**Algorithm for solving Travelling Salesman Problem using Generic Particle Swarm Optimization (PSO)**

* **Step 1**: Initialize the population with the number of cities to be calculated.
* **Step 2**: Initialize the random velocities for the swarm as initially Xi = Vi in the range of 1 to number of cities and assign the generations to an empty array.
* **Step 3**: Now generate random velocities to move particles throughout the search space in the range of 1 to number of cities and save the generations in a different array.
* **Step 4**: Sum up the corresponding values in the same index number in the arrays generated in step 1 and step 2.
* **Step 5**: **So we need to implement some kinds of rules.**

**Rule 1**: If the final array is generated with values in the range of 1-5 without repeating any value then consider that array

**Rule 2**: If the final array is generated with values in the range of 1-5 and some not in the range of 1-5 with repetition of values then we need to calculate

***value mod N***

N – array index no  
value – array value  
-- If value mod N equals to zero, then N = N+1  
-- If value mod N not equals to zero, then N will be as usual.   
**Rule 3**: Iterate the whole step with previous rules until it finds an array with unique values.

**Rule 4**: If the final array is not unique and it comprises repetitive values  
 it needs to set flags in those indices which comprise those repetition  
 of values.  
 - Now it needs to check the other values (unique).  
 - Only one value needs to changed.  
 - Check for the missing value.  
 - The higher order index which holds the repetition of value will get changed

* **Step 6**: Iterate the previous steps until it reaches the end condition defined in Step 7.
* **Step 7**: END CONDITION: iteration no: no of elements in the array.