ROUTING ALGORITHMS

Routing

* Process of moving data packet to one network to another is called Routing

* Routing done by Router

Two methods of routing

Static routing

Emanual router config

Ad 1. Easy implementation
    2. secure

DisAd :- Loage Network is not possible.

Dynamic routing

Routing protocol Enable

Adi:-
1) for complex Network easy routing

2) Automatic routing Table create

3) If Any Link failure means automatically reroute the path.

Dis
1. No Authentication
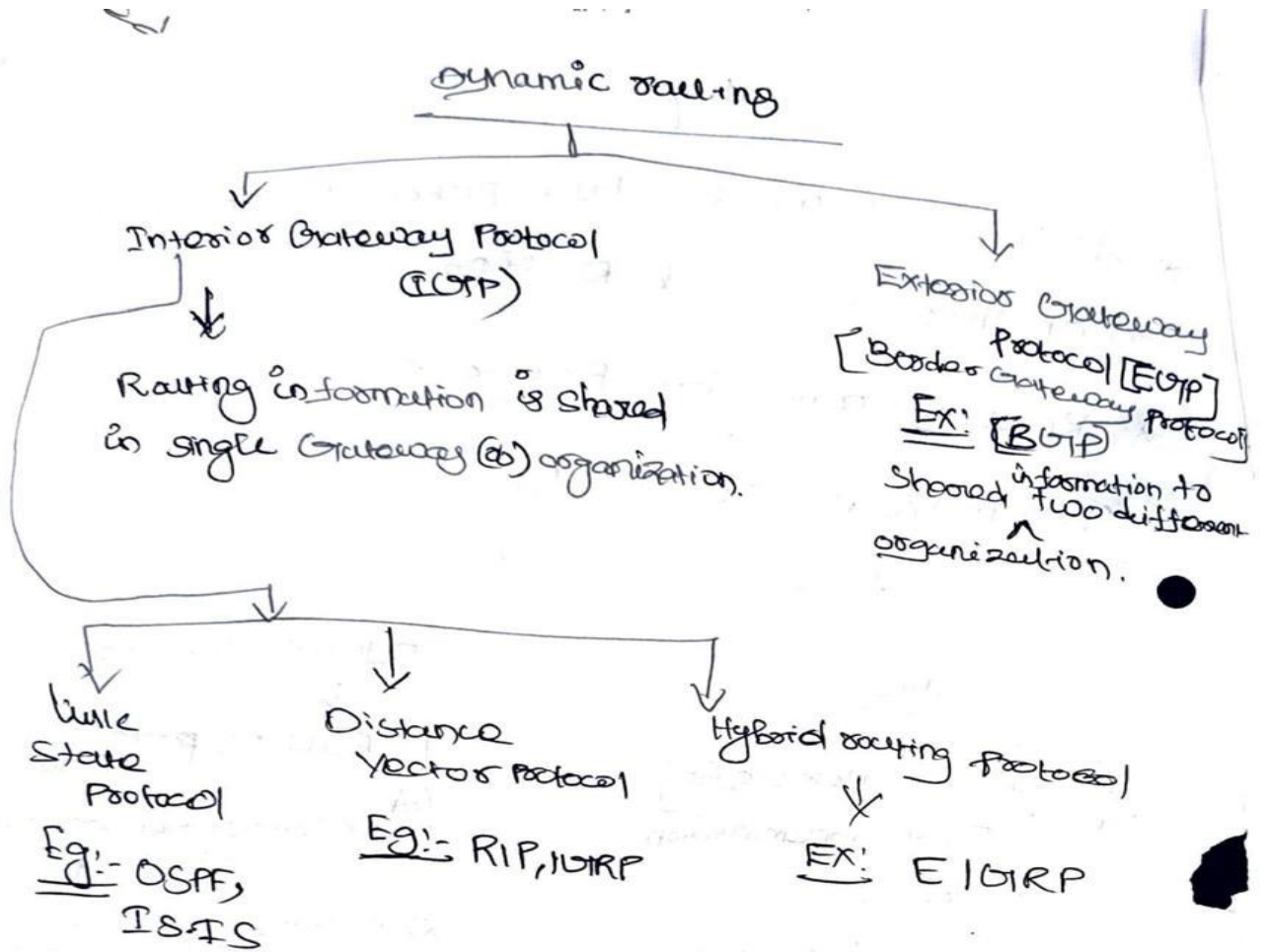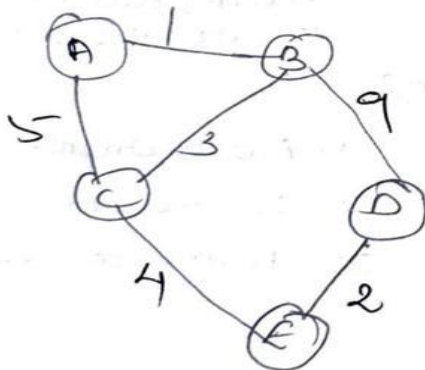2. NO secure
3. CPU, memory depends

Dynamic routing

Interior Gateway Protocol (IGTP)

Routing information is shared in single Gateway (or) organization.

Exterior Gateway Protocol [EGTP] [Border Gateway Protocol]

Ex: [BGTP]

Shared information to two different organization.

Link State Protocol

Eg:- OSPF, ISIS

Distance Vector Protocol

Eg:- RIP, IGRP

Hybrid routing Protocol

Ex: EIGRP

Distance vector Routing algorithm

Destination	cost	Next Node	Optimal cost calculation
A - B	1	B	A - B = 1 A - E - B = 5+3 = 8 A - C - E - D - B = 5+4+2+9 = 20

Destination	Cost	Next node	optimal cost calculation
A - C	5	C	$A - C = 5$ $A - B - C = 1 + 3 = 4$ $A - B - D - E - C = 1 + 9 + 2 + 4 = 16$
A - D	10	B	$A - B - D = 1 + 9 = 10$ $A - C - E - D = 5 + 4 + 2 = 11$ $A - B - C - E - D = 1 + 3 + 4 + 2 = 10$
A - E	8	B	$A - B - D - E = 1 + 9 + 2 = 12$ $A - B - C - E = 1 + 3 + 4 = 8$ $A - C - E = 5 + 4 = 9$

Main goal of routing algorithm:-

1. Correctness:-

2. Simplicity [Ex: Shortest path]

3. Robustness :- ↳ you can add Extra parameters
↳ The ability to with stand the system over a years.