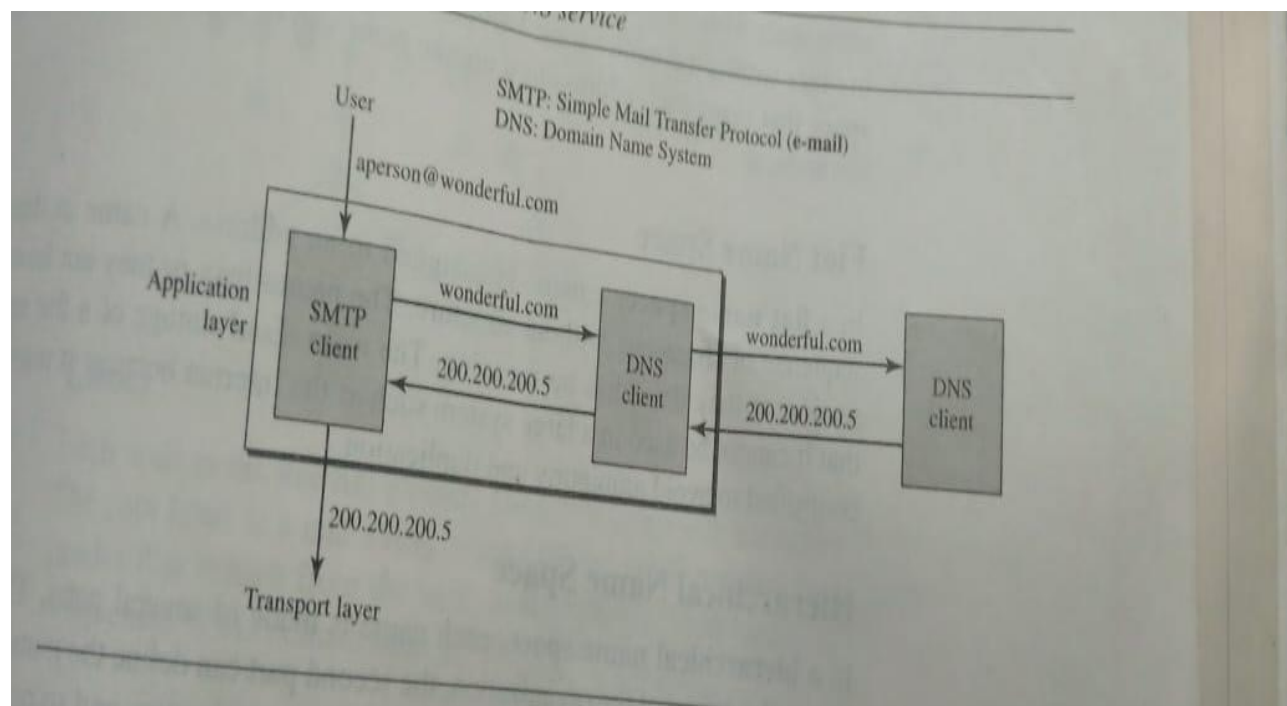**BCA – Part III**
Computer Network

Domain and Domain Mapping :-

We know that internet and their application are based on client/server architecture i.e client/server program is divided into two category one that used by user directly and that used by other application. Domain naming and handling is the concept to make the internet handling easy on the user end so that user can know only named (String) server to locate the information on the internet which is unique and have fixed ip address.

Internet manage architecture and logic to define domain and map domain name on corresponding IP through named server known as DNS(Domain Name Server).

