MTH601 QUIZ(2)

Lecture: Not Mentioned on LMS

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I'm providing 100% correct quiz solution.

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MTH601:Quiz

Quiz Start Time: 03:33 PM, 06 February 202

Question # 1 of 10 (Start time: 03:33:16 PM, 06 February 2021) **Total Marks:**

After converting constraints into the respective Standard equalities, we have an LP problem of '4' equations in '6' variables, then in a given iteration, how many Basic feasible VARIABLES are possible to exists?

Select the correct option

- ○ 10
- ○ 6
- ◉ 4
- ○ 2

MTH601:Quiz

Quiz Start Time: 03:33 PM, 06 February 2

Question # 2 of 10 (Start time: 03:33:40 PM, 06 February 2021) **Total Mar**

In Big M-method, if the objective function is expressed in terms of non-basic variable then the coefficient of artificial variable in this iteration must be -------.

Select the correct option

- M
- -M
- one
- zero

MTH601:Quiz

Quiz Start Time: 03:33

Question # 3 of 10 (Start time: 03:33:59 PM, 06 February 2021)

If the primal constraint is originally in equation form, the corresponding dual variable is not unrestricted.

Select the correct option

- ○ True
- ◉ False

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Question # 4 of 10 (Start time: 03:34:15 PM, 06 February 2021)

In two phase method, for the phase-I, if the given problem has feasible solution then----------.

Select the correct option

- (●) both objective function and artificial are zero
- ( ) objective function is zero but artificial may arbitrary
- ( ) objective function is arbitrary but artificial is zero
- ( ) both objective and artificial can have arbitrary values

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Question # 5 of 10 (Start time: 03:34:32 PM, 06 February 2021)

The inequality $3x - 2y \geq 14$ is equivalent to_____.

Select the correct option

- $3x - 2y < -14$
- $-3x + 2y > 14$
- $-3x + 2y \leq -14$
- $3x - 2y \leq 14$

MTH601:Quiz

Quiz Start Time: 03:33 PM, 06 Februa

Question # 6 of 10 (Start time: 03:34:45 PM, 06 February 2021) **Total**

While facing degeneracy in solving an LP problem,then the further iterations always assure the non-negative optimal solution.

Select the correct option

- ○ True
- ◉ False

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Question # 7 of 10 (Start time: 03:34:59 PM, 06 February 2021)

Dual of a Dual of Dual is------.

Select the correct option

- ○ Dual
- ◉ Primal
- ○ Double dual
- ○ Single dual

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Question # 8 of 10 (Start time: 03:35:13 PM, 06 February 2021)

In two phase method, for the phase-I, a new objective function in terms of artificial is to be ----------.

Select the correct option

- (●) minimized
- ( ) maximized

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Quiz Start Time: 03:33 PM, 06 February 2(

Question # 9 of 10 (Start time: 03:35:31 PM, 06 February 2021) **Total Mark**

After converting constraints into the respective Standard equalities, we have an LP problem of '4' equations in '6' variables. Then how many Combinations of Basic feasible Solutions may possible?

Select the correct option

- ○ 24
- ◉ 15
- ○ 10
- ○ 2

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Quiz Start Time: 03:33 PM, 06

Question # 10 of 10 (Start time: 03:35:46 PM, 06 February 2021)

By Simplex method, to minimize 'Z = 9x-2y'of an LP problem, if 'z=A>0' for the initial iteration then for its next improved solution(0<A<100), which of the following would be the next entering variable?

Select the correct option

- x<0
- y<0
- x>0
- y>0 (selected)

2nd account

MTH601:Quiz

Quiz Start Time: 05:41 PM, 06 February 20

Question # 1 of 10 (Start time: 05:41:04 PM, 06 February 2021) **Total Mark**

If x_1 unrestricted variable and $x_2 = 0$, then standard primal form of objective function of Z. Where Max $Z = 7x_1 + 89x_2$.

