

Q. 1. MCQ.

① A. AJAX

② A. Reactively

③ A. Quality Control.

④ C Data Acquisition Center.

⑤ B. Improves efficiency and integration throughout the supply chain.

⑥ B. Computer - Integrated Manufacturing

⑦ C Product Lifecycle Management

⑧ C. Social Marketplaces

⑨ C. Companies that purchase open-source software cannot modify it.

⑩ A. Investigation - Analysis - Design - Programming / testing - Implementation - operation / maintenance.

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Q2 A)

Cloud Computing

- Cloud computing is delivery of computing services such as servers, storage, database, networking, software, analytics, etc. over the internet.
- Using cloud computing services users are able to access software and applications from wherever they are; the computer programs are hosted by an outside party and reside in the cloud.
- This means that users do not have to worry about things such as storage and power.
- Moreover you pay only for the services you use thus, lowering your operating cost.

Models of Cloud Computing

① Public cloud:

- These clouds are owned and operated by a third party cloud service provider to deliver the services over the internet.
- All the supporting hardware, software and other infrastructure is owned and managed by the cloud provider.
- You access these services using your browser.

② Private Cloud:

- It refers to the cloud services owned by a single organization for its own use.
- It may be located at the organization's data structure.

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③ Hybrid Cloud:

- Hybrid clouds combine public and private clouds, bound together by technology that allows data and applications to be shared between them.
- By allowing data and applications to move between private and public clouds, a hybrid cloud gives your business greater flexibility, more deployment options and helps optimise your existing infrastructure, security and compliance.

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Q2. B]

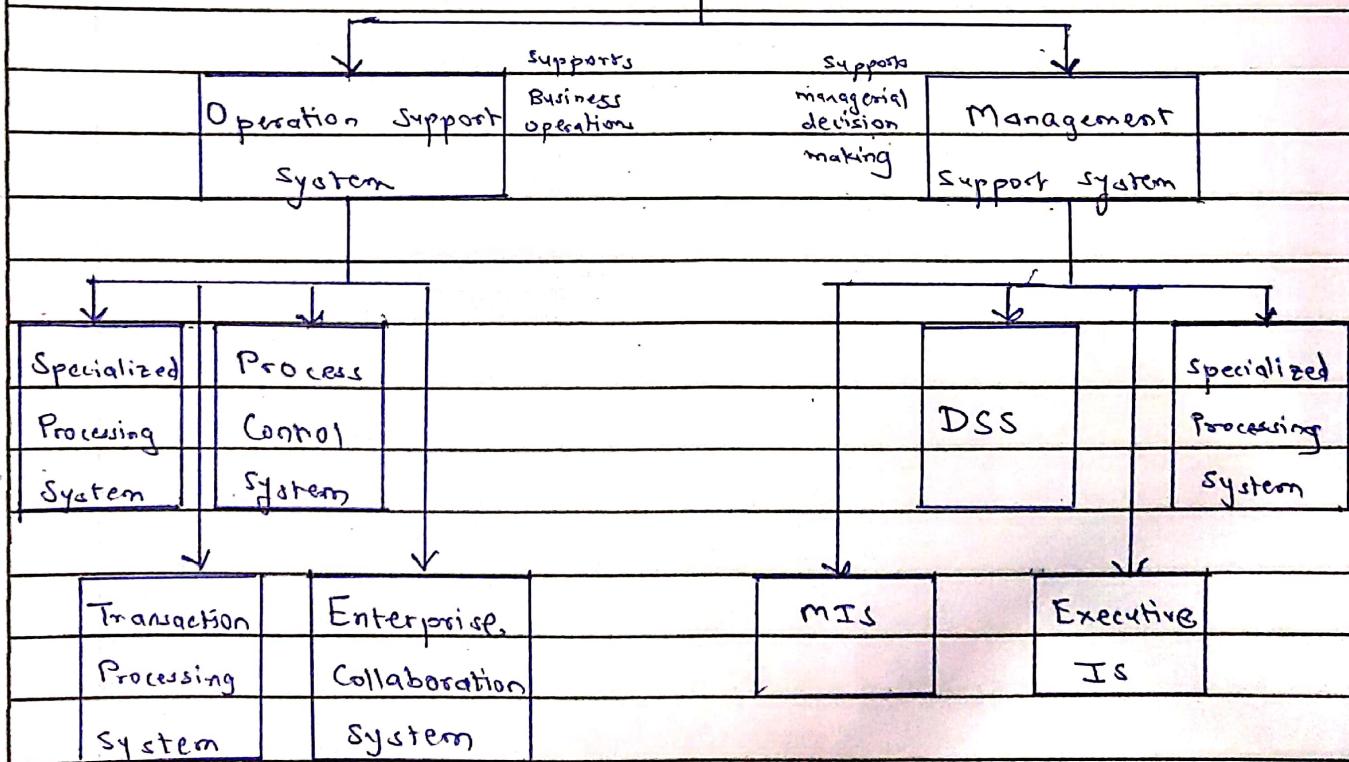
Information System (IS)

