OSPF Terminology

* ***Link***: A link is a network or router interface assigned to a given network. When adding an interface to the OSPF process that interface is considered a link.
* ***Router ID***: The RID is an IP address used to identify the router.
* ***Neighbor:*** Neighbors are two or more routers that have an interface on a common network, an example would be two router connected on point-to-point connection. OSPF neighbors must have the following in common in order to establish neighbor relationship.
  + Area ID
  + Subnetmask
  + Authentication password (Optional)
  + Hello and Dead intervals
* ***Adjacency:*** Is a relationship between two OSPF routers that permits the direct exchange of route updates.
* ***Designated router:*** A DR is elected whenever OSPF routers are connected to the same broadcast network to minimize the number of adjacencies. Designated router is elected based on certain criteria’s, priority levels (0-255), highest priority becoming the DR.
* ***Backup designated router***: BDR is a hot standby for the DR in the broadcast or multi-access network. BDR’s receive routing updates, but do not send out LSA updates.
* ***Hello protocol:*** An OSPF hello protocol provides dynamic neighbor discovery and maintain neighbor relationships. Hello packets use the multicast address 224.0.0.5
* ***Neighborship database***: Is a list of all OSPF routers that have seen Hello packets. Also the RID and state are maintained in this database.
* ***Topological database***: This database contains information from all of the LSA packets that have been received for an area. The topology database is used as an input for the Dijkstra algorithm to compute the shortest path (SPF) to all networks
* ***Link State Advertisements***: An LSA is an OSPF data packet containing link state and routing information that is shared among OSPF routers. Only routers that have established adjacencies will exchange LSA packets.
* ***OSPF areas***: An OSPF area is grouping of contiguous networks and routers. Routers within the same area share a common area ID.
* ***Broadcast (multi-access):*** BMA networks allow multiple devices to connect to or access the same network, an example of this type of network would be Ethernet.
* ***Nonbroadcast multi-access:*** NBMA networks allow for multi-access without the broadcast ability, an example of this type of network would be Frame-relay.
* ***Point-to-Point***: In this context PPP refers to a type of network topology made up of direct connections between routers, which will create a single communication pathway.
* ***Point-to-Multipoint***: This network type is made up of a series of routers, connected from a single routers interface to multiple destination routers. All routers belonging to the same point-to-multipoint topology are in the same network.