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NPTEL

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Courses » Selected Topics in Decision Modeling

Announcements **Course** Ask a Question Progress Mentor FAQ

Unit 1 - How to access the portal

Course outline

How to access the portal

- How to access the home page?
- How to access the course page?
- How to access the MCQ, MSQ and Programming assignments?
- Quiz : Assignment 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

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Assignment 0

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-08-07, 23:59 IST.**

1) A linear programming problem will always have: **1 point**

- a. A bounded solution space
- b. Unique optimal solution of the decision variables
- c. Integer Optimal solution of the decision variables
- d. None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. None of the above

2) Which one of the following is not a basic assumption of linear programming? **1 point**

- a. Linearity
- b. Additivity
- c. Divisibility
- d. Feasibility

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. Feasibility

3) In Linear Programming a basic feasible solution is: **1 point**

- a. An optimal solution
- b. Any corner-point solution

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4) A Linear Programming problem with a bounded feasible solution space will always have: **1 point**

- a. Some basic feasible solutions but no optimal solution
- b. Some basic feasible solutions and at least one optimal solution
- c. No basic feasible solutions and no optimal solution
- d. No basic feasible solutions but at least one optimal solution

No, the answer is incorrect.

Score: 0

Accepted Answers:

b. Some basic feasible solutions and at least one optimal solution

5) A fair coin is tossed three times. What is the probability of getting three heads, HHH? **1 point**

- a. 1/2
- b. 1/4
- c. 1/8
- d. None of the Above

No, the answer is incorrect.

Score: 0

Accepted Answers:

c. 1/8

6) Balls numbered 1 to 20 are mixed up and then a ball is drawn at random. What is the probability that the ball drawn has a number which is a multiple of 3 or 5? **1 point**

- a. 3/20
- b. 7/20
- c. 8/20
- d. 9/20

No, the answer is incorrect.

Score: 0

Accepted Answers:

d. 9/20

7) If the price of an item doubles, what per cent of the new price is the increase? **1 point**

- a. 25%
- b. 50%
- c. 75%
- d. 100%

No, the answer is incorrect.

Score: 0

Accepted Answers:

b. 50%

8) Average weight of 11 people in a lift is 60 kg. One person went out at the next floor and nobody joined. If the average weight of the remaining people is now 58, what was the weight of the person who went out? **1 point**

- a. 30 kg
- b. 60 kg

- c. 80 kg
- d. 90 kg

No, the answer is incorrect.

Score: 0

Accepted Answers:

c. 80 kg

9) A school has 's' students equally divided among 'c' classes. The school wants to order **1 point** enough textbooks so that each student will have a book and each class will have 2 extra books. How many textbooks does the school need to order?

- a. $(s/c) + 2$
- b. $s+2$
- c. $s+2c$
- d. $c+2s$

No, the answer is incorrect.

Score: 0

Accepted Answers:

c. $s+2c$

10) A postman needs to visit all 5 geographically distributed post-offices beginning and ending **1 point** at the same post-office and without visiting any other post-office twice. We need to find the optimum path of the postman so that he covers minimum possible distance. This is an example of:

- a. Travelling Salesman problem
- b. Chinese Postman problem
- c. Travelling Postman problem
- d. Chinese Salesman problem

No, the answer is incorrect.

Score: 0

Accepted Answers:

a. *Travelling Salesman problem*

11) 'Dynamic programming' falls under which category? **1 point**

- a. Enumerative Technique
- b. Simulation Technique
- c. Meta-heuristic Technique
- d. None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

a. *Enumerative Technique*

12) In a Pure Integer linear programming problem: **1 point**

- a. The decision variables are integers
- b. The objective function value is integer
- c. The decision variables as well as objective function values are integers
- d. None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

a. *The decision variables are integers*

13) If we want to find the value of the variable 'x' that maximizes a differentiable function $f(x)$, then we should: **1 point**

- c. Find 'x' from $df/dx = 0$
- b. Find 'x' from $df/dx = 0$ and check that that second derivative is positive
- c. Find 'x' from $df/dx = 0$ and check that that second derivative is negative
- d. Find 'x' from second derivative = 0

No, the answer is incorrect.

Score: 0

Accepted Answers:

c. *Find 'x' from $df/dx = 0$ and check that that second derivative is negative*

14) In a Non-linear programming problem: **1 point**

- a. The objective function must be non-linear
- b. All the constraints must be non-linear
- c. The objective function and all the constraints must be non-linear
- d. Either the objective function or at least one constraint must be non-linear

No, the answer is incorrect.

Score: 0

Accepted Answers:

d. *Either the objective function or at least one constraint must be non-linear*

15) Meta-heuristic techniques are: **1 point**

- a. Calculus-based techniques
- b. Guided Random Search techniques
- c. Enumerative techniques
- d. None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

b. *Guided Random Search techniques*

16) Genetic Algorithm technique are: **1 point**

- a. Calculus-based
- b. Nature-inspired
- c. Enumerative
- d. None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

b. *Nature-inspired*

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