Information system is a mechanism designed to collect, process, store and distribute information within and outside the organization in order to improve organizational effectiveness and efficiency.

Types of Information System

- ① Operations Support System
- ② Management Support System

Information system



Types of IS

① Operations Support System.

- Information systems have always been required to process data generated by and used in business operations. Operation support system produce a variety of information for both internal and external use.
- However, they do not provide the specific information that can be used best by managers for analytical decision making purposes. Management support system is usually used for such purposes.
- The role of operations support system is to process business transactions, control industrial processes, support enterprise communications and collaborations and update corporate database efficiently.

(a) Transaction Processing Systems are important examples of operation support system that record and process the data collected from business transactions.

For example, Point of Sale (POS) systems at many retail stores use electronic cash register terminals to capture and transmit sale data electronically over telecommunication network to computer centers for processing.

(b) Process Control Systems monitor and control physical processes in any organization. For example, a petroleum refinery uses electronic sensors linked to computers to monitor chemical processes continuously and make instant adjustments to control the refinery process.

(c) Enterprise Collaboration Systems focus on enhancing team and work-group communications and productivity and include applications that are sometimes called as office automation system. For example, members in a project team use e-mail to send and receive any messages or use video conferencing to hold meetings to co-ordinate their activities.

(2) Management Support System

- When information system focuses on providing information and support for effective decision making by managers, they are called Management Support Systems. It is a complex task. Several major types of information systems support a variety of decision-making responsibilities such as Management Information System (MIS), Decision Support Systems (DSS), Executive Information Systems (EIS).

(a) Management Information System (MIS) provides information in the form of reports to managers and business professionals. For example, sales managers use their computers to receive instant displays about the sales result of their products and then access their corporate intranet for daily sales analysis reports that evaluates sales made by each salesperson.

(b) Executive Information Systems (EIS) provide critical information from a wide variety of internal and external sources to the executives and managers. For example, top executives can instantly view computer displays that highlight key areas of organizational and competitive performance.

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① Decision Support Systems (DSS) give direct support to managers during the decision-making process. For example, an advertising manager may use a DSS to perform an analysis as part of the decision to determine how to spend advertising budget; a production manager may use a DSS to decide how much product to manufacture based on the expected sales and the availability of the raw materials.

Q 3 A]