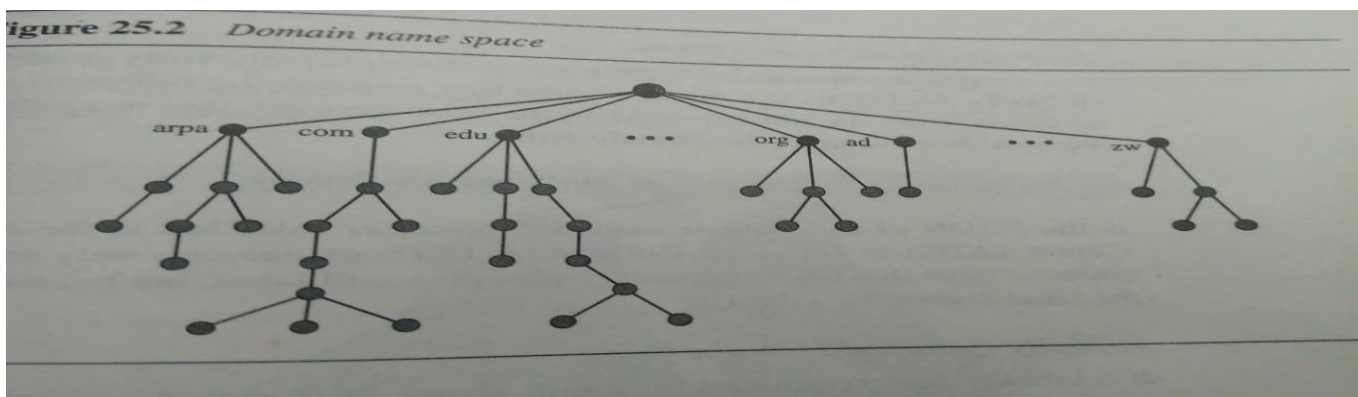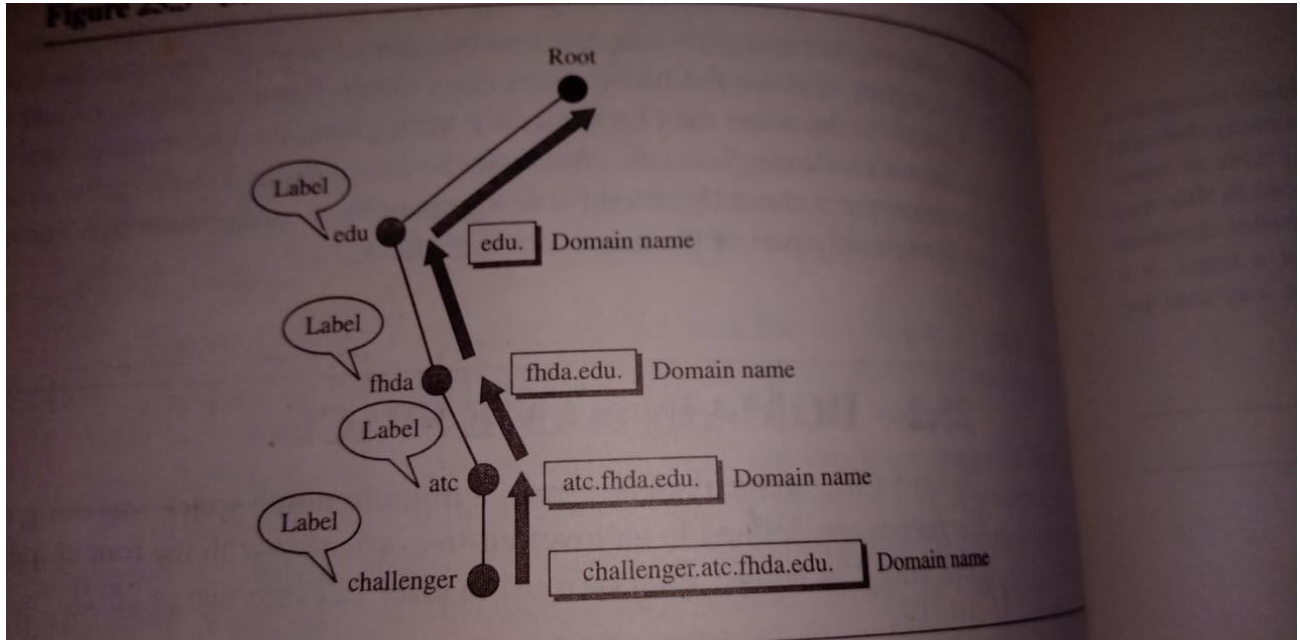For example DNS for email services may be shown as :

Domain name spaces :-

Domain name is always unique because IP address is unique . name space that map each address to be unique can be categorized as

1. Flat name space :- a name is assigned to an address. Name in this space is sequence of character without structure . the name may or may not have common section . disadvantage is that we can not use for large system.

