Table 1: Mean and SD of IGD indicator.

Problems	(n_t, τ_t)	MOEAD-DE	MOEAD-DE(RND)	MOEAD-DE(B)	PPSMOEAD-DE	MOEADKF	NHSS
DF1	(10, 10)	4.002e-2(2.131e-3)‡	3.963e-2(3.883e-3)‡	4.054e-2(1.949e-3)‡	2.201e-2(2.621e-3)‡	1.913e-2(1.861e-3)‡	9.345e-3(8.592e-4)‡
	(10, 20)	9.982e-3(4.942e-4)‡	1.039e-2(6.259e-4)‡	9.778e-3(6.586e-4)‡	8.683e-3(3.842e-4)‡	6.773e-3(4.247e-4)‡	5.457e-3(1.137e-4)‡
	(10, 30)	5.990e-3(1.120e-4)‡	5.991e-3(1.090e-4)‡	5.939e-3(1.101e-4)‡	6.267e-3(1.166e-4)‡	5.035e-3(1.001e-4)‡	4.548e-3(3.235e-5)‡
DF2	(10, 10)	5.013e-2(2.005e-3)‡	3.725e-2(2.248e-3)‡	4.950e-2(1.922e-3)‡	4.666e-2(1.365e-3)‡	2.974e-2(1.395e-3)‡	7.328e-3(3.124e-4)‡
	(10, 20)	1.100e-2(4.686e-4)‡	1.009e-2(3.126e-4)‡	1.080e-2(4.969e-4)‡	1.436e-2(3.921e-4)‡	8.612e-3(4.682e-4)‡	4.927e-3(1.064e-4)‡
	(10, 30)	6.278e-3(2.112e-4)‡	5.970e-3(1.230e-4)‡	6.188e-3(9.289e-5)‡	8.002e-3(2.537e-4)‡	5.689e-3(1.521e-4)‡	4.378e-3(2.666e-5)‡
DF3	(10, 10)	2.840e-2(6.149e-3)‡	3.305e-2(1.121e-2)‡	2.911e-2(5.817e-3)‡	4.659e-2(1.414e-2)‡	2.190e-2(3.656e-3)‡	1.400e-2(3.361e-3)‡
	(10, 20)	1.098e-2(5.253e-4)‡	1.149e-2(1.200e-3)‡	1.153e-2(1.455e-3)‡	1.210e-2(4.459e-3)‡	9.076e-3(2.238e-3)‡	7.622e-3(7.600e-4)‡
	(10, 30)	7.481e-3(2.071e-4)‡	7.502e-3(1.443e-4)‡	7.561e-3(1.588e-4)‡	7.331e-3(1.036e-3)‡	6.211e-3(1.206e-4)‡	6.198e-3(3.876e-4)‡
DF4	(10, 10)	1.129e-1(2.211e-3)‡	1.127e-1(3.498e-3)‡	1.127e-1(2.441e-3)‡	1.250e-1(5.961e-3)‡	1.179e-1(2.090e-3)‡	1.217e-1(1.537e-3)‡
	(10, 20)	1.195e-1(8.517e-4)‡	1.193e-1(6.234e-4)‡	1.193e-1(6.967e-4)‡	1.234e-1(1.722e-3)‡	1.214e-1(5.773e-4)‡	1.246e-1(6.360e-4)‡
	(10, 30)	1.225e-1(2.948e-4)‡	1.223e-1(6.621e-4)‡	1.227e-1(3.350e-4)‡	1.257e-1(1.444e-3)‡	1.241e-1(3.268e-4)‡	1.261e-1(3.464e-4)‡
DF5	(10, 10)	2.726e-2(9.409e-4)‡	2.936e-2(1.466e-3)‡	2.752e-2(6.252e-4)‡	1.795e-2(5.726e-3)‡	1.054e-2(4.281e-4)‡	8.856e-3(1.873e-4)‡
	(10, 20)	9.217e-3(1.040e-4)‡	9.390e-3(1.764e-4)‡	9.075e-3(1.403e-4)‡	6.063e-3(8.240e-5)‡	5.978e-3(8.049e-5)‡	5.703e-3(7.030e-5)‡
	(10, 30)	6.263e-3(5.770e-5)‡	6.285e-3(4.088e-5)‡	6.231e-3(5.806e-5)‡	5.039e-3(5.457e-5)‡	4.965e-3(3.363e-5)‡	4.821e-3(1.872e-5)‡
DF6	(10, 10)	2.754e+0(2.553e-1)‡	2.161e+0(2.444e-1)‡	2.447e+0(4.627e-1)‡	5.399e+0(2.936e-1)‡	1.104e+0(5.541e-1)‡	4.217e-1(1.368e-1)‡
	(10, 20)	8.686e-1(4.051e-1)‡	7.613e-1(2.490e-1)‡	8.472e-1(3.904e-1)‡	2.357e-1(3.938e-1)‡	9.130e-1(3.021e-1)‡	1.991e-1(1.256e-1)‡
	(10, 30)	3.889e-1(2.846e-1)‡	4.907e-1(4.001e-1)‡	3.927e-1(2.240e-1)‡	1.829e-2(6.414e-3)‡	5.198e-1(2.578e-1)‡	8.374e-2(6.200e-2)‡
DF7	(10, 10)	1.122e-1(4.078e-3)‡	1.145e-1(3.897e-3)‡	1.118e-1(1.324e-3)‡	4.473e-1(8.901e-2)‡	1.117e-1(2.965e-3)‡	8.084e-2(2.341e-3)‡
	(10, 20)	1.078e-1(3.474e-3)‡	1.067e-1(2.594e-3)‡	1.058e-1(1.575e-3)‡	1.882e-1(6.930e-2)‡	1.068e-1(2.256e-3)‡	7.551e-2(2.795e-3)‡
	(10, 30)	1.054e-1(2.498e-3)‡	1.069e-1(3.993e-3)‡	1.063e-1(2.206e-3)‡	1.154e-1(3.071e-2)‡	1.068e-1(1.548e-3)‡	7.306e-2(1.501e-3)‡
