Supplementary Tables:

Table S1: Verification results of the first planning using the first proposed model

		Kallel et al. [19]	Our work
Objective function		G= 1200 (hours)	G= 1200 (hours)
Response time		30.678 seconds	33.789 seconds
Decision variables	X_{131}	1	1
	X_{162}	1	1
	X_{221}	1	1
	X_{272}	1	1
	X_{311}	1	1
	X_{352}	1	1
	X_{343}	1	1
	F_{131}	140	140
	F_{162}	171	171
	F_{221}	184	184
	F_{272}	251	251
	F_{311}	53	53
	F_{352}	45	45
	F_{343}	356	356
	C_{131}	203	203
	C_{162}	337	337
	C_{221}	233	233
	C_{272}	426	426
	C_{311}	95	95
	C_{352}	196	196
	C_{343}	459	459

Table S2: Verification results of the second planning using the first proposed model

		Kallel et al. [19]	Our work
Objective function		G= 787 (hours)	G= 787 (hours)
Response time		0.197 seconds	0.224 seconds
Decision Variables	X_{121}	1	1
	X_{211}	1	1
	X_{331}	1	1
	X_{342}	1	1
	F_{121}	235	235
	F_{211}	262	262
	F_{331}	142	142
	F_{342}	148	148
	C_{121}	203	203
	C_{211}	337	337
	C_{331}	233	233
	C_{342}	426	426

Table S3: Verification results of the third planning from 20/12/2016 to 31/12/2016 using the first proposed model

		Kallel et al. [19]	Our Work
Objective function		G= 631 (hours)	G= 631 (hours)
Response time		0.061 seconds	0.067 seconds
Decision Variables	X_{111}	1	1
	X_{221}	1	1
	X_{331}	1	1
	F_{111}	258	258
	F_{221}	190	190
	F_{331}	183	183
	C_{111}	266	266
	C_{221}	201	201
	C_{331}	232	232

Table S4: Verification results of the first planning from 1/12/2016 to 10/12/2016 using the second proposed model

		Kallel et al. [19]	Our Work
Objective Function		H= 38447 (minutes)	H= 28835.25
Resolution time		0.059 seconds	1.003 seconds
Decision Variables	Y_{11}	1	1
	Y_{26}	1	1
	Y_{35}	1	1
	Y_{42}	1	1
	Y_{51}	1	1
	Y_{66}	1	1
	Y_{76}	1	1
	C_{11}	0	0
	C_{26}	650	650
	C_{35}	525	525
	C_{42}	660	660
	C_{51}	168	168
	C_{66}	255	255
	C_{76}	632	632

Table S5: Verification results of the second planning from 11/12/2016 to 20/12/2016 using the second proposed model

		Kallel et al. [19]	**Our work**
Objective Function		H= 23747 (minutes)	H= 17810.25
Resolution time		0.045 seconds	0.985 seconds
Decision Variables	Y_{13}	1	1
	Y_{26}	1	1
	Y_{31}	1	1
	Y_{44}	1	1
	C_{13}	386	386
	C_{26}	655	655
	C_{31}	72	72
	C_{44}	658	658

Table S6: Verification results of the third planning from 21/12/2016 to 31/12/2016 using the second proposed model

		Kallel et al. [19]	**Our work**
Objective Function		H= 19516 (minutes)	H= 14637
Resolution Time		0.043 seconds	0.871 seconds
Decision Variables	Y_{26}	1	1
	Y_{16}	1	1
	Y_{17}	1	1
	Y_{32}	1	1
	Y_{34}	1	1
	C_{26}	137	137
	C_{16}	22	22
	C_{17}	586	586
	C_{32}	527	527
	C_{34}	168	168
	Z_{16}	22	22
	Z_{17}	586	586
	Z_{32}	527	527
	Z_{34}	168	168