2. Hierarchical name space :- here, each name is made of several parts. The first part define nature of organization , second part type of organization, third part department of organization and so on. here , authority that define the name space is decentralized. A central authority define their part only . for example : challenger.fhda.edu , challenger.berkeley.com,etc
The management of domain name space is designed as tree like structure with root at the top. This domain tree may have 128 level. Each node in the tree contain lable and domain name. this domain tree may be shown as : -

Label is a string of maximum 63 character . the root label is Null Domain name is sequence of labels separated by dots . the domain name always read from the node up to the root.
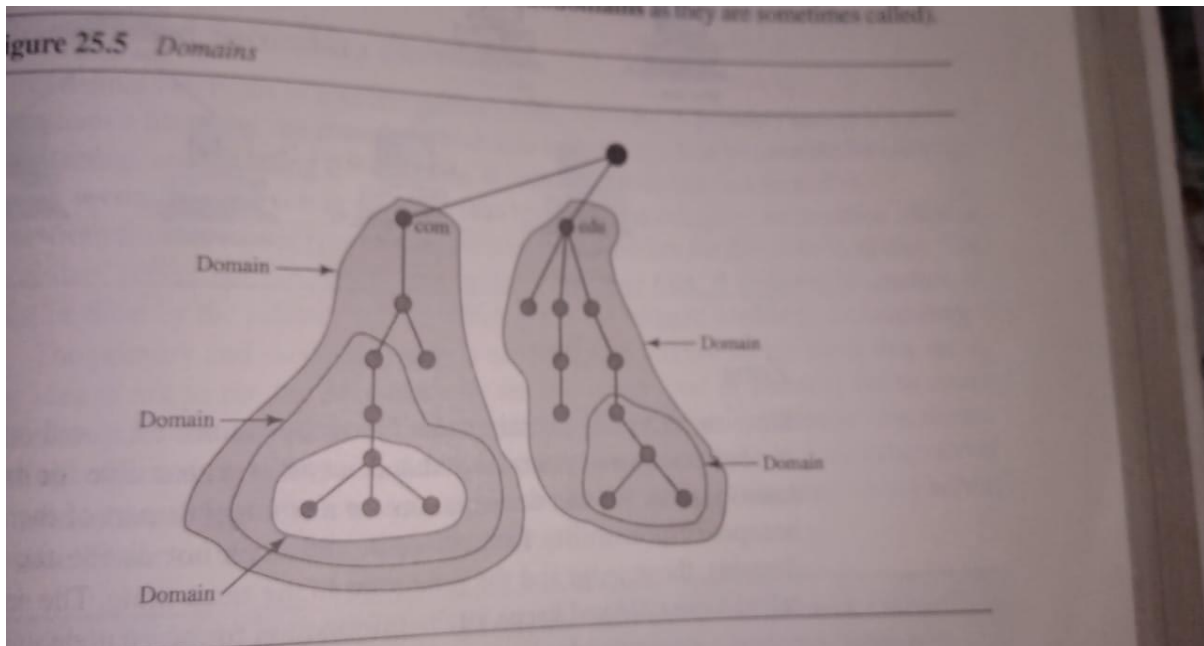

Figure 25.2   Domain name space

Figure

The Domain Name Created may be

i. FQDN (fully qualified Domain Name) → If a label is terminated by a null string , is called fully qualified Doamin name . i.e it contain Null name of the host.

ii. Partially Qualified Domain name (PQDN) → if a label is not terminated by null string . it start from a node but does not reach to the root. . it is used when the name to be resolved belongs to the same site as the client. Here, the resolver can supply the missing part called suffix to create an FQDN. For example , if a user at the fhda.edu site wants to get the ip address of the challenger computer. he or she can define partial name

Challenger.
The DNS client add the suffix atc.fhda.edu passing the address to DNS.
Domain :- A domain is a subtree of the domain name space . the name of the domain is the domain name of the node at the top of the subtree. It may shown as :-

igure 25.5   *Domains*

v---------------------------------------X--