CA-105

System Analysis And Design

* System is An organised Relationship among functioning units or Component that work towards a common goal. Each components of a System are Linked together According to a plan. An Example of a System are the laws and procedures of a democratic Government.

* Elements of System:-

(i) Input:- Inputs are the elements that Enter in the System for processing output.

(ii) output:- What goes out from the system after processing the Input data is known as output. The main aim of a System to produce an output.

(iii) processor:- processor do the actual transformation of input into output.

(iv) Control:- The Control Element guides the System. Control Element manages the System.
e.g. In Humen body the control Element is our Brain which controls our body.

(v) Boundries:- Boundries are the limit of a system which determine its Sphere of influence & control.

e.g. Every System has its Boundry like we can see in college system the college System has a Boundry ~~att~~ where all work done.

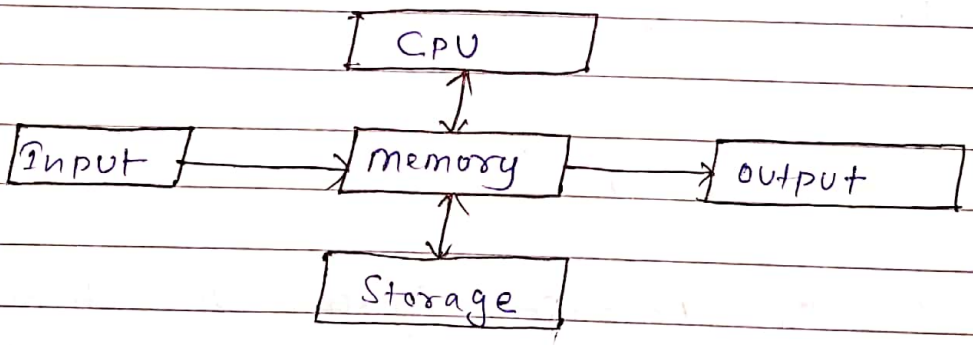
(vi) Environment:- The things outside the boundry of the system are known as Environment.
Change in the environment affects the working of the system.

(vii) Feedback:- Feedback indicates how well a system is performing.

* Characteristics of System:-

(i) Organisation:- Organisation means structure and order. It is an Arrangement of component that helps to achieve desired objective.

e.g. Organisation in Computer System



(ii) Interaction:- Interaction Refers to the manner in which each component functions with other components of the system.

e.g. CPU has interaction with Input/output

(iii) Interdependence:- Interdependence means parts of the system depend on one another. They are linked together according to a plan.

(iv) Integration:- System is tied together to Achieve central goal.
Achieving central goal has more importance than individual parts output.

e.g. In college system the central goal is to provide degree. i.e. the Integration of the system.

(v) Central objective:- Central objective is predetermine goal.

e.g. Buisness system has an goal of Earning profit.

* Types of System:-

(i) physical or Abstract System:- A physical System is physical, Touchable or real Entities e.g. Computer, College, Hotel etc.

Abstract System are Conceptual or Non-physical Entities
e.g. model on Any System which we design before making Actual System like traffic system model.

(ii) Open and Close System:- Open System interact with Environment it recieves inputs and delivers outputs to the outside.

e.g. Buisness, Biological System, Library, Bank e.t.c.

Close System does Not interact with Environment Neither Recieves input nor delive outputs to the outside.

e.g. A computer program without input and output.

(iii) Information System:- Information System provides information for decision making and/or Control of the organisation.

e.g. Like weather forcasting system provides us information about the weather. And According to that information we take our decision.

(iv) Formal information system:- Formal Information System based on the organisation represented by organisation chart.

Information is distributed in the form of instructions, memos, ~~Charts~~ or reports from the top level to the intended user.

Vice chancler

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HODs

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CR

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Students.

(b) Informal Information System:- It is Employee based System that develops Spontaneously as Employees meet. It Helps in the Solution work related problem.
E.g. Casual Conversation, Exchange of News on topics unrealated to work, message in social media, Conversation over Coffee.

(c) Computer based information System:- In computer based information System we use computers to process data and produce information.

→ Decision Support System:- It provide Support to the top managment for decision making.
It provide tools to Assit managers in Analyzing information ofrom the two lowwer managment levels and from outside the Company.
It uses database managment System, Statistical Analysis programs, financial modelling, Spreadsheet program and graphic program.

→ Managment Information System:- It provide Support to the middle level managment for decision making. functions of middle level mangagment are planning, controlling, decision making.

Example of Report generated by MIS are

Sales analysis of a region, cost analysis, production schedule e.t.c.

→ Transaction processing System: It provide day to day operating Activities or transaction in an organisation. A transaction is an occurance in which goods, services or money are passed from one person account to another.
E.g. Customer order, purchase order.

Example of Report produce by TPS are list of items sold, all accounting Recorded in various ledgers and registors, list of items that need to be ordered.

A TPS usually operates only within one functional area.

* Software development Life cycle:- SDLC is a process followed for a Software project within a Software organisation. It consist of all detail plan and describing How to develop.

Recognition of Need → feasibility Study → Analysis → Desining → Implementation → post Implementation and maintainance.

(i) Recognition of Need:- It is the first step of SDLC, In this stage we take input from customer, sales department, market survey. By taking input the identification of problem to be done in this stage.

(ii) Feasibility Study:- (feasible → practically possible or Not)

It is the Second stage of SDLC Here we Study the development of Software is possible or Not.
If development of Software possible then we Clarify and define the ~~which~~ document Need and How much It will cost for Soft. development.

(iii) Analysis:- It is the third Stage of SDLC in this step we do the detailed Study of various action performed by a Software. In this process we do

Analysis of how we make the software which programming language will use.

(iv) Desining :- It is the most creative and challenging phase of development. In this process the coding of the software to be done. In this process we also do testing and debugging.

(v) Implementation :- Once the software is tasted and it is ready for deployment. It is release in the market. first the software should launch in limited segment and to be tasted by beta tasters and then it is lauch in market as per requirement of the market.

(vi) post Implementation :- After implementation or installation phase is completed. And customers starts using it. then it requires timely maintainance if it have any Error. It require Regular update to maintain its consistency. And we should Add some new features to it.