

Table 1: Average and standard deviation of the fitness value for the FSSP instances Part 1. (\*) Denote experiments where optimal solution was found.

EDA		$tai20 \times 5_0$	$tai20 \times 5_1$	$tai20 \times 5_2$	$tai20 \times 5_3$	$tai20 \times 5_4$	$tai20 \times 5_5$	$tai20 \times 10_0$	$tai20 \times 10_1$	$tai20 \times 10_2$	$tai20 \times 10_3$	$tai20 \times 10_4$	$tai20 \times 10_5$
UMDA	avg.	1292.8	1372.1	1123.7	1309.7	1250.6	1210.3	1621.0	1713.7	1564.1	1415.7	1468.2	1438.4
	dev.	5.9	6.5	10.4	2.1	2.7	0.5	11.2	12.6	11.7	8.7	10.8	13.4
MIMIC	avg.	1297.8	1368.1	1117.3	1319.0	1250.1	1218.1	1626.0	1715.5	1545.8	1411.0	1478.1	1434.8
	dev.	1.4	1.7	14.7	8.8	2.4	5.5	7.8	9.9	9.6	5.6	9.7	8.2
EBNA <sub>BIC</sub>	avg.	(*) 1292.3	1378.0	1116.3	1309.5	1251.4	1210.1	1630.4	1705.0	1556.8	1420.7	1470.1	1433.8
	dev.	6.6	7.0	15.7	6.3	2.4	1.8	8.9	12.0	11.8	12.1	11.1	11.0
TREE	avg.	1299.0	1374.7	1126.2	1341.4	1258.0	1228.6	1659.9	1752.8	1571.7	1451.2	1494.3	1460.2
	dev.	3.2	6.6	13.6	16.2	9.6	12.4	12.7	7.9	10.6	15.0	10.5	9.4
UMDA <sub>c</sub>	avg.	1337.8	1412.0	1259.0	1461.5	1348.0	1346.5	1816.6	1889.6	1694.8	1600.9	1659.4	1637.5
	dev.	4.2	5.4	16.0	13.8	15.6	16.6	5.0	24.8	9.4	20.3	14.0	20.6
EGNA <sub>ee</sub>	avg.	1330.1	1400.1	1249.4	1455.0	1344.5	1333.2	1803.8	1876.7	1653.4	1601.5	1665.2	1622.0
	dev.	1.3	6.7	19.8	14.2	9.4	10.8	11.8	7.6	19.7	12.0	24.0	25.6
IDEA-ICE	avg.	1303.1	1371.2	1135.7	1355.5	1274.3	1248.2	1677.8	1760.5	1595.7	1463.9	1519.3	1476.1
	dev.	7.3	4.4	16.8	13.4	10.8	19.0	15.2	14.1	17.0	15.9	16.3	13.1
EHBSA <sub>WT</sub>	avg.	(*) 1281.8	(*) 1359.7	(*) 1095.1	(*) 1295.5	(*) 1241.3	(*) 1195.0	1590.4	1673.6	1512.5	1382.1	1425.2	1404.7
	dev.	4.6	0.4	4.1	2.5	3.4	0.0	4.2	4.4	4.4	3.5	1.9	2.4
EHBSA <sub>WO</sub>	avg.	1296.0	1365.7	1113.9	1316.4	1249.4	1210.1	1606.0	1710.2	1527.1	1408.2	1433.1	1418.8
	dev.	1.2	0.7	8.1	5.4	1.1	0.2	11.8	5.6	9.7	10.2	4.1	11.2
NHBSA <sub>WT</sub>	avg.	1294.2	(*) 1362.7	(*) 1088.7	(*) 1295.8	1246.8	(*) 1201.3	1591.2	(*) 1672.5	1513.7	1385.9	1427.2	1407.2
	dev.	4.5	3.3	4.0	2.8	3.2	5.0	2.8	5.0	11.4	3.5	1.9	3.7
NHBSA <sub>WO</sub>	avg.	1297.0	(*) 1363.2	(*) 1094.3	1308.1	1249.4	(*) 1208.5	1599.5	1678.3	1522.5	1394.4	1436.4	1415.5
	dev.	0.0	3.4	5.2	1.6	1.1	2.7	8.9	1.7	7.0	6.2	7.0	7.6
REDA <sub>UMDA</sub>	avg.	1297.0	1375.5	1137.9	1347.0	1269.3	1233.5	1675.6	1764.5	1604.8	1476.4	1502.4	1449.8
	dev.	0.0	7.0	14.5	12.0	11.6	18.3	14.5	13.3	10.8	18.0	20.7	10.4
REDA <sub>MIMIC</sub>	avg.	1313.6	1409.7	1233.8	1428.3	1301.9	1291.2	1706.6	1805.5	1597.2	1532.8	1664.2	1589.8
	dev.	6.7	6.4	11.2	11.9	11.1	10.4	10.7	13.5	7.6	13.4	17.4	11.6
OmeGA	avg.	1310.4	1372.7	1145.2	1369.3	1293.1	1247.3	1690.0	1763.3	1589.6	1481.1	1528.9	1487.2
	dev.	9.4	6.0	21.6	17.1	11.9	17.7	26.0	24.6	25.0	20.7	19.7	16.8
Best Known Solutions		1278.0	1359.0	1081.0	1293.0	1235.0	1195.0	1582.0	1659.0	1496.0	1377.0	1419.0	1397.0

Table 2: Average and standard deviation of the fitness value for the FSSP instances Part 2. (\*) Denote experiments where optimal solution was found.