Select the correct option

Reload Math Equation

- Max $Z = 7(x_1^+ + x_1^+) + 89x_2$
- Max $Z = 7(x_1^+ + x_1^-) + 89x_2$
- Max $Z = 7(x_1^+ - x_1^-) + 89x_2$
- Max $Z = 7(x_1^- + x_1^-) + 89x_2$

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Quiz Start Time:

Question # 2 of 10 (Start time: 05:41:24 PM, 06 February 2021)

Which of the following will be an example of degenerate basic feasible solution for an LP problem?

Select the correct option

- (2,3-1)
- (0,2,1)
- (2,1,3)
- (-1,2,0)

MTH601:Quiz

Quiz Start Time: 05:41 PM, 06 Febru

Question # 3 of 10 (Start time: 05:41:40 PM, 06 February 2021) **Total**

While solving a Linear Programming problem by Simplex Method, an inequality constraint is transformed into strict equality by the inclusion of ---------- variable.

Select the correct option

- (●) slack
- ( ) decision
- ( ) artificial
- ( ) basic

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Quiz Start Time: 05:41 PM, 06 February 20

Question # 4 of 10 (Start time: 05:41:56 PM, 06 February 2021) **Total Marks**

After converting constraints into the respective Standard equalities, we have an LP problem of '4' equations in '6' variables. If the initial basic feasible solution is say:(2,4,1,2), then its corresponding non-basic solution is---------.

Select the correct option

- [x] (0,0)
- [ ] (-4,-2)
- [ ] (1,2)
- [ ] (2,2)

MTH601:Quiz

Quiz Start Time

Question # 5 of 10 (Start time: 05:42:11 PM, 06 February 2021)

The dual of a dual problem yields the original primal.

Select the correct option

- (●) True
- ( ) False

MTH601:Quiz

Quiz Start Time: 05:41 PM, 06 February 2

Question # 6 of 10 (Start time: 05:42:26 PM, 06 February 2021) **Total Mark**

If a variable in the Primal is unrestricted in sign, then the corresponding constraint in the dual will be of -------- type and vice versa.

Select the correct option

- ○ >=
- ○ <=
- ◉ =
- ○ none of these

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Quiz Start Time: 05:41 PM, 0

Question # 7 of 10 (Start time: 05:42:41 PM, 06 February 2021)

For $Z = 4x_1 + x_2$ subject to $3x_1 + 4x_2 \geq 20, x_1 + 5x_2 \geq 15$, we have _____ variables.

Select the correct option

Reload M

- one slack
- six
- three objective
- two artificial

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Quiz Start Time: 05:41 PM, 06 Febr

Question # 8 of 10 (Start time: 05:42:57 PM, 06 February 2021)

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For $Z = 4x_1 + x_2$ subject to $3x_1 + 4x_2 \geq 20, x_1 + 5x_2 \geq 15$, we have _____ variables.

Select the correct option

Reload Math Eq

- two slack
- two artificial
- three objective
- both a and b

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Quiz Start Time: 05:41 PM, 06 F

Question # 9 of 10 (Start time: 05:43:14 PM, 06 February 2021)

Which of the following difficulty may found while attempting an LP problem by M-method?

Select the correct option

- It often leads to infeasible solution
- Computational error due to large value of M
- Degeneracy is inevitable
- Artificial do not leave the basis

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Quiz Start Time: 05:41 PM, 06 February 2021

Question # 10 of 10 (Start time: 05:43:29 PM, 06 February 2021) **Total Marks:** 1

When we have $\geq$ type constraints, then we convert it to equality constraints by introducing _____ variable(s) and solve it by _____ method.

Select the correct option

Reload Math Equations

- slack, Big M
- artificial, Two phase
- artificial, Big M
- artificial and slack, Big M or Two phase

3rd account

MTH601:Quiz

Quiz Start Time: 05:45 PM, 06

Question # 1 of 10 (Start time: 05:45:38 PM, 06 February 2021)

In an LP problem, to evaluate the basic variables in Simplex method, which of the following method is used?

Select the correct option

- ○ Gauss Elimination method
- ◉ Gauss-Jordan method
- ○ Gauss-Seidel method
- ○ Gauss Least Square method

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Quiz Start Time: 05:45 PM, 06 February 2021

Question # 2 of 10 (Start time: 05:46:12 PM, 06 February 2021) **Total Marks: 1**

Which of the following is the standard form of objective function corresponding to,"MinZ=2x-11y, subject to x=5 and y=7"? Where A's are artificial.