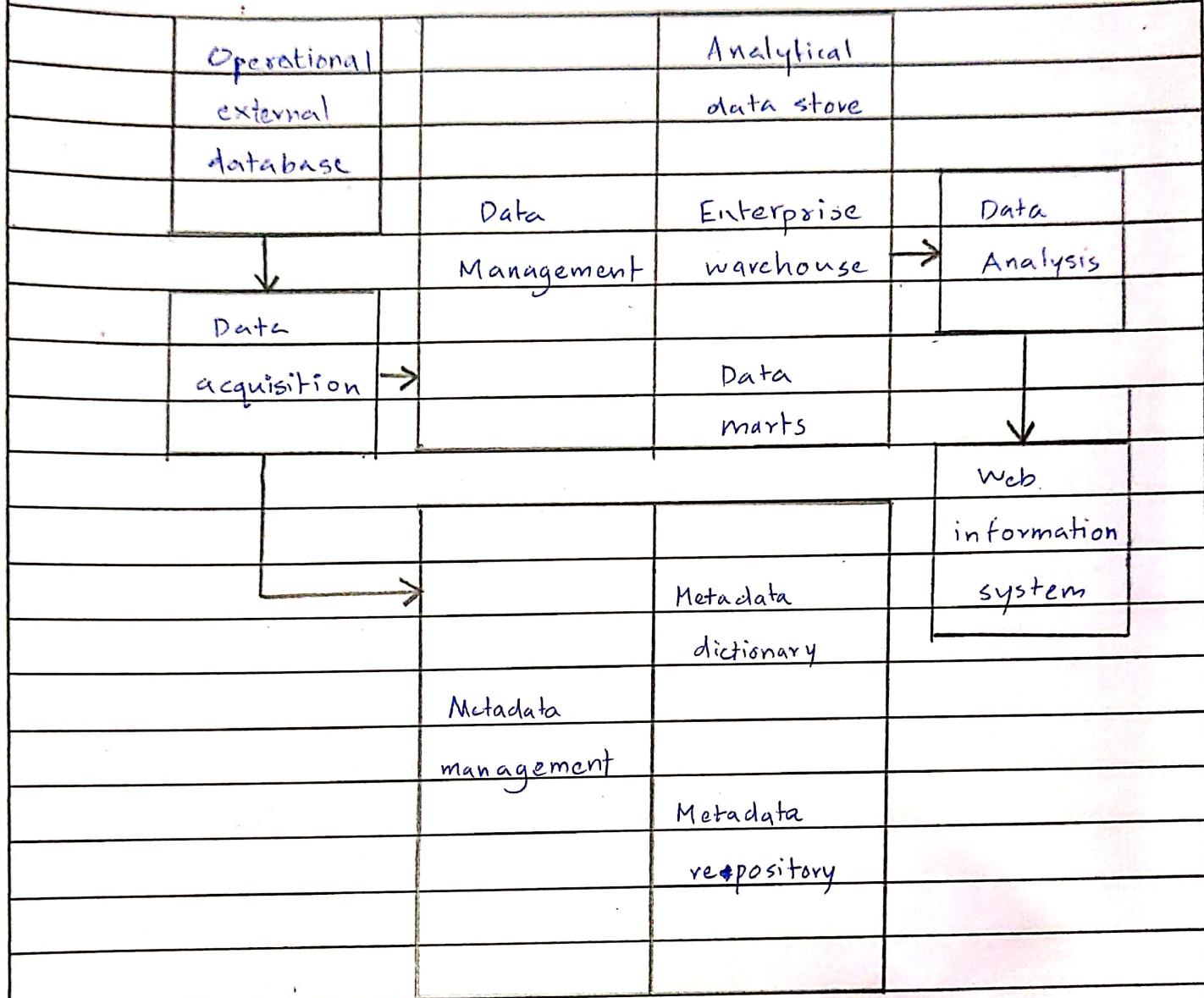
Data Warehouse.

- Data Warehousing is defined as a technique for collecting and managing data from various sources to provide meaningful business insights.
- It stores data that have been extracted from the various operational, external and other databases of an organization.
- It is a central source of the data that have been cleaned, transformed and cataloged so that they can be used by managers and other business professionals.
- Data Warehousing is core for business intelligence system which is built for data analysis and reporting. It provides a new design which reduces response time and helps to enhance the performance of queries for reports and analytics.

Types of Data Warehouses.

- ① Enterprise Data Warehouse.
- ② Operational Data Warehouse
- ③ Data Mart.

Components of Data Warehouse.



Types of Data Warehouse

① Enterprise Data Warehouse:

- It is centralized warehouse which provides decision support service across the organization.
- It also has the ability to distinguish and classify data according to different subjects and also gives access accordingly.

② Operational Data Warehouses

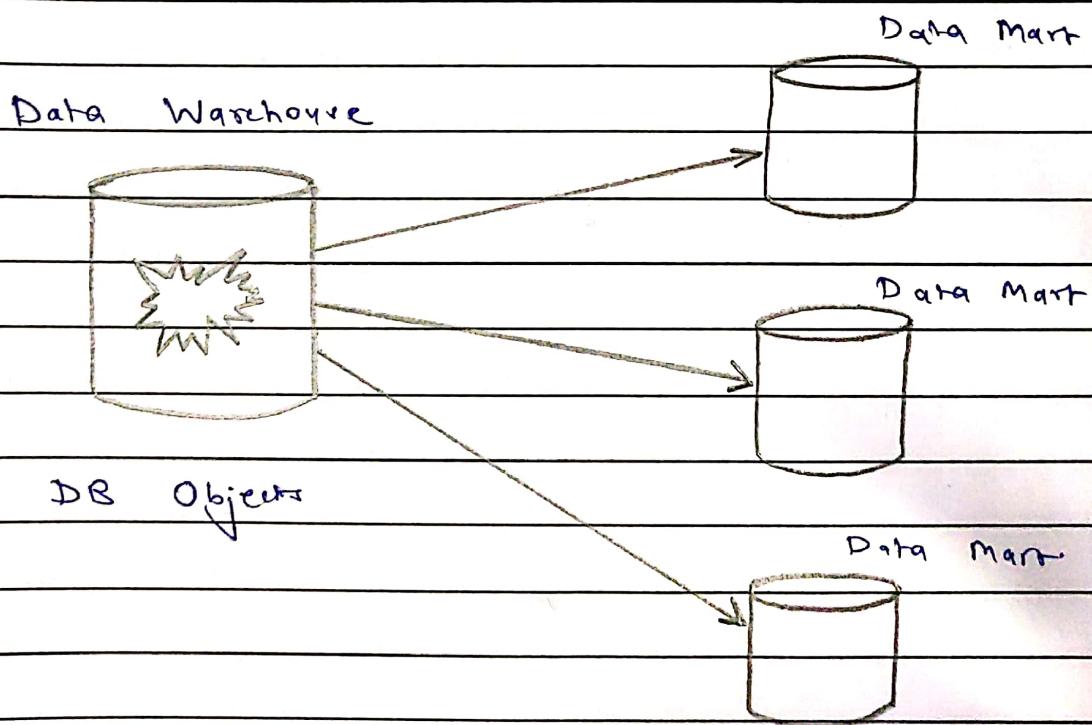
- It stores data which is preferred to be used for routine activities like storing the records of the employees. It is refreshed in real time.