EDA		$ta50 \times 10_0$	$ta50 \times 10_1$	$ta50 \times 10_2$	$ta50 \times 10_3$	$ta50 \times 10_4$	$ta50 \times 10_5$	$ta100 \times 20_0$	$ta100 \times 20_1$	$ta100 \times 20_2$	$ta100 \times 20_3$	$ta100 \times 20_4$	$ta100 \times 20_5$
UMDA	avg.	3151.6	3014.3	2979.2	3195.9	3163.6	3160.2	6907.5	6886.7	6929.0	6924.8	7010.3	6951.9
	dev.	22.5	10.4	17.0	24.1	43.8	48.4	26.7	42.2	22.0	21.6	14.7	69.5
MMIC	avg.	3123.6	3011.0	2982.9	3142.8	3095.0	3121.8	6485.4	6441.6	6553.4	6505.9	6563.9	6648.7
	dev.	27.6	18.2	11.9	23.2	11.6	15.0	14.2	28.2	29.6	24.1	21.7	18.8
EBNA <i>BIC</i>	avg.	3182.6	2999.7	2977.9	3188.3	3155.0	3194.1	6917.0	6895.8	6928.2	6946.9	6993.7	7003.3
	dev.	47.5	19.0	14.9	36.7	37.6	49.1	23.0	29.2	34.2	14.5	26.0	27.5
TREE	avg.	3233.0	3106.3	3082.9	3218.3	3211.7	3204.8	6760.7	6715.0	6780.1	6718.1	6815.7	6884.5
	dev.	20.4	31.9	24.1	24.9	29.5	13.2	45.3	45.0	37.3	30.9	28.8	34.2
UMDA <sub>c</sub>	avg.	3517.1	3392.1	3397.0	3493.3	3482.0	3499.2	7400.6	7369.3	7394.3	7365.2	7394.5	7474.5
	dev.	24.1	32.9	101.8	7.3	30.0	18.4	24.2	9.4	46.2	23.8	14.4	197.3
EGNA <sub>ee</sub>	avg.	3486.7	3392.4	3375.6	3413.9	3361.2	3447.8	7352.0	7275.2	7331.5	7235.8	7294.0	7459.2
	dev.	25.8	15.2	9.4	20.9	8.8	17.8	17.6	5.0	14.0	21.8	10.2	14.6
IDEA-ICE	avg.	3245.2	3130.4	3142.6	3283.1	3226.9	3212.8	6869.6	6896.9	6914.3	6866.0	6955.3	7024.7
	dev.	28.8	21.9	21.4	16.7	28.3	17.8	47.8	33.5	66.3	45.6	54.9	63.2
EHBSA <i>WT</i>	avg.	3095.8	2967.9	2957.1	3118.4	3086.8	3087.0	6605.3	6585.6	6659.1	6618.2	6687.7	6731.3
	dev.	9.0	9.5	7.5	5.9	10.1	8.0	11.8	14.4	13.1	22.6	15.0	13.9
EHBSA <i>WO</i>	avg.	3265.5	3124.2	3142.1	3283.6	3254.0	3230.5	6992.1	6989.6	7018.6	7003.5	7041.8	7085.4
	dev.	12.3	11.8	11.9	11.3	17.0	12.7	10.7	17.6	13.7	22.0	10.4	13.1
NHBSA <i>WT</i>	avg.	3103.0	2978.2	2960.7	3115.7	3082.5	3093.3	6584.7	6543.9	6615.0	6575.8	6670.4	6723.0
	dev.	8.2	5.0	2.0	5.5	5.5	8.5	8.2	10.1	10.6	8.8	8.1	7.6
NHBSA <i>WO</i>	avg.	3126.0	3009.8	2959.6	3113.7	3048.1	3133.0	6643.1	6575.9	6654.6	6586.7	6725.5	6771.7
	dev.	0.0	8.1	5.0	13.2	12.5	7.8	10.5	8.7	7.0	11.8	9.1	5.7
REDA <i>UMDA</i>	avg.	3336.7	3194.4	3197.7	3329.5	3311.1	3329.7	7381.2	7407	7439.4	7375.6	7444.8	7510.4
	dev.	24.44	11.88	16.3	10.2	9.08	9.7	31.84	30.8	10.16	37.2	29.4	10.48
REDA <i>MMIC</i>	avg.	3378.4	3339.2	3262.5	3310.8	3329.2	3325.6	7370.6	7392.3	7365.2	7361.7	7402.6	7479.3
	dev.	18.28	12.4	10.9	7.56	34.32	17.2	19.84	17.82	27.24	34.96	25.4	10.82
OneGA	avg.	3487.0	3440.0	3510.0	3663.6	3502.0	3494.7	7524.8	7526.5	7369.8	7376.3	7825.3	7704.0
	dev.	23.2	0.0	12.0	10.7	3.6	16.6	14.6	7.7	21.1	13.4	10.3	0.0
Best Known Solutions		2991.0	2867.0	2839.0	3063.0	2976.0	3006.0	6106.0	6183.0	6252.0	6254.0	6262.0	6302.0