

2.

| | | | | |
|------------------|------------|------------|-----------------|-----------------|
| PID: | P1 | P2 | P3 | P4 |
| Other resources: | | | | |
| Type: | Running | Ready | Blocked | Blocked |
| List: | Ready List | Ready List | Waiting List R2 | Waiting List R2 |
| Parent: | Null | P1 | P1 | P3 |
| Child: | P2,P3 | Null | P4 | Null |

R2 Waiting list: P3—>P4

Child: P1—>P2, P1—>P3, P3—>P4

9. Pb(x) TS(x,L)
 Vb(x): x=1;

13.

```

{
  P(mutex);
  if(x){
    condcnt_c1++;
    if(urgentcnt>0) V(urgent)
    else V(mutex);
    P(condsem_c1);
    condcnt_c1-- ;
  }
  x++;
  if(condcnt_c2){
    urgentcnt=urgentcnt+1;
    V(condsem_c2);
    P(urgent);
    urgentcnt--;
  }
}
x=0;
if(urgentcnt) V(urgent);
else V(mutex);

```

}

15.

(a). No signal or wait

P(mutex);

procedure body;

V(mutex);

(c).

P(mutex);

procedure body;

if(condcnt_c>0) V(condem_c);

else V(mutex);

c. wait{

condcnt_c= cond_cnt+1;

V(mutex);

P(condsem_c);

condcnt_c=condcnt-1;

}

c.signal{

if(condcnt) V(condcnt);

}