③ Data Mart:

- It is a subset of the data warehouse designed specifically to cater a particular line of business such as sales, finance, operations.
- Here data are directly collected from its source.
- It focuses on the specific aspects of a business by offering specific information.

Data Mart

- A data mart is a subset of a dimensional information store, generally oriented to a specific purpose or primary data subject which may be distributed to provide business needs.
- Data marts are analytical records stores designed to focus on particular business function for a specific community within an organization.
- The fundamental use of data mart is Business Intelligence applications. BI is used to gather, store, access or analyze record. It can be used by smaller businesses to utilize the data they have accumulated since it is less expensive than implementing a data warehouse.



Reasons for creating a data mart.

- ① Creates collective data by a group of users.
- ② Easy access to frequently needed data.
- ③ Ease of creation.
- ④ Improves end-user response time.
- ⑤ Lower cost than implementing a complete data warehouse.
- ⑥ Potential clients are more clearly defined than in a comprehensive data warehouse.
- ⑦ It contains only essential business data and it is less cluttered.

Types of Data Mart

- There are two approaches to designing data marts.

- ① Dependent Data Mart / Top Down Approach
- ② Independent Data Mart / Bottom up Approach

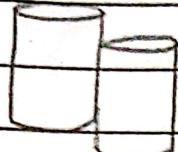
① Dependent Data Mart

Flat Files

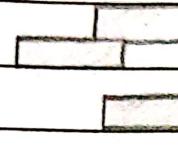
Operational
systems



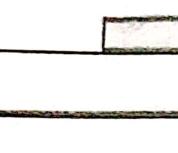
Marketing



Marketing



Sales, Finance



Human Resource



Data
Warehouse

Sales

Finance

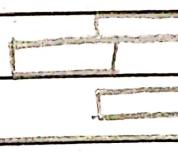
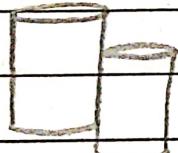
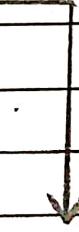
Data Marts.

External
Data

② Independent Data Mart

Flat Files

Operational
systems



Q3 B]

Information

Knowledge

① Information refers rises to the concept of facts and data.	① In contrast to, knowledge that inflicts the understanding of the matter or subject.
② Information is a combination of context and data.	② Knowledge is a combination of experience, perception and information.
③ Not all information is knowledge.	③ All knowledge is information.
④ Information can be reflected.	④ Knowledge cannot be reflected or replicated.
⑤ Information alone isn't enough to form expectations.	⑤ The expectation is feasible if one retains the desired information.
⑥ Information brings understanding of facts & figures.	⑥ Knowledge point to the understanding of the subject.
⑦ The transfer of information is simple or straightforward over numerous ways like newspaper, internet, people, etc.	⑦ The transfer of knowledge is hard in comparison of information as it requires learning.

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Significance of knowledge for a business firm.

- Business knowledge is an important strategic asset. It is a sum of skills, experiences, capabilities and expert insight, which you collectively create and rely on in your business. As a shared resource, knowledge shapes and affects all the activities in the round your business.
- Knowledge can belong to individuals or groups within your business or exist at the organizational level. You can also share it with different organizations.
- You can apply business knowledge in many organizational areas and competencies from financial management and organizational governance to market analysis, strategic planning and human resources.

