```
R1:
conf  t
int e0/0
ip add 1.1.1.1 255.255.255.0
no sh
int lo0
ip add 10.0.0.1 255.255.255.0
exi

int e0/0
ip ospf pri 254
exit

router ospf 1
router-id 1.1.1.1
net 1.1.1.1 0.0.0.0 area 0
net 10.0.0.1 0.0.0.0 area 0
exit

sh ip ospf int br
sh ip ospf

R2:
conf  t
int e0/0
ip add 1.1.1.2 255.255.255.0
no sh
int lo0
ip add 20.0.0.1 255.255.255.0
exi

int e0/0
ip ospf pri 100
exit

router ospf 1
router-id 2.2.2.2
net 1.1.1.2 0.0.0.0 area 0
net 20.0.0.1 0.0.0.0 area 0
exit

R3
conf  t
int e0/0
ip add 1.1.1.3 255.255.255.0
no sh
int lo0
ip add 30.0.0.1 255.255.255.0
exi


router ospf 1
router-id 3.3.3.3
net 1.1.1.3 0.0.0.0 area 0
net 30.0.0.1 0.0.0.0 area 0
exit

int e0/0
ip ospf pri 0
```

```
exit

================================================
R1: HUB

int e0/0
ip ospf network point-to-multipoint
ip ospf hello-interval 10
exit

router ospf 1
net 0.0.0.0 255.255.255.255 area 0
exit


R2: Spoke-1

int e0/0
ip ospf network point-to-point
exit

router ospf 1
net 0.0.0.0 255.255.255.255 area 0
exit

access-list 101 deny ospf host 1.1.1.2 host 224.0.0.5
access-list 101 permit ip any any

int e0/0
ip access-group 101 in
exit

R3: Spoke-2

int e0/0
ip ospf network point-to-point
exit

router ospf 1
net 0.0.0.0 255.255.255.255 area 0
exit

access-list 101 deny ospf host 1.1.1.3 host 224.0.0.5
access-list 101 permit ip any any

int e0/0
ip access-group 101 in
exit

R1 sends an update 11.0.0.0/8
R2 recevies the update from upstream Neig R1
and floods the update to its downstream neig
R3 on s1/1  (P2p)
and R6,R5 on fa0/0  (Broadcast NW)

R2 Creates flood list
 S1/1 P2p  224.0.0.5    Retransmission list 3.3.3.3
sends the update
Deletes the flood list
```

```
It Ack's R1 with a delay ACk ( 5 Sec)
Waits for ACK from R3,R6,R5
R3 Sends the ACk it removes 3.3.3.3 from RT
R2 Recevies Same LSA from DR.
R2 Treats this LSA as Ack and removes the 6.6.6.6 from RT
R2 Recevies an ACK BDR , it removes 5.5.5.5 from RT.

BDR 5.5.5.5
BDR recevies update from R2 2.2.2.2
it creates a flood list  224.0.0.5
RT   4.4.4.4
        6.6.6.6
        2.2.2.2
Deletes the list without sending the updates


==================================
R6
conf t
int fa0/0
ip add 192.168.1.6 255.255.255.0
no sh
int fa0/1
ip add 10.89.1.6 255.255.255.0
no sh
exit


int fa0/0
ip ospf pri 255
exit

router ospf 1
router-id 6.6.6.6
net 0.0.0.0 255.255.255.255 area 0
exit

R5:
conf t
int fa0/0
ip add 192.168.1.5 255.255.255.0
no sh
exi


int fa0/0
ip ospf pri 100
exit

router ospf 1
router-id 5.5.5.5
net 0.0.0.0 255.255.255.255 area 0
exit


R4:
conf t
int fa0/0
ip add 192.168.1.4 255.255.255.0
```

```
no sh
int fa0/1
ip add 10.47.1.4 255.255.255.0
no sh
exi

router ospf 1
router-id 4.4.4.4
net 0.0.0.0 255.255.255.255 area 0
exit

R7:
conf t
int fa0/0
ip add 10.47.1.7 255.255.255.0
no sh
exi

router ospf 1
router-id 7.7.7.7
net 0.0.0.0 255.255.255.255 area 0
exit


R8
conf t
int fa0/0
ip add 10.89.1.8 255.255.255.0
no sh
exi

router ospf 1
router-id 8.8.8.8
net 0.0.0.0 255.255.255.255 area 0
exit


R9:
conf t
int fa0/0
ip add 10.89.1.9 255.255.255.0
no sh
exi

router ospf 1
router-id 9.9.9.9
net 0.0.0.0 255.255.255.255 area 0
exit

R2:
conf t
int s1/0
ip add 10.12.1.2 255.255.255.0
no sh
int s1/1
ip add 10.23.1.2 255.255.255.0
no sh
int fa0/0
ip add 192.168.1.2 255.255.255.0
```

```
no sh
exit

router ospf 1
net 0.0.0.0 255.255.255.255 area 0
exit


Recevies an update
Creates a Flood list 224.0.05 (p2p ,DR,BDR)
                              224.0.0.6 (Br /Drother)
Creates a Retramission  list <RID of connected Neig)
Sends the updates to downstream neig
Removes the flood list
Waits for ACk
Ack's the update with a Delayed ACK
Recevies ACk from Neig, removes the RID from RT.
```