MID-1

1)Define the concept of Decision Support System, its characteristics, and components with example?

A) **Decision Support System (DSS)**

A **Decision Support System (DSS)** is a computer-based system that helps managers and decision-makers to make better decisions by analyzing large amounts of data and presenting useful information. It does not replace human decisions but supports them.

Characteristics of DSS

1. **Helps in decision-making** – especially for semi-structured and unstructured problems.
2. **Interactive** – users can easily interact and test different solutions.
3. **Flexible and adaptable** – can adjust to different situations.
4. **Data-driven and Model-driven** – uses both stored data and analytical models.
5. **Supports, not replaces** – assists decision-makers but final decision is human.

Components of DSS

1. **Database** – stores data from internal and external sources.
2. **Model Base** – mathematical/statistical models for analysis.
3. **User Interface** – allows users to interact with the system.
4. **Knowledge Base (optional)** – stores rules and expertise.

Example

A bank using DSS to decide whether to give a loan:

- Database stores customer details.
- Models calculate credit risk.
- User interface shows the risk score.
- Manager takes the final decision.

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2) Define the Information System with an example?

A) **Information System (IS)**

An **Information System** is a system that collects, stores, processes, and delivers information to support operations, decision-making, and control in an organization. It connects **people, technology, and processes** to turn raw data into meaningful information.

Characteristics of an Information System

1. **Data Collection** – gathers data from different sources.
2. **Data Processing** – converts raw data into useful information.
3. **Storage** – keeps data for future use.
4. **Information Distribution** – delivers reports, results, or summaries to users.
5. **Feedback** – helps in improving future decisions.

Components of an Information System

1. **Hardware** – computers, servers, networking devices.
2. **Software** – programs and applications used to process data.
3. **Data** – raw facts that are processed into information.
4. **People** – users who operate the system and make decisions.
5. **Processes/Procedures** – steps followed to collect, process, and use data.

Examples

1. **Banking System** – ATMs, online banking, and mobile apps process customer transactions, update balances, and provide statements.
2. **University Information System** – manages admissions, attendance, grades, and student records.
3. **E-commerce Information System** – websites like Amazon process customer orders, manage inventory, and handle payments.

3) Define Business Intelligence?

A) **Business Intelligence (BI)**

Business Intelligence (BI) is the process of collecting, storing, and analyzing business data to help organizations make better decisions.
It uses tools, technologies, and techniques to turn raw data into meaningful insights like trends, patterns, and reports.

Key Characteristics of BI

1. **Data-driven** – decisions are based on facts, not guesses.
2. **Analyzes past and present data** – helps understand performance.
3. **Forecasts future trends** – supports planning and strategy.
4. **User-friendly reports & dashboards** – easy for managers to use.
5. **Improves decision-making** – makes businesses more competitive.

Example

- **Retail Store BI**: Analyzing sales data to find which products sell best in each season and planning stock accordingly.
- **Bank BI**: Identifying customers likely to take loans or credit cards using data patterns.

4) Define the levels of Decision Support System with examples?

A) **Levels of Decision Support System (DSS)**

Decision Support Systems can be used at **different levels of management** to help in making decisions. The three main levels are:

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1. Strategic Level DSS

- **Used by**: Top management.
- **Purpose**: Long-term planning and overall direction of the organization.
- **Example**: A company uses DSS to decide whether to expand into a new country by analyzing market trends and competitor data.

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2. Tactical Level DSS

- **Used by**: Middle management.
- **Purpose**: Medium-term decisions, resource allocation, and policies.

- **Example**: A bank uses DSS to decide how many employees to assign to different branches based on customer traffic.

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3. Operational Level DSS

- **Used by**: Lower-level managers and supervisors.
- **Purpose**: Day-to-day and routine decisions.
- **Example**: A retail store uses DSS to reorder products automatically when stock levels are low.

Summary

- **Strategic DSS** → Long-term decisions.
- **Tactical DSS** → Medium-term decisions.
- **Operational DSS** → Short-term/routine decisions.

5) Explain the key features of Data-Driven DSS?

A) **Data-Driven Decision Support System (DSS)**

A **Data-Driven DSS** is a type of Decision Support System that mainly focuses on **collecting, storing, and analyzing large amounts of data** to help managers and decision-makers.
It is very useful when decisions depend on accurate and timely data.

Key Features of Data-Driven DSS

1. **Large Data Handling** – can store and manage huge amounts of data from different sources.
2. **Data Access** – provides quick access to internal and external data (databases, warehouses).
3. **Query and Reporting** – allows users to ask questions (queries) and generate reports easily.
4. **Real-time Information** – gives updated data for quick decisions.
5. **User-Friendly Interface** – simple tools like dashboards, charts, and tables.
6. **Supports Structured Decisions** – best for decisions that are based on clear and accurate data.

7. **Improves Accuracy** – reduces errors because decisions are based on facts, not guesses.

Example

- **Banking System**: Checking customer transaction data to detect fraud.
- **Retail Business**: Analyzing sales data to identify best-selling products and restock them.

6) Explain the phases of Decision Making Process with examples?

A) **Phases of Decision-Making Process**

The **Decision-Making Process** is the step-by-step method managers use to choose the best solution. It mainly has **four phases**:

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1. Intelligence Phase

- Problem is identified and information is collected.
- Example: A company notices that sales are dropping and gathers sales data to understand the issue.

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2. Design Phase

- Different possible solutions are developed and analyzed.
- Example: The company considers options like increasing advertising, giving discounts, or launching new products.

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3. Choice Phase

- The best solution is selected from the alternatives.
- Example: The company decides to launch a discount offer to attract more customers.

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4. Implementation Phase

- The chosen solution is applied and results are monitored.
- Example: The discount offer is introduced, and managers track whether sales improve.

Summary

- **Intelligence** → Identify the problem.
- **Design** → Develop alternatives.
- **Choice** → Select best solution.
- **Implementation** → Apply and evaluate.

7) Define Decision Making with an example?

A) **Decision Making**

Decision Making is the process of selecting the best option from different possible choices to solve a problem or achieve a goal.
It is an important activity for managers and individuals because good decisions lead to better results.

Characteristics of Decision Making

1. It is a **problem-solving process**.
2. Involves choosing the **best alternative**.
3. Based on **information, experience, and judgment**.
4. Can be **routine (daily)** or **strategic (long-term)**.

Example

- A **student** deciding which course to study after graduation by comparing options (MCA, MBA, M.Tech) and selecting the best one.
- A **business manager** deciding whether to launch a new product based on market research.

8) Explain programmed decision vs non-programmed decision?

A)

Programmed Decision

- These are **routine and repetitive decisions**.
- Rules, procedures, or guidelines are already available.
- Managers do not need much judgment since the solution is predefined.

- **Example**: Reordering stock when inventory goes below a fixed level.

Non-Programmed Decision

- These are **new, unique, and unstructured decisions**.
- No set rules or procedures; managers use creativity, experience, and judgment.
- Usually taken at higher levels of management.
- **Example**: Deciding to enter a new international market or launching a new product.

Difference between Programmed and Non-Programmed Decisions

Aspect	**Programmed Decision**	**Non-Programmed Decision**
Nature	Routine, repetitive	Unique, new, unstructured
Rules/Procedures	Predefined	No predefined rules
Level of Management	Lower/Middle level	Top level
Example	Restocking inventory	Expanding business abroad