DF8	(10, 10)	1.848e-2(6.485e-4)‡	1.962e-2(7.091e-4)‡	1.958e-2(5.106e-4)‡	2.273e-2(1.010e-3)‡	1.953e-2(1.050e-3)‡	1.540e-2(4.010e-4)‡
	(10, 20)	1.519e-2(2.353e-4)‡	1.600e-2(3.974e-4)‡	1.580e-2(2.988e-4)‡	1.658e-2(3.232e-4)‡	1.580e-2(4.263e-4)‡	1.371e-2(3.532e-4)‡
	(10, 30)	1.431e-2(2.493e-4)‡	1.491e-2(2.205e-4)‡	1.478e-2(2.098e-4)‡	1.506e-2(2.393e-4)‡	1.467e-2(3.850e-4)‡	1.274e-2(3.177e-4)‡
DF9	(10, 10)	1.946e-1(4.599e-2)‡	1.552e-1(2.010e-2)‡	1.748e-1(2.151e-2)‡	1.377e-1(7.527e-3)‡	1.510e-1(2.892e-2)‡	9.698e-2(1.920e-2)‡
	(10, 20)	4.544e-2(4.397e-3)‡	4.415e-2(2.875e-3)‡	4.305e-2(2.827e-3)‡	5.944e-2(3.305e-3)‡	1.032e-1(4.086e-3)‡	3.870e-2(4.029e-3)‡
	(10, 30)	2.691e-2(1.216e-3)‡	2.619e-2(9.507e-4)‡	2.657e-2(2.028e-3)‡	3.253e-2(1.933e-3)‡	2.560e-2(1.262e-3)‡	2.584e-2(1.373e-3)‡
DF10	(10, 10)	1.554e-1(3.918e-3)‡	1.574e-1(2.363e-3)‡	1.556e-1(4.188e-3)‡	2.080e-1(5.363e-3)‡	1.628e-1(5.449e-3)‡	1.451e-1(6.757e-3)‡
	(10, 20)	1.479e-1(6.442e-3)‡	1.478e-1(5.627e-3)‡	1.486e-1(4.026e-3)‡	1.634e-1(2.237e-3)‡	1.530e-1(4.033e-3)‡	1.392e-1(7.270e-3)‡
	(10, 30)	1.426e-1(5.191e-3)‡	1.451e-1(5.949e-3)‡	1.455e-1(5.743e-3)‡	1.527e-1(3.397e-3)‡	1.535e-1(6.212e-3)‡	1.358e-1(6.688e-3)‡
DF11	(10, 10)	1.019e-1(1.435e-3)‡	1.027e-1(1.325e-3)‡	1.017e-1(1.314e-3)‡	9.132e-2(1.266e-3)‡	1.028e-1(1.096e-3)‡	9.620e-2(5.131e-4)‡
	(10, 20)	9.485e-2(3.120e-4)‡	9.543e-2(3.912e-4)‡	9.509e-2(4.005e-4)‡	7.607e-2(1.043e-3)‡	9.556e-2(5.035e-4)‡	9.328e-2(2.201e-4)‡
	(10, 30)	9.289e-2(3.068e-4)‡	9.337e-2(1.743e-4)‡	9.328e-2(2.594e-4)‡	7.187e-2(7.455e-4)‡	9.336e-2(2.248e-4)‡	9.227e-2(2.103e-4)‡
DF12	(10, 10)	2.845e-1(3.086e-3)‡	2.899e-1(4.416e-3)‡	2.854e-1(2.517e-3)‡	3.658e-1(7.691e-3)‡	2.891e-1(4.177e-3)‡	2.896e-1(1.856e-3)‡
	(10, 20)	2.782e-1(3.580e-3)‡	2.771e-1(2.226e-3)‡	2.797e-1(3.579e-3)‡	3.109e-1(3.931e-3)‡	2.800e-1(3.507e-3)‡	2.830e-1(8.003e-4)‡
	(10, 30)	2.734e-1(3.056e-3)‡	2.750e-1(3.230e-3)‡	2.768e-1(1.915e-3)‡	2.981e-1(4.505e-3)‡	2.769e-1(3.174e-3)‡	2.797e-1(5.694e-4)‡
DF13	(10, 10)	2.945e-1(1.863e-3)‡	2.930e-1(3.510e-3)‡	2.970e-1(3.298e-3)‡	2.812e-1(6.892e-3)‡	2.873e-1(3.487e-3)‡	3.140e-1(1.723e-3)‡
	(10, 20)	3.033e-1(2.708e-3)‡	3.004e-1(1.617e-3)‡	3.015e-1(2.953e-3)‡	3.057e-1(5.524e-3)‡	3.041e-1(2.407e-3)‡	3.157e-1(1.727e-3)‡
	(10, 30)	3.098e-1(2.149e-3)‡	3.087e-1(1.380e-3)‡	3.086e-1(1.640e-3)‡	3.195e-1(6.135e-3)‡	3.101e-1(9.540e-4)‡	3.170e-1(1.509e-3)‡
DF14	(10, 10)	7.078e-2(7.800e-4)‡	7.157e-2(1.012e-3)‡	7.081e-2(1.022e-3)‡	7.911e-2(8.162e-3)‡	6.126e-2(2.122e-4)‡	5.969e-2(2.543e-4)‡
	(10, 20)	6.003e-2(3.191e-4)‡	6.046e-2(3.264e-4)‡	5.982e-2(4.517e-4)‡	5.951e-2(1.168e-3)‡	5.766e-2(1.382e-4)‡	5.698e-2(2.215e-4)‡
	(10, 30)	5.748e-2(2.317e-4)‡	5.756e-2(1.584e-4)‡	5.768e-2(2.012e-4)‡	5.593e-2(5.871e-4)‡	5.621e-2(1.380e-4)‡	5.597e-2(9.479e-5)‡

‡ and † indicate PDTEA performs significantly better than and equivalently to the corresponding algorithm, respectively.

Table 2: Mean and SD of MS indicator.

