisions Support Systems (DSS) and Executive Information Systems (EIS) are specially designed to help management of an organization in their decision making process. These systems generate typical reports and graphs on issues such as trend of orders, customer analysis, product profitability, finished stock positions and forecasts, accident and absentee reports, job evaluation reports and many more. Managers and employees use these reports and graphs as a basis for their decisions. For example, decisions on which meals that need to be added or removed from a hotel menu may be taken by the food and beverage manager after a typically analysis is made by the help of a Decisions Support

System. Finally, information systems also support strategies for competitive advantage. Competition in today's business is keen and what will become important is how quickly companies can convert their reams of information they collect into knowledge so that they can provide services and products that

are ahead of their competitors. Strategic information systems can help provide hospitality operations with the innovative mediums they need to provide products and services that will give them comparative advantage over their

competitors. Nhyiem et al (2005) observes that, in the hospitality industry, competitive advantages may result in increased room sales (through efficient reservation systems and organizational websites), decreased cost of goods (through

reduction in operating cost and less expensive distribution channels), brand awareness (through effective advertising campaigns targeted at the appropriate customer and delivered through the most appropriate

cost effective medium), good customer-organizational relationship (by keeping database of customers and their needs) and effective decisions making that are timely.

Q4. Discuss different types of Information systems?

A: Systems:-

Transaction Processing System:

Transaction processing systems meet the data collection, storage, processing and outputting functionalities for the core operations of a business.

TPS information systems collect data from user inputs and then generate outputs based on the data collected.

An example of TPS system could be an online air ticket booking system. In such a system, travelers select their flight schedule and favorite seats (the input), and the system updates the seats available list, removing those selected by the traveler (the processing). The system then generates a bill and a copy of the ticket (the output)

MIS:

MIS is defined as a system which provides information support for decision making in the organization.

MIS is defined as a computer-based organizational information system which provides information support for management activities and functions.

Serve middle management

Provide reports on firm's current performance, based on data from TPS

Past and Present Data

Decision Support System:

The term refers to an interactive computerized system that gathers and presents data from a wide range of sources, typically for business purposes.

Interactive systems: Systems that allow users to input data

For example: a national on-line book seller wants to begin selling its products internationally but first needs to determine if that will be a wise business decision. The vendor can use a DSS to gather information from its own resources to determine if the company has the ability or potential ability to expand its business and also from external resources, such as industry data, to determine if there is indeed a demand to meet. The DSS will collect and analyze the data and then present it in a way that can be interpreted by humans.

Business intelligence IS:

Business intelligence is the process of extracting data from an OLAP database and then analyzing that data for information that you can use to make informed business decisions and take action.

Used in systems that support senior and middle management.

Data driven DSS

- ❖ Executive Support system
- ❖ For example, OLAP and business intelligence help answer the following types of questions about business data:
 - ❖ How do the total sales of all products for 2007 compare with the total sales from 2006?

- ❖ How does our profitability to date compare with the same time period during the past five years?
- ❖ How much money did customers over the age of 35 spend last year, and how has that behavior changed over time?
- ❖ How many products were sold in two specific country/regions this month as opposed to the same month last year?
- ❖ For each customer age group, what is the breakdown of profitability (both margin percentage and total) by product category?

Executive support system or Executive Information system:

ESS is also known as Executive Information System (EIS).

An Executive Information Systems (EIS) is a type of management information system intended to facilitate and support the information and decision making needs of senior executives by providing easy access to both internal and external information relevant to meeting the strategic goals of the organization.

Q5. Why Computer system is so vulnerable? Describe Most Common Threat against Contemporary Information system?

A: Computer or network vulnerability is by definition a flaw in the software or hardware that is prone to be exploited by a human or by software to gain control on other computers or networks. As we all know, computers are made by humans and are vulnerable like every human being.

When a network is threatened, many factors come into place. For example, if unauthorized people gain access to a machine, the security policies of the network should be questioned and all the reports and logs of the IT department need to be audited.

Since vulnerabilities can be found in so many areas in a network system, one can say that security vulnerability is indeed whatever in a computer network can cause or be exploited for an advantage.

The frequency of attacks to giant corporate sites such as Amazon and Pay pal in the last several years, and the speed and spread of these attacks, indicate serious security vulnerability problems in every network systems. Furthermore, statistics show that companies do not invest more than 30 per cent of their budget in improving the security of their networks. It seems that it is enough to have a firewall placed between the internet and the LAN that every intruder can be kept at bay.

Network security is a mindset that entails a huge number of small and big tasks with the goal of customizing an entire network without leaving anything in default mode. As a matter of fact, vulnerabilities gain control of networks because of weak passwords and network features left in admin mode.

The two major parts of a computer system, hardware and software, quite often have design flaws, no matter if it is a computer or a router. Hardware systems are less susceptible to design flaws than their software counterparts owing to less complexity, which makes them easier to test; limited number of possible inputs and expected outcomes, again making it easy to test and verify; and the long history of hardware engineering. But even with all these factors backing up hardware engineering, because of complexity in the new computer systems, design flaws are still common.

The biggest problems in system security vulnerability are due to software design flaws. A number of factors cause software design flaws, including overlooking security issues all together and avoiding debugs and patches releases. A typical example of the glitches affecting software is the continuous patching applied to Windows operating system via Windows Update.

Threats:

❖ The multi-tier client/server computing environment:

The multi-tier client/server computing environment: The vulnerabilities exist at each layer and in the communication between the layers. The user often unauthorized access and introduce errors.

❖ 2- The communications lines:

The common threats are tapping, sniffing, message alteration, theft and fraud and radiation.

❖ The Corporate Servers:

The most common threats are hacking, viruses and worms, theft and fraud, vandalism and denial-of-service attacks.

❖ The Corporate Systems:

The most common threats are theft of data, copying data, alteration of data, hardware failure and software failure.