**SECTION A: FACT-BASED ANSWERS**

1. The research department is responsible for identifying, investigating, and developing new products and services.
2. An executive support system can analyze the effects of external events and trends on an organization.
3. Decision support systems, though originally designed for large systems, are now widely used on microcomputers.
4. Consumer profiles, census data, and economic forecasts are examples of external data sources.
5. Knowledge workers use knowledge work systems (KWS) to generate information within their specialized fields.
6. CASE tools assist in system development processes but are not used to compile programs or detect logic errors.
7. C++ is categorized as a high-level programming language, not a machine language.
8. The top-down analysis method helps simplify each component, making it easier to analyze and manage.
9. A decision table, not a grid chart, is more suitable for evaluating project acceptance, especially when conditions like credit history are involved.
10. CASE stands for Computer-Aided Software Engineering and supports software development.
11. CASE tools are used across multiple stages of system development and are not limited to systems analysis alone.
12. During the systems design phase, different system alternatives are evaluated for economic, technical, and operational feasibility.
13. Selecting the best system design is performed after evaluating alternatives, not as the first step.
14. The systems design report generally ends by recommending one of the proposed system alternatives.
15. Hardware and software are typically acquired during the implementation phase of the system development life cycle.
16. Modern decision support systems are now commonly available for use on microcomputers.
17. Examples of external data include consumer demographics, census statistics, and economic projections.
18. Group decision support systems (GDSS) use decision models categorized as operational, tactical, and strategic.
19. Office automation systems are used to support administrative functions like document processing, not robotic tasks.
20. CAD/CAM systems integrate computer-aided design and manufacturing using powerful microcomputers and specialized software.

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**SECTION B: OBJECTIVE QUESTIONS AND ANSWERS**

1. This level of management uses information summarized to plan the future growth and direction of the organization.
   **Top management**
2. Which of the following refers to a system that summarizes the detailed data of the transaction processing systems in standard reports for middle-level managers?
   **Management information system (MIS)**
3. A(n) _____ error could be the result of the programmer making an incorrect calculation.
   **Logic**
4. Object-oriented programming
   **is a process in which a program is organized into objects.**
5. Which of the following is not an advantage of using a database?
   **Reliability**
6. The data manipulation subsystem can use query-by-example as well as
   **SQL**
7. If all the data in a database is not physically located in one place, it would be a(n)
   **Distributed database**
8. Access to these databases is offered to the public or selected outside individuals for a fee.
   **Commercial databases**
9. Which of the following is used to show the rules that apply to a decision when one or more conditions apply?
   **Decision table**
10. These tools are also called computer-aided software engineering (CASE) tools. They are used in system analysis to evaluate alternative hardware and software solutions.
    **Automated design tools**

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**SECTION C: SHORT QUESTIONS AND ANSWERS**

**Question 1**

i. Three common functions of most organizations:

- Marketing: Promotes products and builds customer relationships.

- Production: Produces goods or services efficiently.
- Finance: Manages funds, budgets, and investments.

ii. Four most common computer-based information systems:

- Transaction Processing Systems (TPS)
- Management Information Systems (MIS)
- Decision Support Systems (DSS)
- Executive Support Systems (ESS)

iii. Three common categories of reports:

- Scheduled Reports: Generated on regular intervals.
- Demand Reports: Produced when specifically requested.
- Exception Reports: Highlight abnormal conditions needing attention.

**Question 2**

i. Difference between physical and logical views of data:

- Physical view: How data is stored on physical devices.
- Logical view: How users conceptually organize and view data.

ii. Logical view data organization:

- Field: A single piece of data (e.g., First Name).
- Record: A group of related fields (e.g., one student's profile).
- Table: A group of related records (e.g., all students' profiles).

iii. Batch vs real-time processing:

- Batch: Processes data in large groups at scheduled times (e.g., Payroll system).
- Real-time: Processes data instantly as it occurs (e.g., ATM withdrawals).

**Question 3**

i. Six phases of the systems life cycle:

1. Preliminary Investigation
2. Systems Analysis
3. Systems Design
4. Systems Development
5. Systems Implementation
6. Systems Maintenance

ii. Types of feasibility:

- Economic: Determines if the benefits outweigh the costs.
- Technical: Assesses if the technology exists and is practical.
- Operational: Evaluates if the system will function within the organization.

iii. Three factors in choosing the best system design:

- Cost
- Performance
- User Requirements

iv. Types of system conversion:

- Direct Conversion: Old system stopped; new one started immediately.
- Parallel Conversion: Both old and new systems operate simultaneously.
- Phased Conversion: New system implemented in stages.
- Pilot Conversion: New system tested in one department before full rollout.

**Most common**: Parallel Conversion
**Reason**: Low risk because the old system serves as a backup during transition.

**Question 4**

i. A program is a set of instructions for a computer to perform tasks.

- A good program is efficient, easy to understand, accurate, and well-documented.

ii. Syntax vs logic errors:

- Syntax error: Violates language rules; code won't run.
- Logic error: Code runs but produces incorrect results due to flawed logic.

**Question 5**

i. The Internet of Things (IoT) refers to physical devices connected via the Internet to collect and share data.

- Effects include smart homes, wearable health monitors, improved logistics, and intelligent cities.