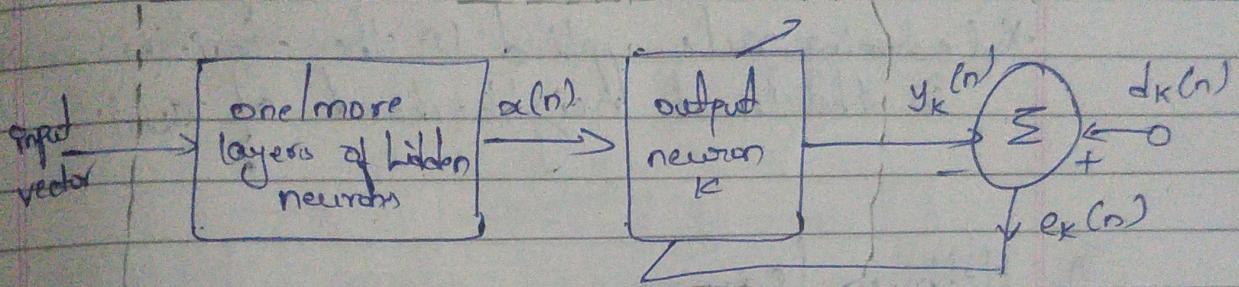


DL
Learning Process.

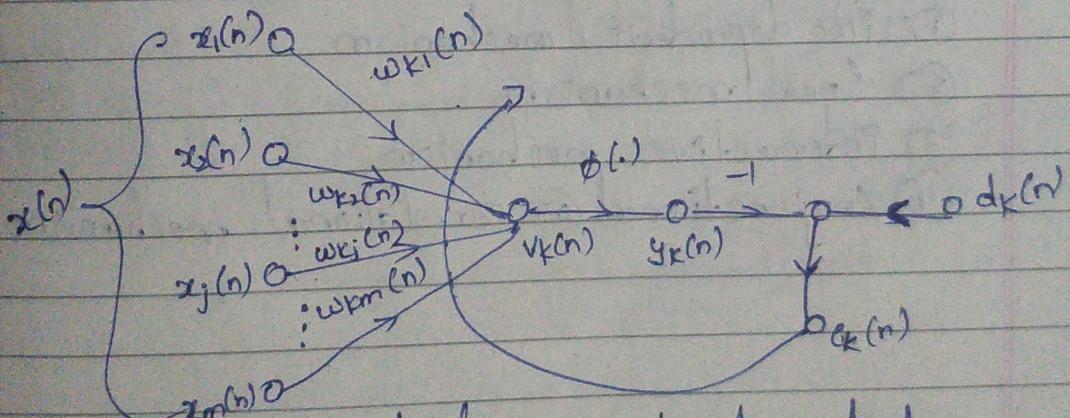
Continue :-

① Error Correction Learning



multilayer feedforward network

② Block diagram of a neural network, highlighting the only neuron in the output layer.



③ Signal flow graph of output neuron
fig:- illustrating error-Correcting learning.

$$e_k(n) = d_k(n) - y_k(n)$$

② memory-based learning

② essential ingredients

- * Criterion used for defining the local neighborhood of the test vector x_{test} .
- * Learning rule applied to the training examples in the local neighborhood of x_{test} .

③ Hebbian learning

Hebb's postulate of learning is the oldest & most famous of all learning rule.

④ Key mechanisms

① Time dependent mechanism

② Local mechanism

③ Interactive mechanism

④ Conjunctional ⑤ Correlational mechanism

IS continues

unit ①

→ Symmetric cipher model :-

③ ingredients

- * plaintext (input)
- * Encryption algorithm
- * secret key
- * ciphertext (output)
- * Decryption algorithm.