Problems	(n_t, τ_t)	MOEAD-DE	MOEAD-DE(RND)	MOEAD-DE(B)	PPSMOEAD-DE	MOEADKF	NHSS
DF1	(10, 10)	9.639e-1(1.880e-3)‡	9.653e-1(3.058e-3)‡	9.643e-1(2.509e-3)‡	9.684e-1(3.343e-3)‡	9.852e-1(1.028e-3)‡	9.947e-1(8.709e-4)‡
	(10, 20)	9.926e-1(8.500e-4)‡	9.918e-1(1.158e-3)‡	9.925e-1(7.137e-4)‡	9.879e-1(6.283e-4)‡	9.965e-1(5.312e-4)‡	9.982e-1(3.135e-4)‡
	(10, 30)	9.972e-1(2.694e-4)‡	9.972e-1(2.294e-4)‡	9.973e-1(3.219e-4)‡	9.930e-1(4.569e-4)‡	9.984e-1(2.328e-4)‡	9.992e-1(1.067e-4)‡
DF2	(10, 10)	9.621e-1(1.955e-3)‡	9.742e-1(2.902e-3)‡	9.631e-1(3.129e-3)‡	9.430e-1(4.366e-3)‡	9.756e-1(3.727e-3)‡	9.968e-1(4.446e-4)‡
	(10, 20)	9.925e-1(7.905e-4)‡	9.932e-1(8.666e-4)‡	9.929e-1(6.319e-4)‡	9.811e-1(1.064e-3)‡	9.943e-1(6.530e-4)‡	9.979e-1(4.112e-4)‡
	(10, 30)	9.970e-1(1.545e-4)‡	9.972e-1(2.268e-4)‡	9.969e-1(3.264e-4)‡	9.893e-1(4.007e-4)‡	9.975e-1(2.037e-4)‡	9.976e-1(3.433e-4)‡
DF3	(10, 10)	9.577e-1(1.917e-2)‡	9.470e-1(3.039e-2)‡	9.573e-1(1.842e-2)‡	8.913e-1(2.973e-2)‡	9.641e-1(8.675e-3)‡	9.791e-1(1.179e-2)‡
	(10, 20)	9.873e-1(2.351e-3)‡	9.867e-1(3.121e-3)‡	9.874e-1(3.959e-3)‡	9.693e-1(1.432e-2)‡	9.894e-1(6.324e-3)‡	9.939e-1(2.985e-3)‡
	(10, 30)	9.937e-1(9.749e-4)‡	9.939e-1(8.009e-4)‡	9.936e-1(8.407e-4)‡	9.848e-1(5.309e-3)‡	9.958e-1(4.280e-4)‡	9.965e-1(1.365e-3)‡
DF4	(10, 10)	9.523e-1(1.613e-3)‡	9.519e-1(1.228e-3)‡	9.522e-1(1.336e-3)‡	9.156e-1(2.266e-3)‡	9.467e-1(1.533e-3)‡	9.404e-1(1.599e-3)‡
	(10, 20)	9.411e-1(1.264e-3)‡	9.411e-1(8.505e-4)‡	9.416e-1(7.827e-4)‡	9.390e-1(1.720e-3)‡	9.389e-1(7.541e-4)‡	9.361e-1(1.302e-3)‡
	(10, 30)	9.383e-1(5.405e-4)‡	9.383e-1(7.050e-4)‡	9.386e-1(8.642e-4)‡	9.365e-1(1.595e-3)‡	9.368e-1(7.054e-4)‡	9.347e-1(1.097e-3)‡
DF5	(10, 10)	1.000e+0(2.714e-6)‡	1.000e+0(3.633e-6)‡	1.000e+0(1.414e-5)‡	9.980e-1(2.505e-4)‡	1.000e+0(2.724e-6)‡	1.000e+0(2.248e-6)‡
	(10, 20)	1.000e+0(1.514e-6)‡	1.000e+0(2.014e-6)‡	1.000e+0(2.149e-6)‡	9.992e-1(8.312e-5)‡	1.000e+0(1.191e-6)‡	1.000e+0(2.149e-6)‡
	(10, 30)	1.000e+0(1.601e-6)‡	1.000e+0(9.439e-7)‡	1.000e+0(1.136e-6)‡	9.995e-1(6.030e-5)‡	1.000e+0(1.168e-6)‡	1.000e+0(2.071e-6)‡
DF6	(10, 10)	9.841e-1(4.782e-3)‡	9.848e-1(2.905e-3)‡	9.861e-1(5.717e-3)‡	8.548e-1(1.477e-2)‡	9.937e-1(2.595e-3)‡	9.988e-1(6.205e-4)‡
	(10, 20)	9.903e-1(3.224e-3)‡	9.967e-1(2.178e-3)‡	9.968e-1(1.578e-3)‡	9.727e-1(2.647e-2)‡	9.988e-1(1.805e-3)‡	9.993e-1(9.448e-4)‡
	(10, 30)	9.984e-1(1.524e-3)‡	9.984e-1(1.786e-3)‡	9.990e-1(6.630e-4)‡	9.915e-1(2.278e-3)‡	9.982e-1(2.999e-3)‡	9.999e-1(8.172e-5)‡
DF7	(10, 10)	9.860e-1(4.904e-3)‡	9.844e-1(4.978e-3)‡	9.887e-1(2.072e-3)‡	6.875e-1(6.255e-2)‡	9.910e-1(3.552e-3)‡	9.910e-1(4.227e-3)‡
	(10, 20)	9.917e-1(4.111e-3)‡	9.936e-1(3.472e-3)‡	9.946e-1(2.083e-3)‡	8.750e-1(5.135e-2)‡	9.953e-1(2.744e-3)‡	9.954e-1(3.328e-3)‡
	(10, 30)	9.954e-1(2.894e-3)‡	9.933e-1(5.010e-3)‡	9.950e-1(2.832e-3)‡	9.435e-1(2.216e-2)‡	9.952e-1(2.447e-3)‡	9.978e-1(1.562e-3)‡
DF8	(10, 10)	1.000e+0(2.289e-5)‡	9.999e-1(2.623e-5)‡	1.000e+0(1.069e-5)‡	9.965e-1(1.202e-3)‡	1.000e+0(1.712e-5)‡	9.998e-1(4.124e-4)‡
	(10, 20)	1.000e+0(1.765e-5)‡	1.000e+0(1.078e-5)‡	1.000e+0(1.741e-5)‡	9.985e-1(7.239e-4)‡	1.000e+0(1.539e-5)‡	9.999e-1(6.918e-5)‡
	(10, 30)	1.000e+0(1.820e-5)‡	1.000e+0(2.260e-5)‡	1.000e+0(1.353e-5)‡	9.986e-1(6.680e-4)‡	1.000e+0(1.643e-5)‡	9.999e-1(3.390e-5)‡
