Assignment 1

Due date for submitting this assignment has passed.

As per your record, you have not submitted this assignment.

1. The function \( f(x) = x \arctan(1/x) \) is
   - (a) continuous
   - (b) not differentiable
   - (c) only differentiable at \( x = 0 \)
   - (d) none of the above

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (a)

   - (a) genetic algorithm
   - (b) particle swarm optimization
   - (c) differential evolution
   - (d) genetic programming

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (c)

3. The number of winners in the game single objective optimization problem is
   - (a) 1
   - (b) 2
   - (c) \( k \) such that \( k \leq n \)
   - (d) \( k \) such that \( k \leq n \)

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (c)

4. Constraints in an optimization problem represent
   - (a) limit or restriction
   - (b) maximization of an objective function
   - (c) minimization of an objective function
   - (d) none of the above

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (d)

5. The optimum solution of the function \( f(x) = \sin(x) \) in the range for the function:
   - (a) \([0, \pi]\)
   - (b) \([-\pi, \pi]\)
   - (c) \([-\pi, \pi]\)
   - (d) \([-\pi, \pi]\)

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (a)

6. Evolutionary computing techniques are:
   - (a) inspired from the nature
   - (b) modulating the biological phenotypes
   - (c) inspired from genetic programming
   - (d) breeding living creatures

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (b)

7. Different strains of COVID-19 virus are the example of
   - (a) natural evolution
   - (b) survival of the fittest
   - (c) genetic rate
   - (d) all of the above

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (d)

8. Selection operator in evolutionary computation techniques
   - (a) select good solutions from the population
   - (b) create new solutions in the population
   - (c) evaluate objective function and constants of the population
   - (d) select and create new solutions in the population

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (b)

9. Limitations of evolutionary computation techniques are
   - (a) cannot solve linear programming problem
   - (b) cannot guarantee finding the optimal solution in a fixed time
   - (c) need many function evaluations
   - (d) low development cost to adapt to a new problem space

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (c)

10. Selection operator in the context of optimization says that
    - (a) an optimization algorithm can solve a class of problems effectively
    - (b) an optimization algorithm can solve all types of problems effectively
    - (c) an optimization algorithm can solve all types of problems effectively
    - (d) none of the above

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (a)

11. An optimization algorithm can score a class of problems effectively
    - (a) an optimization algorithm can score a class of problems effectively
    - (b) an optimization algorithm can score all types of problems effectively
    - (c) none of the above
    - (d) not applicable

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (b)

12. Performance of two algorithms can be compared on fixed number of evaluations
    - (a) true
    - (b) false
    - (c) none of the above
    - (d) not applicable

No. the answer is incorrect.
Score: 0
Accepted Answers:
- (a)