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Course: CSI 311 (System Analysis and Design)

Dept. of CSE

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Answer to the Q. No (1)A

System design is the process of creating a blueprint for a system's architecture. Component and interfaces. It's an inter-dieldinary engineering activity that involves dedinig how the component of a system interact to achieve a specific goal.

Answer to the Q. No (1) B

Difference between system Analysis and System design:

System Analysis	System Design.
① Process of gatering and analyzing information.	① Process of specifying element of a system such as modules.
⑪ It is top-down approach.	⑪ Is is a bottom-up approach.
⑪ Focuces on the needs of the user.	⑪ Focuses on the design system
⑭ It is the dirst step in the software development process	⑭ It is the second step in the software development process.

Answer to the Question No- 2 (A)

System is a group of interacting or interrelated elements the act according to a set of rules to from a unified whole.

Systems have been classified in different ways. —

1. Physical or abstract systems. → It is the tangible entities that may be static or dynamic in operation.

2. Open or closed systems → An open system continually interacts with its environments. It receives inputs from and delivers output to the outside.

3. Deteministic or Probabilistic systems→ It is one in which the occurrence of all events is perfectly predictable. An example of such a system is warehouse and its contents.

4. Man made information Systems: It is generally believe that information reduces uncertainty about a state or event.

There are many types of transportation Systems.

(I) TPS → Trasaction Processing systems.
(II) MIS → Management information Systems.
(III) DSS → Decision support Systems.
(IV) OAS → office Automation Systems.

Answer to the Question No-2(B)

Schematic Models:

• A schematic model is a 2-D chart that shows system elements and their kages.

Flow system models:

A flow system model shows the orderly flow of the material, energy and information that hold the system together.

Static System Models:

They represent one pair of relationship such as activity - time or cost Quantity.

Dynamic System Models:

Business organizations are dynamic systems. A dynamic model approximates the type of organization or application that analysis deal with.

Answer to the Question No - 3(A).

Element: In system analysis, elements refers to the fundamental components, of a system.

- External Entities: These represent entities outside the system boundary the interact with it, like customer. it typicall shown as rectangles at the diagram's edge.

- Process: These represent the system function or activities that transfrom data, shown as circles.

- Data stores: It's represent where data is stored within the system.

- Data flows: It's represent the movement of data between different elements of system.

DFD: The flow of data in System or Process is represented by a data Flow Diagram. DFD does not have a control flow and no loops or decision rules are present. It is useful for analyzing existing as well as proposed systems.

Logical Data flow design: It mainly focuses on the system process. It illustrates how data flows in the system. It is used to describe how data is moved from one entity to another.

Physical Data flow ~~design~~ Diagram: It's shows how the data flow is actually implemented in the system. Physical DFD is more specific and close to implementation.

Answer to the Question No - 4(A)

Advantages of Bottom UP:

(i) The economics can result when general solution can be reused.

(ii) Develop productivity → Productivity is related to employee satisfaction.

(iii) Align company and team objectives it is essential to retain talent in a company.

(iv) Boost competitiveness and inovation. Bottom UP communication facilitates the use of knowledge.

Disadvantages of Bottom UP:

(i) It is not so closely related to the structure of the problem.

(ii) High quality bottom-up solution are very hard to construct.

(iii) Need for investment.

(iv) Inabilit to manage the flood of ideas.

Answer to the Question No—4(B).

Objective of structural flowchart:

The objective of structural flowchart is to visually represent a system or process in a structured manner breakin down complex operations into smaller.

key points about structural flowcharts:

① Clarity and organization → Its aim to represent information in a logical and organized way.

② Problem solving aid.

③ Communication tool.

④ structured design → They adhere to structured programming principles.