DF9	(10, 10)	1.000e+0(1.130e-5)‡	9.999e-1(8.172e-5)‡	1.000e+0(8.097e-6)‡	9.736e-1(2.858e-3)‡	1.000e+0(9.480e-6)‡	1.000e+0(2.948e-6)‡
	(10, 20)	9.991e-1(2.002e-3)‡	1.000e+0(1.968e-6)‡	9.995e-1(1.476e-3)‡	9.882e-1(2.511e-3)‡	9.652e-1(1.269e-3)‡	9.995e-1(1.514e-3)‡
	(10, 30)	1.000e+0(1.748e-6)‡	9.995e-1(1.483e-3)‡	1.000e+0(1.502e-6)‡	9.926e-1(1.866e-3)‡	1.000e+0(1.514e-6)‡	1.000e+0(1.286e-6)‡
DF10	(10, 10)	9.979e-1(6.121e-4)‡	9.983e-1(8.188e-4)‡	9.981e-1(9.155e-4)‡	9.825e-1(1.434e-3)‡	9.987e-1(6.982e-4)‡	9.967e-1(8.412e-4)‡
	(10, 20)	9.970e-1(5.533e-4)‡	9.971e-1(8.503e-4)‡	9.973e-1(5.696e-4)‡	9.932e-1(5.657e-4)‡	9.976e-1(7.967e-4)‡	9.956e-1(6.662e-4)‡
	(10, 30)	9.956e-1(6.819e-4)‡	9.961e-1(6.583e-4)‡	9.964e-1(5.846e-4)‡	9.955e-1(6.500e-4)‡	9.967e-1(8.498e-4)‡	9.940e-1(7.600e-4)‡
DF11	(10, 10)	9.979e-1(3.229e-4)‡	9.978e-1(3.670e-4)‡	9.979e-1(4.221e-4)‡	9.639e-1(2.485e-3)‡	9.980e-1(3.499e-4)‡	9.993e-1(2.354e-4)‡
	(10, 20)	9.988e-1(2.792e-4)‡	9.986e-1(1.525e-4)‡	9.987e-1(2.470e-4)‡	9.769e-1(2.404e-3)‡	9.995e-1(1.073e-4)‡	9.994e-1(1.505e-4)‡
	(10, 30)	9.991e-1(1.587e-4)‡	9.990e-1(3.017e-4)‡	9.987e-1(1.763e-4)‡	9.822e-1(3.697e-3)‡	9.993e-1(1.724e-4)‡	9.996e-1(1.673e-4)‡
DF12	(10, 10)	6.810e-1(3.354e-2)‡	6.707e-1(4.221e-2)‡	6.913e-1(3.057e-2)‡	9.919e-1(2.814e-3)‡	6.885e-1(2.626e-2)‡	5.451e-1(2.872e-3)‡
	(10, 20)	6.167e-1(5.696e-2)‡	6.637e-1(3.425e-2)‡	6.130e-1(6.035e-2)‡	9.552e-1(6.791e-3)‡	6.187e-1(5.701e-2)‡	5.423e-1(1.593e-3)‡
	(10, 30)	6.448e-1(5.148e-2)‡	6.360e-1(5.258e-2)‡	6.037e-1(4.053e-2)‡	8.904e-1(1.422e-2)‡	6.140e-1(4.404e-2)‡	5.404e-1(3.368e-4)‡
DF13	(10, 10)	1.000e+0(1.104e-6)‡	1.000e+0(9.439e-7)‡	1.000e+0(2.464e-6)‡	9.945e-1(3.319e-4)‡	1.000e+0(1.471e-6)‡	1.000e+0(3.671e-6)‡
	(10, 20)	1.000e+0(2.505e-6)‡	1.000e+0(1.640e-6)‡	1.000e+0(2.292e-6)‡	9.959e-1(1.166e-3)‡	1.000e+0(1.834e-6)‡	1.000e+0(3.371e-6)‡
	(10, 30)	1.000e+0(3.101e-6)‡	1.000e+0(2.280e-6)‡	1.000e+0(1.286e-6)‡	9.962e-1(2.020e-3)‡	1.000e+0(3.459e-6)‡	1.000e+0(4.367e-6)‡
DF14	(10, 10)	9.591e-1(2.181e-3)‡	9.572e-1(2.828e-3)‡	9.603e-1(2.989e-3)‡	9.630e-1(6.213e-4)‡	9.666e-1(7.897e-4)‡	9.703e-1(8.567e-4)‡
	(10, 20)	9.664e-1(1.277e-3)‡	9.640e-1(3.137e-3)‡	9.659e-1(1.836e-3)‡	9.679e-1(4.569e-4)‡	9.679e-1(4.735e-4)‡	9.715e-1(1.122e-4)‡
	(10, 30)	9.680e-1(5.662e-4)‡	9.673e-1(1.494e-3)‡	9.677e-1(1.042e-3)‡	9.695e-1(4.204e-4)‡	9.691e-1(6.998e-4)‡	9.715e-1(6.945e-4)‡

‡ and † indicate PDTEA performs significantly better than and equivalently to the corresponding algorithm, respectively.

Table 3: Mean and SD of IGD indicator.

Problems	(n_t, τ_t)	DNSGAIIA	DNSGAIIB	PPSRM	NHSS
DF1	$(10, 10)$	3.315e-2(2.882e-3)‡	1.004e-1(6.141e-3)‡	5.681e-2(6.812e-3)‡	9.345e-3(8.592e-4)‡
	$(10, 20)$	2.706e-2(2.848e-3)‡	8.988e-2(7.831e-3)‡	2.292e-2(1.274e-3)‡	5.457e-3(1.137e-4)‡
	$(10, 30)$	2.775e-2(4.237e-3)‡	9.462e-2(7.826e-3)‡	1.131e-2(1.072e-3)‡	4.548e-3(3.235e-5)‡
DF2	$(10, 10)$	1.805e-2(1.092e-3)‡	1.730e-2(2.777e-3)‡	9.912e-2(4.092e-3)‡	7.328e-3(3.124e-4)‡
	$(10, 20)$	1.229e-2(6.205e-4)‡	8.862e-3(1.653e-3)‡	5.478e-2(3.685e-3)‡	4.927e-3(1.064e-4)‡
	$(10, 30)$	1.047e-2(4.335e-4)‡	6.239e-3(7.069e-4)‡	2.029e-2(1.595e-3)‡	4.378e-3(2.666e-5)‡
DF3	$(10, 10)$	1.372e-1(5.522e-2)‡	2.940e-1(2.271e-1)‡	1.914e-1(8.615e-2)‡	1.400e-2(3.361e-3)‡
	$(10, 20)$	8.035e-2(2.713e-2)‡	1.858e-1(1.318e-1)‡	5.678e-2(6.027e-2)‡	7.622e-3(7.600e-4)‡