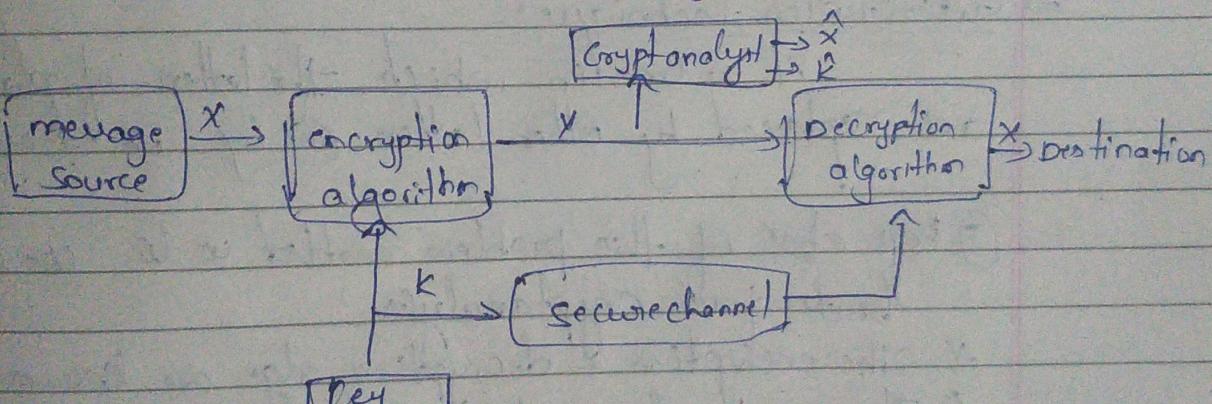
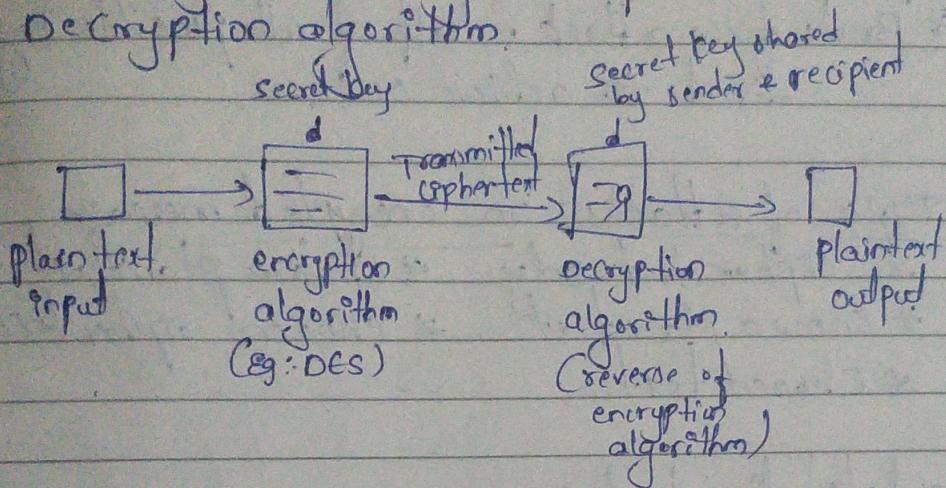


fig: model of conventional encryption.

→ Cryptography:-

char 3 independent dimensions

- ① The type of operations used for transforming plaintext to ciphertext (Substitution, transposition)
- ② The no of keys used (same key - symmetric, single secret key) (conventional encryption, diff key - asymmetric, two/public key)
- ③ The way in which plaintext is processed.

Cryptanalysis:
general approach to attacking
conventional encryption scheme

* Cryptanalysis - exploits the ~~char~~ of the algorithm to attempt to deduce a specific plaintext.

* Brute-force attack - half of all possible keys must be tried to achieve success.

Type of attacks on encrypted message:

- * cipher text only
- * chosen plaintext
- * known plaintext
- * chosen ciphertext
- * Chosen text.

→ Substitution technique:

it is one in which the letters of plaintext are replaced by other letters (or symbols).

(*) Imp char of this problem enabled us to use a brute-force cryptanalysis.

- * The encryption & decryption algo are known
- * There are only 25 keys to try.

- The language of the plaintext is known & easily recognizable.

→ Transposition technique:

This technique is referred to as transposition cipher.

MAF

Subj (4)

Unit - ①

→ Importance of management :-

- * management is a critical element in the economic growth of a country.
- * management is essential in all organised efforts, be it a business activity or any other activity.
- * management is the dynamic, life-giving element in every organisation.

"management is the central core of our national as well as personal activities & the way we manage ourselves & our institutions reflects with alarming clarity what we & our society will become"

definition :- art of getting things done through people.

⇒ management fun @ the process of management :- (5 fun)

* planning * commanding * controlling.
 @ directing
* organising * coordinating
 @ Innovating.

planning - it is the "fun" that determines in advance what should be done, it is looking ahead & preparing for the future

organising - to organise an unit to provide it with everything useful to its functioning - personal, raw material, tools, capital

Directing - it is the process of passing info & understanding from one person to another.

controlling - This is a controlling "fun" of management.

Innovating - This make innovation as last "fun" of a manager.

