

**Exercice 1 :**

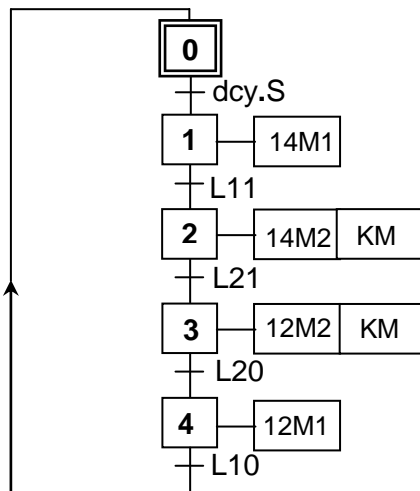
**Tables des affectations**

a)

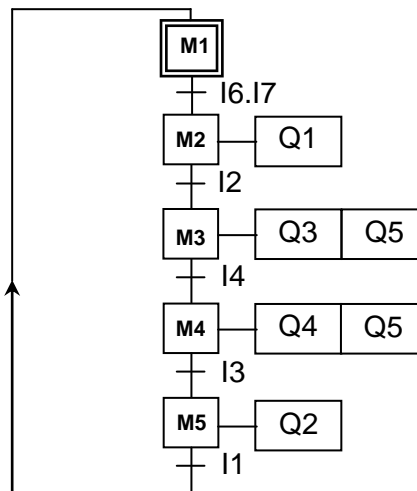
Entrées système	Entrées AEG	Entrées TSX
L <sub>10</sub>	I1	%I1.1
L <sub>11</sub>	I2	%I1.2
L <sub>20</sub>	I3	%I1.3
L <sub>21</sub>	I4	%I1.4
Dcy	I6	%I1.6
S	I7	%I1.7

Sorties système	Sorties AEG	Sorties TSX
14M1	Q1	%Q2.1
12M1	Q2	%Q2.2
14M2	Q3	%Q2.3
12M2	Q4	%Q2.4
KM	Q5	%Q2.5

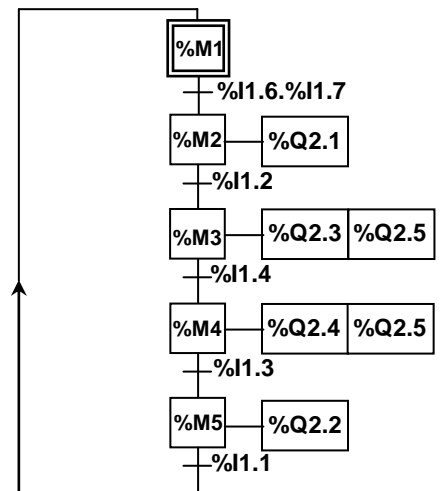
**Grafcet P.C**



**Grafcet codé automate AEG A020**



**Grafcet codé automate TSX**



b) Programmation en langage liste d'instructions.

**API AEG**

Circuit	Adr : Instruct.
1	AM128
	SLM1
2	AM128
	RLM128
3	AM1
	AI6
	AI7
	SLM2
4	AM3
	RLM2
5	AM2
	AI2
	SLM3
6	AM4
	RLM3
7	AM3
	AI4
	SLM4
8	AM5
	RLM4

Circuit	Adr : Instruct.
9	AM4
	AI3
	SLM5
10	AM1
	RLM5
11	AM5
	AI1
	SLM1
12	AM2
	RLM1
13	AM2
	=Q1
14	AM3
	=Q3
15	AM4
	=Q4
16	AM5
	=Q2
17	AM3
	OM4
	=Q5
18	PE

**API TSX**

LD	%M5
AND	%I1.1
OR	%S13
S	%M1
LD	%M2
R	%M1
LD	%M1
AND	%I1.6
AND	%I1.7
S	%M2
LD	%M3
R	%M2
LD	%M2
AND	%I1.2
S	%M3
LD	%M4
R	%M3
LD	%M3
AND	%I1.4
S	%M4
LD	%M5
R	%M4

LD	%M4
AND	%I1.3
S	%M5
LD	%M1
R	%M5
LD	%M2
ST	%Q2.1
LD	%M3
ST	%Q2.3
LD	%M4
ST	%Q2.4
LD	%M5
ST	%Q2.2
LD	%M3
OR	%M4
ST	%Q2.5

**Exercice 2 :**

	Programmation en langage liste d'instructions
Activation de l'étape M2	AM1 AI16 O( AM4 ANI4 ) SLM2
Activation de l'étape M4	AM3 AI2 SLM4
Désactivation de l'étape M4	AM5 OM2 RLM4
Activation de l'étape M5	AM4 AI4 SLM5
Désactivation de l'étape M5	AM6 AM9 RLM5
Activation de l'étape M6	AM5 AI5 SLM6
Activation de l'étape M15	AM8 AM10 SLM15
Activation de l'étape M16	AM15 AI13 O( AM14 AI14 ) SLM16
Activation de l'étape M11	AM3 AI3 SLM11
Désactivation de l'étape M11	AM12 OM14 RLM11
Activation de l'étape M14	AM13 AI9 O( AM11 AI7 ) SLM14
Désactivation de l'étape M14	AM16 RLM14

**Exercice 3**

Programmation en langage liste d'instructions	
Activation de l'étape %M2	LD %M1 AND %I1.16 OR( %M4 ANDN %I1.4 ) S %M2
Activation de l'étape %M4	LD %M3 AND %I1.2 S %M4
Désactivation de l'étape %M4	LD %M5 OR %M2 R %M4
Activation de l'étape %M5	LD %M4 AND %I1.4 S %M5
Désactivation de l'étape %M5	LD %M6 AND %M9 R %M5
Activation de l'étape %M6	LD %M5 AND %I1.5 S %M6
Activation de l'étape %M15	LD %M8 AND %M10 S %M15
Activation de l'étape %M16	LD %M15 AND %I1.13 OR( %M14 AND %I1.14 ) S %M16
Activation de l'étape %M11	LD %M3 AND %I1.3 S %M11
Désactivation de l'étape %M11	LD %M12 OR %M14 R %M11
Activation de l'étape %M14	LD %M13 AND %I1.9 OR( %M11 AND %I1.7 ) S %M14
Désactivation de l'étape %M14	LD %M16 R %M14