	$(10, 30)$	5.876e-2(2.050e-2)‡	1.376e-1(3.070e-2)‡	1.068e-2(9.402e-3)‡	6.198e-3(3.876e-4)‡
DF4	$(10, 10)$	1.689e-1(1.094e-2)‡	3.430e-1(2.757e-2)‡	3.095e-1(2.865e-2)‡	1.217e-1(1.537e-3)‡
	$(10, 20)$	1.256e-1(6.054e-3)‡	3.384e-1(1.501e-2)‡	1.677e-1(4.582e-2)‡	1.246e-1(6.360e-4)‡
	$(10, 30)$	1.175e-1(5.478e-3)‡	3.354e-1(1.772e-2)‡	1.278e-1(5.602e-3)‡	1.261e-1(3.464e-4)‡
DF5	$(10, 10)$	9.577e-2(7.921e-3)‡	9.351e-2(2.633e-2)‡	1.078e-1(6.548e-2)‡	8.856e-3(1.873e-4)‡
	$(10, 20)$	6.914e-2(3.564e-3)‡	7.445e-2(3.213e-3)‡	5.497e-2(2.356e-2)‡	5.703e-3(7.030e-5)‡
	$(10, 30)$	5.109e-2(2.022e-3)‡	7.177e-2(4.793e-3)‡	3.007e-2(2.165e-2)‡	4.821e-3(1.872e-5)‡
DF6	$(10, 10)$	7.298e-1(3.204e-1)‡	6.478e-1(2.607e-1)‡	1.213e+1(2.659e-1)‡	4.217e-1(1.368e-1)‡
	$(10, 20)$	3.317e-1(1.075e-1)‡	3.374e-1(7.806e-2)‡	9.927e+0(2.275e-1)‡	1.991e-1(1.256e-1)‡
	$(10, 30)$	2.236e-1(3.636e-2)‡	2.343e-1(6.364e-2)‡	7.097e+0(7.403e-1)‡	8.374e-2(6.200e-2)‡
DF7	$(10, 10)$	2.619e-2(2.131e-3)‡	3.839e-2(1.120e-2)‡	1.313e-1(3.168e-2)‡	8.084e-2(2.341e-3)‡
	$(10, 20)$	2.046e-2(8.815e-4)‡	3.858e-2(1.146e-2)‡	4.336e-2(5.07e-0)†	7.551e-2(2.795e-3)‡
	$(10, 30)$	1.787e-2(6.719e-4)‡	3.404e-2(4.538e-3)‡	1.927e-2(1.193e-3)‡	7.306e-2(1.501e-3)‡
DF8	$(10, 10)$	5.953e-2(2.508e-3)‡	7.459e-2(3.004e-3)‡	3.533e-2(5.867e-3)‡	1.540e-2(4.010e-4)‡
	$(10, 20)$	5.318e-2(3.297e-3)‡	7.649e-2(5.411e-3)‡	2.026e-2(3.063e-3)‡	1.371e-2(3.532e-4)‡
	$(10, 30)$	5.022e-2(2.666e-3)‡	7.331e-2(4.933e-3)‡	1.576e-2(9.195e-4)‡	1.274e-2(3.177e-4)‡
DF9	$(10, 10)$	6.052e-2(1.090e-2)‡	4.986e-2(1.069e-2)‡	3.106e-1(1.796e-2)‡	9.698e-2(1.920e-2)‡
	$(10, 20)$	3.653e-2(2.426e-3)‡	3.984e-2(1.156e-2)‡	1.496e-1(1.173e-2)‡	3.870e-2(4.029e-3)‡
	$(10, 30)$	3.115e-2(1.656e-3)‡	3.606e-2(1.286e-2)‡	5.766e-2(4.733e-3)‡	2.584e-2(1.373e-3)‡
DF10	$(10, 10)$	2.117e-1(9.947e-3)‡	2.529e-1(1.496e-2)‡	1.864e-1(6.235e-3)‡	1.451e-1(6.757e-3)‡
	$(10, 20)$	1.913e-1(1.606e-2)‡	2.290e-1(7.104e-3)‡	1.219e-1(4.784e-3)‡	1.392e-1(7.270e-3)‡
	$(10, 30)$	1.823e-1(9.546e-3)‡	2.126e-1(7.248e-3)‡	9.316e-2(3.533e-3)‡	1.358e-1(6.688e-3)‡
DF11	$(10, 10)$	1.487e-1(5.021e-3)‡	5.361e-1(1.335e-2)‡	1.059e-1(2.273e-3)‡	9.620e-2(5.131e-4)‡
	$(10, 20)$	1.560e-1(1.066e-2)‡	5.328e-1(1.433e-2)‡	8.598e-2(1.345e-3)‡	9.328e-2(2.201e-4)‡
	$(10, 30)$	1.510e-1(8.713e-3)‡	5.174e-1(2.683e-2)‡	7.545e-2(5.824e-4)‡	9.227e-2(2.103e-4)‡
DF12	$(10, 10)$	2.923e-1(5.577e-3)‡	2.876e-1(1.445e-2)‡	3.888e-1(1.114e-2)‡	2.896e-1(1.856e-3)‡
	$(10, 20)$	2.812e-1(5.022e-3)‡	2.828e-1(8.293e-3)‡	2.878e-1(4.685e-3)‡	2.830e-1(8.003e-4)‡
	$(10, 30)$	2.755e-1(1.899e-3)‡	2.729e-1(7.880e-3)‡	2.649e-1(2.934e-3)‡	2.797e-1(5.694e-4)‡
DF13	$(10, 10)$	2.226e-1(4.011e-3)‡	2.126e-1(5.805e-3)‡	3.346e-1(8.473e-2)‡	3.140e-1(1.723e-3)‡
	$(10, 20)$	1.986e-1(3.440e-3)‡	1.914e-1(2.699e-3)‡	2.168e-1(4.535e-2)‡	3.157e-1(1.727e-3)‡
	$(10, 30)$	1.908e-1(2.026e-3)‡	1.857e-1(1.738e-3)‡	1.667e-1(2.904e-3)‡	3.170e-1(1.509e-3)‡
DF14	$(10, 10)$	3.897e-1(3.944e-2)‡	4.910e-1(1.094e-1)‡	9.596e-2(1.632e-2)‡	5.969e-2(2.543e-4)‡
	$(10, 20)$	3.507e-1(2.130e-2)‡	4.947e-1(8.674e-2)‡	6.927e-2(1.295e-2)‡	5.698e-2(2.215e-4)‡
	$(10, 30)$	3.394e-1(1.775e-2)‡	4.228e-1(1.932e-2)‡	5.606e-2(3.194e-3)‡	5.597e-2(9.479e-5)‡

‡ and † indicate PDTEA performs significantly better than and equivalently to the corresponding algorithm, respectively.

Table 4: Mean and SD of MS indicator.