Representing - represent.

levels of management

* first line * middle & top managers

- > * The lower (first line) management group is made up of foremen & white collar supervisor, men & women who are only one step above the rank & file
- > * middle management, a varn + diverse group that includes sales managers, plant & personnel managers & may other dept heads.
- > * top management consisting of the board chairman, company presidents, executive vice president, etc

Roles of a senior manager:-

- (1) informational roles (2) diff types (3) roles
- (1) informational roles
 - monitor - Disseminator - Spokesman
 - (2) Decisional Roles
 - Entrepreneur - Disturbance Handler
 - Resource Allocator - Negotiator
 - (3) Interpersonal Roles
 - Figurehead - Leader - Liaison

managerial skills :-

- * conceptual skills - deals with ideas
- * technical skills - things
- * human relation skills - peoples

managerial effectiveness

- * efficiency - ability of a manager to do something correctly
- * effectiveness - ability of a manager to do correct things

management & administration:

- * administration involve "thinking": it is a top level function which centres around the determination of plan, policies & objectives of a business enterprise.
- * management involves "doing", it is a lower level function which is concerned with the execution & direction of policies & operations.

(2) categories

- (i) administrative management :- upper level
- (ii) operative -> :- lower level

early classical approaches:-

scientific management:-

- (i) Time & motion study
- (ii) differential payment
- (iii) drastic reorganisation of supervision
- (iv) scientific recruitment & training
- (v) intimate friendly cooperation b/w the management & workers

Administrative management:-

- * Division work * Authority & responsibility
- * Discipline * unity of command * unity of direction
- * Subordination of individual interest to general interest
- * Remuneration * Centralisation * scalar chain
- * order * equity * stability of tenure of personnel
- * initiative * esprit de corps

Bureaucracy:

max weber (sociologist) (father of Bureaucracy)
he made diff type of business govt organization
& 3 types of administration.
① leader oriented
② tradition oriented
③ bureaucratic - management responsibility based
on the person's demonstrated ability to hold the
position

features:

- * There is insistence on following standard rules
- * - i - a systematic division of work
- * principle of hierarchy is followed
- * it is necessary for the individual to have knowledge of & training in the application of rules
- * administrative acts, decisions & rules are recorded in writing
- * There is rational personnel administration

Limitations

- * overconformity to rules
- * buck-passing
- * trained incapacity
- * displacement of goals
- * no real right of appeal
- * neglect of informal groups
- * rigid structure
- * inability to satisfy the needs of modern individuals

Ques ②

Planning :- nature of planning

- * Planning is a beginning of the process of management
- * It is an intellectual process which requires a manager to think before acting
- * It is a continuous process
- * It is an all pervasive function

Importance of planning

- * minimises risk & uncertainty
- * leads to success
- * focuses attention on the organisation's goals
- * facilitates control
- * trains executives

Types of

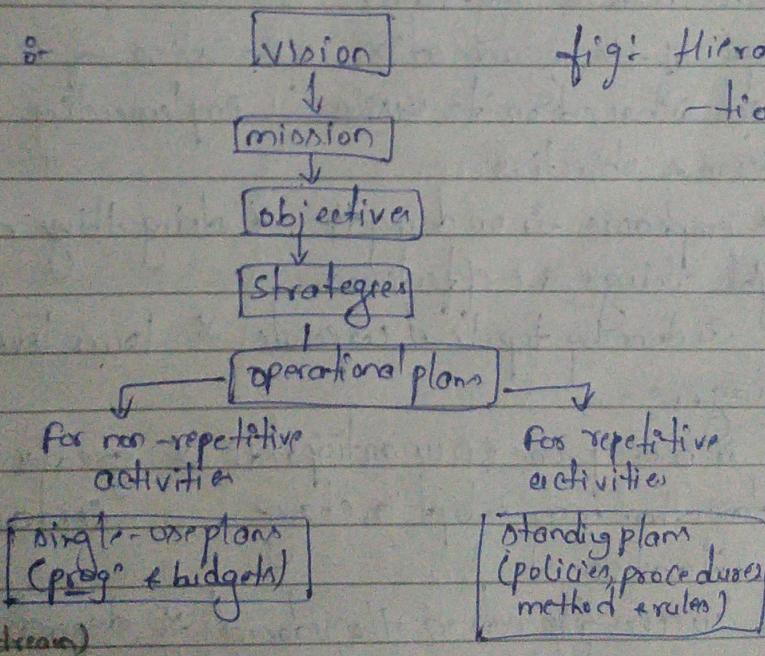


fig: Hierarchy of organisational plans

- * Vision
- * mission (unique aim)
- * objectives (goals/aims)

Steps in planning:

- * establishing verifiable goals / set of goals to be achieved
- * establishing planning premises

- internal & external premis
- Tangible & intangible
- controllable & non controllable

- * Deciding the planning period
- * finding alternative courses of action
- * evaluating & selecting a course of action
- * Developing derivative plans
- * establishing & deploying action plans
- * measuring & controlling the progress

strategic planning process

strategic planning

- * it deals with the long-term concept of the organisation, which is based on its vision, mission & objective

- * its emphasis is on doing the right things i.e. effectiveness

- * it is done by top-level corporate managers

- * it is more prone to unanticipated factors that may erupt to change the situation

- * its success depends on the judgement, experience, intuition & well guided discussion of the top management team

Tactical planning

- * deals with the short-term allocation of resources for implementing the strategy

- * doing things rightly i.e. efficiency

- * lower level manager

- * greater element of certainty.