Q 2 C]

	Parameters	Wired Network	Wireless Network
①	Installation	Difficult	Easy
②	Speed and Bandwidth	High (up to 100 mbps)	Low (up to 54 mbps)
③	Reliability	High (Due to existence of wired technology and as manufactured cables have higher performance)	Reasonably High (Because if the major section like router break down the entire network will be affected.)
④	Cables	Ethernet, Copper and Optical fibers.	Works on radio waves and microwaves
⑤	Mobility	Limited, as it operates in the area covered by connected systems with the wired network	Not limited, as it operates in the entire wireless network coverage
⑥	Security	Good	Weak
⑦	Quality of service	Better	Poor
⑧	Connection	Less	More

Setup time

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SEAT NO.: 7278000

SUBJECT: MIS

DATE: 01-12-2021

PAGE NO.: 17

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Q4 A]

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Phases of SDLC Model.

- The seven phases of the System - Development Life Cycle.

① Planning

- This is the first phase in the system development process.
- It identifies whether or not there is need for a new system to achieve a business's strategic objectives.
- The purpose of this step is to find out the scope of the problem and determine solutions.
- Resources, cost, time, benefits and other items should be considered at this stage.

② System Analysis and requirements

- The second phase is where businesses will work on the source of their problem or the need for a change.
- In the event of a problem, possible solutions are submitted and analyzed to identify the best fit for the ultimate goal of the project.
- This is where teams consider the functional requirements of the project or solution.
- It is also where system analysis takes place.

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③ System Design

- The third phase describes, in detail, the necessary specifications, features and operations that will satisfy the functional requirements of the proposed system which will be in place.
- This is the step for end users to discuss and determine their specific business information needs for the proposed system.
- It's during this phase that they will consider the essential components, structures, processing and procedures for the system to accomplish its objective.

④ Development

- The fourth phase is when the real work begins when a programmer, network engineer or database developer are brought on to do the major work on the project.
- This work includes using a flow chart to ensure the process of the system is properly organized.
- The development phase marks the end of the initial section of the process.
- Additionally, this step signifies the start of production.

⑤ Integration and Testing

- The fifth phase involves system integration and system testing carried out by a Quality Assurance (QA) professional to determine if the proposed design meets the initial set of business goals.
- Testing may be repeated, specifically to check for errors, bugs and interoperability.
- This testing will be performed until the end user finds it acceptable.
- Another part of this phase is verification and validation.

⑥ Implementation

- The sixth phase is when the majority of the code for the program is written.
- Additionally, this phase involves the actual installation of the newly developed system.
- This step puts the production by moving the data and components from the old system and placing them into new system via a direct cutover.
- Both system analysts and end-user should now see the realization of the project that has implemented changes.

⑦ Operations and Maintenance.

- The seventh and final phase involves maintenance and regular required database.
- This step is when end users can fine-tune the system, if they wish, to boost performance, add new capabilities or meet additional user requirements.

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Q4 B]

Functional Areas of Information System

- Functional Information System is based on the various business functions such as Production, Marketing, Finance, etc.
- These departments or functions are known as functional areas of business.
- Each functional area requires application to perform all information processing related to function.
- The popular functional areas of the business are:

- ① Financial Information System
- ② Marketing Information System
- ③ Production Information System
- ④ Human Resource Information System.

① Financial Information System

- Financial Information System is a sub-system of organizational management information system.
- This sub-system supports the decision-making process of financial functions at the level of an organization.

② Marketing Information System

- This sub-system of management information system provides information about various functions of the marketing system of an organization.
- Marketing is another functional area of the business organization, which is engaged in marketing (selling) of its product to its customers.
- Important functions of the marketing process includes:

- (a) The marketing identification function.
- (b) The purchase motivation function
- (c) The product adjustment function
- (d) The physical distribution function
- (e) The communication function
- (f) The transaction function
- (g) The post-transaction function

③ Production / Manufacturing Information system

- Manufacturing or production information system provides information on production / operation activities of an organization and thus facilitates the decision making process of production managers of an organization.
- The main decision to be taken in manufacturing system is:

- (a) Product Design.

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④ Human Resource Information System

- This functional information system supports the function of human resource management of an organization.
- The human resource management function, in its narrow sense, it also known as personnel management.
- This function involves:
 - (a) Manpower Planning
 - (b) Staffing
 - (c) Training and development
 - (d) Performance Evaluation
 - (e) Separation Activities