Problems	(n_t, τ_t)	DNSGAIIA	DNSGAIIB	PPSRM	NHSS
DF1	(10, 10)	9.911e-1(1.977e-3)‡	9.943e-1(3.245e-3)‡	9.498e-1(5.583e-3)‡	9.947e-1(8.709e-4)‡
	(10, 20)	9.964e-1(1.635e-3)‡	9.992e-1(1.410e-3)‡	9.78e-0(2.39e-0)‡	9.982e-1(3.135e-4)‡
	(10, 30)	9.978e-1(1.216e-3)‡	1.000e+0(9.247e-5)‡	9.89e-0(1.95e-0)‡	9.992e-1(1.067e-4)‡
DF2	(10, 10)	9.841e-1(2.259e-3)‡	9.896e-1(4.787e-3)‡	8.607e-1(1.194e-2)‡	9.968e-1(4.446e-4)‡
	(10, 20)	9.893e-1(2.956e-3)‡	9.972e-1(3.367e-3)‡	9.10e-0(9.67e-0)‡	9.979e-1(4.112e-4)‡
	(10, 30)	9.896e-1(3.450e-3)‡	9.999e-1(1.627e-4)‡	9.70e-0(4.86e-0)‡	9.976e-1(3.433e-4)‡
DF3	(10, 10)	8.687e-1(9.002e-2)‡	6.771e-1(4.029e-1)‡	8.127e-1(5.144e-2)‡	9.791e-1(1.179e-2)‡
	(10, 20)	9.255e-1(5.253e-2)‡	8.646e-1(2.600e-1)‡	9.42e-0(5.44e-0)‡	9.939e-1(2.985e-3)‡
	(10, 30)	9.506e-1(4.185e-2)‡	9.571e-1(5.457e-2)‡	9.90e-0(1.19e-0)‡	9.965e-1(1.365e-3)‡
DF4	(10, 10)	9.995e-1(3.830e-4)‡	1.000e+0(1.912e-6)‡	9.497e-1(3.416e-3)‡	9.404e-1(1.599e-3)‡
	(10, 20)	9.992e-1(1.293e-3)‡	1.000e+0(5.750e-5)‡	9.49e-0(3.31e-0)‡	9.361e-1(1.302e-3)‡
	(10, 30)	9.987e-1(1.241e-3)‡	9.972e-1(9.190e-3)‡	9.35e-0(1.50e-0)‡	9.347e-1(1.097e-3)‡
DF5	(10, 10)	9.991e-1(7.821e-4)‡	1.000e+0(0.000e+0)‡	9.986e-1(5.546e-4)‡	1.000e+0(2.248e-6)‡
	(10, 20)	9.997e-1(2.944e-4)‡	1.000e+0(0.000e+0)‡	9.99e-0(5.39e-0)‡	1.000e+0(2.149e-6)‡
	(10, 30)	9.999e-1(7.217e-5)‡	1.000e+0(0.000e+0)‡	9.99e-0(1.25e-0)‡	1.000e+0(2.071e-6)‡
DF6	(10, 10)	9.913e-1(2.157e-3)‡	9.913e-1(2.157e-3)‡	8.536e-1(9.258e-3)‡	9.988e-1(6.205e-4)‡
	(10, 20)	9.993e-1(8.026e-4)‡	9.993e-1(8.026e-4)‡	9.17e-0(7.97e-0)‡	9.993e-1(9.448e-4)‡
	(10, 30)	1.000e+0(8.689e-5)‡	1.000e+0(8.689e-5)‡	9.50e-0(6.38e-0)‡	9.999e-1(8.172e-5)‡
DF7	(10, 10)	9.837e-1(4.000e-3)‡	9.572e-1(3.457e-2)‡	8.845e-1(4.603e-2)‡	9.910e-1(4.227e-3)‡
	(10, 20)	9.862e-1(4.102e-3)‡	9.568e-1(3.423e-2)‡	9.62e-0(7.73e-0)‡	9.954e-1(3.328e-3)‡
	(10, 30)	9.894e-1(3.281e-3)‡	9.699e-1(1.680e-2)‡	9.88e-0(1.79e-0)‡	9.978e-1(1.562e-3)‡
DF8	(10, 10)	1.000e+0(3.618e-6)‡	1.000e+0(0.000e+0)‡	9.897e-1(5.454e-3)‡	9.998e-1(4.124e-4)‡
	(10, 20)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.91e-0(3.09e-0)‡	9.999e-1(6.918e-5)‡
	(10, 30)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.97e-0(1.54e-0)‡	9.999e-1(3.390e-5)‡
DF9	(10, 10)	9.998e-1(5.054e-4)‡	1.000e+0(0.000e+0)‡	9.744e-1(4.129e-3)‡	1.000e+0(2.948e-6)‡
	(10, 20)	1.000e+0(3.015e-7)‡	1.000e+0(0.000e+0)‡	9.94e-0(1.14e-0)‡	9.995e-1(1.514e-3)‡
	(10, 30)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.97e-0(2.27e-0)‡	1.000e+0(1.286e-6)‡
DF10	(10, 10)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.593e-1(6.102e-3)‡	9.967e-1(8.412e-4)‡
	(10, 20)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.80e-0(2.72e-0)‡	9.956e-1(6.662e-4)‡
	(10, 30)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.86e-0(2.57e-0)‡	9.940e-1(7.600e-4)‡
DF11	(10, 10)	9.811e-1(6.768e-3)‡	9.872e-1(2.420e-2)‡	9.475e-1(1.671e-3)‡	9.993e-1(2.354e-4)‡
	(10, 20)	9.747e-1(8.123e-3)‡	9.316e-1(6.867e-2)‡	9.71e-0(1.70e-0)‡	9.994e-1(1.505e-4)‡
	(10, 30)	9.793e-1(9.548e-3)‡	9.587e-1(4.642e-2)‡	9.82e-0(6.15e-0)‡	9.996e-1(1.673e-4)‡
DF12	(10, 10)	9.968e-1(5.301e-3)‡	9.698e-1(3.964e-2)‡	9.956e-1(2.482e-3)‡	5.451e-1(2.872e-3)‡
	(10, 20)	9.907e-1(6.165e-3)‡	9.449e-1(4.549e-2)‡	9.61e-0(6.75e-0)‡	5.423e-1(1.593e-3)‡
	(10, 30)	9.747e-1(9.443e-3)‡	8.577e-1(6.470e-2)‡	8.83e-0(6.87e-0)‡	5.404e-1(3.368e-4)‡
DF13	(10, 10)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.828e-1(1.844e-3)‡	1.000e+0(3.671e-6)‡
	(10, 20)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.88e-0(1.16e-0)‡	1.000e+0(3.371e-6)‡
	(10, 30)	1.000e+0(0.000e+0)‡	1.000e+0(0.000e+0)‡	9.92e-0(5.33e-0)‡	1.000e+0(4.367e-6)‡
DF14	(10, 10)	9.705e-1(3.120e-3)‡	9.759e-1(9.552e-4)‡	9.479e-1(1.405e-3)‡	9.703e-1(8.567e-4)‡
	(10, 20)	9.732e-1(2.495e-3)‡	9.758e-1(1.993e-3)‡	9.56e-0(1.53e-0)‡	9.715e-1(1.122e-4)‡
	(10, 30)	9.742e-1(2.091e-3)‡	9.762e-1(1.878e-3)‡	9.63e-0(6.89e-0)‡	9.715e-1(6.945e-4)‡

‡ and † indicate PDTEA performs significantly better than and equivalently to the corresponding algorithm, respectively.