- * depends on staff work & mathematical models

Decision making:-

meaning - this implies 3 things

- * when managers make decisions they are choosing
- * managers have alternatives available when they are making a decision.
- * managers have a purpose in mind when they make a decision

Types -

- ① Programmed & non programmed decision
- ② major & minor decision
 - Degree of certainty of Decision
 - Impact of the decision on other functional areas
 - Qualitative factors that enter the decision
 - Recurrence of decision
- ③ Routine & strategic decision
- ④ individual & group decisions
- ⑤ simple & complex decision

adv of group decision

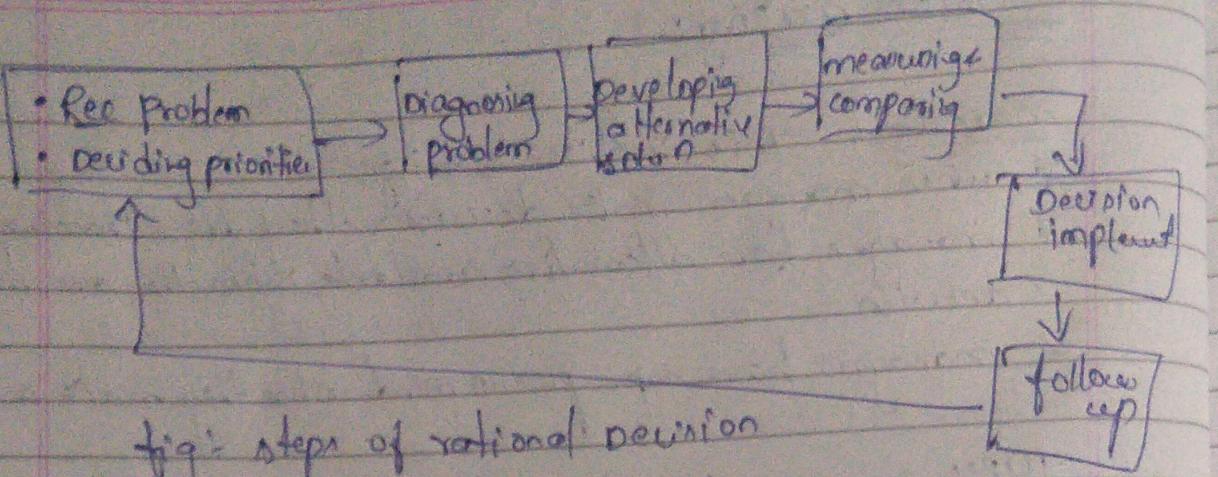
- easier coordination - easier comm'
- more inf processed - increased acceptance by those affected

dis

- takes longer - group can be indecisive
- group can compromise - dominated
- group may have a prior commitment to a particular soln?

Steps in rational Decision making

- ① Recognising the problem
- ② Diagnosing the problem
- ③ Deciding priorities among problems
- ④ Developing alternative solutions/courses of action
- ⑤ measuring & comparing the consequences of alternative solns
- ⑥ Converting the decision into effective action
- ⑦ follow-up.



difficulties in decision making

- * non-actionable info
- * unsupporting environment
- * non-acceptance by subordinates
- * ineffective comm
- * incorrect timing

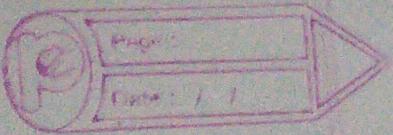
Coordination :-

need for coordination-

- * Division of labour * interdependence of units
- * individual interests - pooled interdependence
- versus organisational
- interests - sequential -/-
- Reciprocal -/-

Requisites for excellent coordination :-

- * Direct contact * simplified organisation
- * early start * clear definition of authority & responsibility
- * continuity * effective control
- * dynamism * effective leadership &
- * clear cut objective * supervision



Types of coordination :-

- * internal @ external (emp of same dept, works at departmental level)
- * vertical @ horizontal (exists within a dept)
- * procedural @ substantive (specification of the org itself).