Select the correct option

- z = 2x - 11y -MA1 - MA2
- z = 2x - 11y +MA1 + MA2
- z = 2x - 11y -MA1 + MA2
- z = 2x - 11y +MA1 - MA2

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Quiz Start Time: 05:45 PM

Question # 3 of 10 (Start time: 05:46:27 PM, 06 February 2021)

Degenerate solutions correspond to---------- variables.

Select the correct option

- Dual
- Non-basic
- Basic
- Unbounded

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Quiz Start Time: 05:45 PM, 06 February 2

Question # 4 of 10 (Start time: 05:46:41 PM, 06 February 2021) **Total Mark**

Which of the following is true about an LP problem which is solved by M-method and having infeasible solution?

Select the correct option

- ○ Associated constraints are not consistent
- ○ Final iteration table include one of the artificial variables.
- ○ Penalty 'M' may not able to force artificial variable to zero in final iteration.
- ◉ All choices are equivalent.

MTH601:Quiz

Quiz Start Time: 05:45 PM, 06 February 202

Question # 5 of 10 (Start time: 05:47:04 PM, 06 February 2021) **Total Marks:**

While facing degeneracy in solving an LP problem,then the further iterations always assure the non-negative optimal solution.

Select the correct option

- ○ True
- ◉ False

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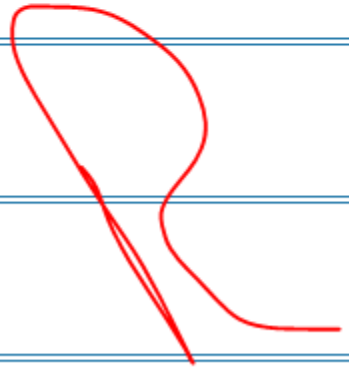
Quiz Start Time: 05:45 PM, 06 February 2021

Question # 6 of 10 (Start time: 05:47:17 PM, 06 February 2021) **Total Marks:** 1

While solving a LP problem by Simplex method in a given iteration, the new basic variable is ---------- and the variable remove from the basis is called ---------.

Select the correct option

- (feasible, infeasible)
- (infeasible, feasible)
- (entering, leaving)
- (leaving, entering)



MTH601:Quiz

Quiz Start Time: 05:45 PM, 06 February 2

Question # 7 of 10 (Start time: 05:47:32 PM, 06 February 2021)

Total Mar

In M-method, which of the following is true about the coefficient (M) of artificial variable(A) in the objective function?

Select the correct option

- M-->zero
- M-->+Infinity
- M--> -Infinity
- M-->optimal solution

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Quiz Start Time: 05:45 PM, 06 February 202

Question # 8 of 10 (Start time: 05:47:49 PM, 06 February 2021) **Total Marks:**

In the Simplex method to solve an LP problem, Gauss Jordan Elimination method demands that all the key column's entries should be ---- ----- except key row(pivot) entry.

Select the correct option

- ○ strictly positive
- ○ strictly negative
- ○ maximum or minimum
- ◉ zero

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Quiz Start Time: 05:45 PM, 06 February 2021

Question # 9 of 10 (Start time: 05:48:03 PM, 06 February 2021) **Total Marks:**

If the original Linear Programming problem has no Feasible Solution, then either the Big-M method or Phase-I of the Two-Phase method will give a final solution that has at least one artificial variable _____.

Select the correct option

- ○ of any arbitrary value
- ◉ greater than zero
- ○ less than zero
- ○ equal to zero

MTH601:Quiz Quiz Start Time: 05:45 PM, 06 February 2021

Question # 10 of 10 (Start time: 05:48:17 PM, 06 February 2021) **Total Marks:** 1

While solving an LP problem, if the candidate for a leaving variable becomes zero, then solution is said to be --------.

Select the correct option

- ○ optimal solution
- ○ infeasible solution
- ○ non-degenerate solution
- ◉ degenerate solution

Thank you for watching ☺

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