Table 5: Mean and SD of IGD indicator.

Problems	(n_t, τ_t)	MOEAD-DE	MOEAD-DE(RND)	MOEAD-DE(B)	PPSMOEAD-DE	MOEADKF	NHSS
DF1	(5, 20)	2.296e-2(8.958e-4)‡	1.749e-2(1.288e-3)‡	2.097e-2(1.246e-3)‡	1.351e-2(6.362e-4)‡	1.013e-2(9.588e-4)‡	5.436e-3(2.247e-4)‡
	(10, 20)	9.982e-3(4.942e-4)‡	1.039e-2(6.259e-4)‡	9.778e-3(6.586e-4)‡	8.683e-3(3.842e-4)‡	6.773e-3(4.247e-4)‡	5.457e-3(1.137e-4)‡
	(20, 20)	7.374e-3(4.479e-4)‡	7.413e-3(5.326e-4)‡	7.179e-3(3.533e-4)‡	6.828e-3(4.002e-4)‡	5.742e-3(4.648e-4)‡	5.516e-3(1.366e-4)‡
DF2	(5, 20)	2.048e-2(9.219e-4)‡	1.463e-2(6.907e-4)‡	1.984e-2(1.092e-3)‡	1.815e-2(8.732e-4)‡	1.105e-2(5.678e-4)‡	4.768e-3(7.470e-5)‡
	(10, 20)	1.100e-2(4.686e-4)‡	1.009e-2(3.126e-4)‡	1.080e-2(4.969e-4)‡	1.436e-2(3.921e-4)‡	8.612e-3(4.682e-4)‡	4.927e-3(1.064e-4)‡
	(20, 20)	7.796e-3(3.694e-4)‡	7.808e-3(3.257e-4)‡	7.765e-3(3.097e-4)‡	1.069e-2(6.274e-4)‡	7.134e-3(3.583e-4)‡	5.081e-3(1.255e-4)‡
DF3	(5, 20)	1.538e-2(1.498e-3)‡	1.548e-2(2.797e-3)‡	1.502e-2(1.256e-3)‡	2.707e-2(6.403e-3)‡	1.223e-2(2.199e-3)‡	9.462e-3(2.694e-3)‡
	(10, 20)	1.098e-2(5.253e-4)‡	1.149e-2(1.200e-3)‡	1.153e-2(1.455e-3)‡	1.210e-2(4.459e-3)‡	9.076e-3(2.238e-3)‡	7.622e-3(7.600e-4)‡
	(20, 20)	8.627e-3(7.595e-4)‡	8.377e-3(3.059e-4)‡	8.480e-3(4.128e-4)‡	1.447e-2(9.255e-3)‡	7.579e-3(1.000e-3)‡	7.219e-3(7.437e-4)‡
DF4	(5, 20)	1.101e-1(1.119e-3)‡	1.107e-1(8.056e-4)‡	1.105e-1(1.105e-3)‡	1.147e-1(1.445e-3)‡	1.128e-1(6.709e-4)‡	1.181e-1(4.062e-4)‡
	(10, 20)	1.195e-1(8.517e-4)‡	1.193e-1(6.234e-4)‡	1.193e-1(6.967e-4)‡	1.234e-1(1.722e-3)‡	1.214e-1(5.773e-4)‡	1.246e-1(6.360e-4)‡
	(20, 20)	1.233e-1(2.865e-4)‡	1.232e-1(4.631e-4)‡	1.231e-1(5.454e-4)‡	1.247e-1(4.756e-4)‡	1.250e-1(6.478e-4)‡	1.251e-1(3.276e-4)‡
DF5	(5, 20)	1.568e-2(4.528e-4)‡	1.574e-2(2.062e-4)‡	1.502e-2(3.226e-4)‡	6.769e-3(3.927e-4)‡	8.363e-3(1.904e-4)‡	5.578e-3(4.797e-5)‡
	(10, 20)	9.217e-3(1.040e-4)‡	9.390e-3(1.764e-4)‡	9.075e-3(1.403e-4)‡	6.063e-3(8.240e-5)‡	5.978e-3(8.049e-5)‡	5.703e-3(7.030e-5)‡
	(20, 20)	7.160e-3(7.808e-5)‡	7.227e-3(5.905e-5)‡	7.181e-3(1.137e-4)‡	5.766e-3(1.117e-4)‡	5.268e-3(6.114e-5)‡	5.775e-3(5.143e-5)‡
DF6	(5, 20)	1.214e+0(2.451e-1)‡	8.544e-1(4.866e-2)‡	1.268e+0(2.201e-1)‡	3.894e-1(1.497e-1)‡	4.110e-1(1.145e-1)‡	3.512e-1(8.729e-2)‡
	(10, 20)	8.686e-1(4.051e-1)‡	7.613e-1(2.490e-1)‡	8.472e-1(3.904e-1)‡	2.357e-1(3.938e-1)‡	9.130e-1(3.021e-1)‡	1.991e-1(1.256e-1)‡
	(20, 20)	6.576e-1(5.358e-1)‡	1.191e+0(5.995e-1)‡	5.911e-1(4.361e-1)‡	5.088e-2(3.294e-2)‡	1.255e+0(7.201e-1)‡	1.090e-1(4.204e-2)‡
DF7	(5, 20)	5.400e-1(9.792e-3)‡	5.818e-1(3.916e-2)‡	5.468e-1(1.224e-2)‡	1.233e+0(5.287e-2)‡	5.580e-1(4.180e-2)‡	3.614e-1(1.586e-2)‡
	(10, 20)	1.078e-1(3.474e-3)‡	1.067e-1(2.594e-3)‡	1.058e-1(1.575e-3)‡	1.882e-1(6.930e-2)‡	1.068e-1(2.256e-3)‡	7.551e-2(2.795e-3)‡
	(20, 20)	2.856e-2(3.521e-3)‡	2.960e-2(6.601e-3)‡	2.957e-2(4.303e-3)‡	3.847e-2(4.983e-3)‡	3.217e-2(4.281e-3)‡	2.710e-2(3.671e-3)‡
