Q1)

psh - probability to go for search if battery is high
psl - ‘’ “ “ low
psg - “ of getting can during search
pgd - probability of battery getting drained to zero
pwg - probability of gaining can while waiting
pwl - probability of waiting for cane when battery is low
Rf - reward for getting Cane
RR - reward for going to recharge

Initial state , action taken , next state , reward , p(s’,r | s , a)

High	Search	High	Rf	psh * psg
High	Search	High	0	psh * (1-pfs)
High	Search	High	RR	0
----	------	Low	Rf	psh) * pw
----	------	-----	0	psh) * (1-pw)
-----	-------	------	RR	0
-----	wait	High	Rf	(1-psh) * pw
-----	-----	-----	0	(1-psh)*(1 - pw)
----	----	------	RR	0

// transition from High to low while waiting for the arrival of the can is zero . So,not written down.

Low	Search	High	Rf	psl*psg
-----	------	--------	0	psl*(1-psg-pgd)
-----	------	------	RR	psl*pgd
-----	Search	Low	Rf	psl * pfs
-----	-------	------	0	psl * (1- pfs)
-----	------	-------	RR	0
------	wait	High	Rf	0
-------	------	------	0	0

-----	-----	-------	RR	0
-----	------	Low	Rf	pwl*pwg
-----	------	-----	0	pwl*(1-pwg)
-----	-----	-------	RR	0
------	Recharge	High	Rf	0
-----	----------	-----	0	1
-----	--------	-----	RR	0
-----	--------	low	Rf	0
------	-------	-----	0	0
------	-------	------	RR	0