**Parameters:**

Ci: The cost of buying a part i

CCi: Part’s replacement cost i

CRi: Part’s repair cost i

CGSUj: Group setup costs j (operating cost + downtime cost)

CDT: The cost of downtime of the equipment per period

LMPi: Last period of maintenance operations on part i

Ni: Number of previous repairs of part i after replacement

ETMi: Expected time for maintenance of part i

RULi: Remaining useful life of the part i

Gij: 1, If part i belongs to group j, 0 otherwise

Now: Current date

M: Big number

**Decision Variables:**

MPi: Maintenance operations period for part i

XPit: Schedule maintenance of part in period t

Ri: 1, If part i needs to be repaired, 0 otherwise

RNi: 1, If part i needs to be replaced, 0 otherwise

Hi: If part i needs to be replaced, 0 otherwise

Djt: 0, If part i is scheduled for maintenance after the remaining useful life, 1 otherwise

Kjt: 1, If even one part of group j is scheduled in period t, 0 otherwise