DF8	(5, 20)	1.632e-2(3.110e-4)‡	1.685e-2(4.353e-4)‡	1.679e-2(3.188e-4)‡	1.859e-2(6.963e-4)‡	1.622e-2(3.489e-4)‡	1.354e-2(7.482e-4)‡
	(10, 20)	1.519e-2(2.353e-4)‡	1.600e-2(3.974e-4)‡	1.580e-2(2.988e-4)‡	1.658e-2(3.232e-4)‡	1.580e-2(4.263e-4)‡	1.371e-2(3.532e-4)‡
	(20, 20)	1.510e-2(1.930e-4)‡	1.625e-2(6.688e-4)‡	1.591e-2(4.455e-4)‡	1.714e-2(4.873e-4)‡	1.593e-2(4.593e-4)‡	1.418e-2(3.425e-4)‡
DF9	(5, 20)	1.307e-1(2.301e-2)‡	9.109e-2(9.320e-3)‡	1.104e-1(1.110e-2)‡	1.406e-1(4.686e-3)‡	6.013e-2(4.938e-3)‡	1.114e-1(1.034e-2)‡
	(10, 20)	4.544e-2(4.397e-3)‡	4.415e-2(2.875e-3)‡	4.305e-2(2.827e-3)‡	5.944e-2(3.305e-3)‡	1.032e-1(4.086e-3)‡	3.870e-2(4.029e-3)‡
	(20, 20)	2.847e-2(8.205e-4)‡	2.824e-2(1.677e-3)‡	2.765e-2(1.721e-3)‡	1.096e-1(3.733e-3)‡	2.562e-2(8.148e-4)‡	2.493e-2(1.282e-3)‡
DF10	(5, 20)	1.569e-1(3.920e-3)‡	1.566e-1(4.154e-3)‡	1.563e-1(2.806e-3)‡	1.597e-1(3.477e-3)‡	1.553e-1(4.386e-3)‡	1.410e-1(4.068e-3)‡
	(10, 20)	1.479e-1(6.442e-3)‡	1.478e-1(5.627e-3)‡	1.486e-1(4.026e-3)‡	1.634e-1(2.237e-3)‡	1.530e-1(4.033e-3)‡	1.392e-1(7.270e-3)‡
	(20, 20)	1.304e-1(6.154e-3)‡	1.352e-1(5.915e-3)‡	1.357e-1(6.333e-3)‡	1.514e-1(4.332e-3)‡	1.380e-1(9.781e-3)‡	1.281e-1(3.652e-3)‡
DF11	(5, 20)	9.726e-2(2.985e-4)‡	9.738e-2(3.437e-4)‡	9.720e-2(2.357e-4)‡	7.624e-2(8.816e-4)‡	9.703e-2(4.638e-4)‡	9.442e-2(3.277e-4)‡
	(10, 20)	9.485e-2(3.120e-4)‡	9.543e-2(3.912e-4)‡	9.509e-2(4.005e-4)‡	7.607e-2(1.043e-3)‡	9.556e-2(5.035e-4)‡	9.328e-2(2.201e-4)‡
	(20, 20)	9.293e-2(3.047e-4)‡	9.423e-2(3.068e-4)‡	9.392e-2(3.287e-4)‡	7.453e-2(1.073e-3)‡	9.381e-2(2.022e-4)‡	9.208e-2(2.262e-4)‡
DF12	(5, 20)	2.750e-1(3.445e-3)‡	2.746e-1(5.547e-3)‡	2.743e-1(6.367e-3)‡	3.158e-1(6.038e-3)‡	2.785e-1(5.558e-3)‡	2.818e-1(1.219e-3)‡
	(10, 20)	2.782e-1(3.580e-3)‡	2.771e-1(2.226e-3)‡	2.797e-1(3.579e-3)‡	3.109e-1(3.931e-3)‡	2.800e-1(3.507e-3)‡	2.830e-1(8.003e-4)‡
	(20, 20)	2.817e-1(2.397e-3)‡	2.815e-1(2.682e-3)‡	2.823e-1(3.156e-3)‡	3.029e-1(6.895e-3)‡	2.819e-1(2.410e-3)‡	2.835e-1(6.072e-4)‡
DF13	(5, 20)	3.026e-1(1.857e-3)‡	3.013e-1(3.360e-3)‡	3.026e-1(3.438e-3)‡	3.168e-1(6.378e-3)‡	3.039e-1(2.341e-3)‡	3.293e-1(2.846e-3)‡
	(10, 20)	3.033e-1(2.708e-3)‡	3.004e-1(1.617e-3)‡	3.015e-1(2.953e-3)‡	3.057e-1(5.524e-3)‡	3.041e-1(2.407e-3)‡	3.157e-1(1.727e-3)‡
	(20, 20)	3.123e-1(2.063e-3)‡	3.102e-1(2.050e-3)‡	3.133e-1(2.580e-3)‡	3.169e-1(5.835e-3)‡	3.143e-1(1.617e-3)‡	3.177e-1(1.118e-3)‡
DF14	(5, 20)	6.278e-2(3.265e-4)‡	6.297e-2(5.579e-4)‡	6.251e-2(4.363e-4)‡	5.709e-2(6.368e-4)‡	5.826e-2(2.797e-4)‡	5.534e-2(1.973e-4)‡
	(10, 20)	6.003e-2(3.191e-4)‡	6.046e-2(3.264e-4)‡	5.982e-2(4.517e-4)‡	5.951e-2(1.168e-3)‡	5.766e-2(1.382e-4)‡	5.698e-2(2.215e-4)‡
	(20, 20)	5.810e-2(1.824e-4)‡	5.820e-2(2.378e-4)‡	5.829e-2(3.495e-4)‡	5.798e-2(6.527e-4)‡	5.658e-2(1.346e-4)‡	5.674e-2(1.726e-4)‡

‡ and † indicate PDTEA performs significantly better than and equivalently to the corresponding algorithm, respectively.