Jessica Braganza
PI7112151
BE Comp 2

PAGE NO:
DATE:

SCOA Assignment 5

1) Enlist the basic steps of particle swarm optimization.

Ans. Steps are as follows:

i) Initialize particles

ii) Calculate fitness value for each particle

iii) If (current fitness value is better than pbest), assign current fitness as new p-best

else

keep previous p-best

iv) Assign best particles p-best value to g-best

v) Calculate velocity for each particle.

vi) Use each particle's velocity value to update its data values.

vii) if (target or max epochs reached)

END

else

goto step 2

velocity - how far an individual data is from the target.

p-best - indicates closest the value closer to target since algo. started

2) Differentiate between real valued and binary PSO

Ans. 1. In real valued PSO, everything is in terms of velocity. Generally, the velocity is defined in terms of a probability of the bit changing.

2. In Binary PSO, each solution in the population is a binary string, each binary string is of dimension n which is evaluated to give parameter values.

3. In binary ~~tree~~ PSO, each binary string ~~represented~~ a particle string are updated. bit-by-bit based on its current value. the value of that bit is the best of that particle to data. and the best value of that bit to data of its neighbours.