

Learning4help by Waqas

Asslam-o-Alaikum! In this file we'll provide you **MTH601 Important Final term MCQs. Must Prepare Before Final term Exams.** These MCQS are not verified. Verify Answers yourself too. If you found mistake then inform me.

If you found mistake then let us know.

You can contact us on WhatsApp <https://wa.me/+923421718143>

Or You can send us gmail: Learning4help@gmail.com

Facebook page is <https://m.facebook.com/WAQASQURESHI34555/>

For more educational stuff keep visiting

<https://learning4help.com>



LEARNING 4 HELP

Subscribe to my Channel:

https://www.youtube.com/channel/UC_CGyvvKgSGACQHPuq-951Q

VIRTUAL UNIVERSITY OF PAKISTAN

SERVICES:

- Assignments
- Quizzes
- GDBs
- LMS Handling
- Projects Making
- projects preparation
- online Tuition

We always do our best in serving our students and give them satisfied impressions.



**LEARN4
HELP**



CALL US NOW!



0342-1718143



www.learning4help.com

Question # 1 of 10 (Start time: 01:37:12 PM, 06 July 2024) Total Marks: 1

Degenerate solutions correspond to----- variables.

Select the correct option

- Dual
- Unbounded
- Non-basic
- Basic

Question # 2 of 10 (Start time: 01:38:11 PM, 06 July 2024) Total Marks: 1

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.

By Simplex method, to maximize $Z = 2x + 9y$ of an LP problem, if $'z=0'$ for the initial iteration then for its next improved solution, which of the following would be the next entering variable?

Select the correct option

- $x < 0$
- $x > 0$
- $y < 0$
- $y > 0$

If an LP problem contains large number of constraints and a smaller number of variables then which of the following will reduce the computational burden in finding its solution?

Select the correct option

- Duality principle
- Two phase method
- M-method
- Graphical method

Question # 5 of 10 (Start time: 01:42:22 PM, 06 July 2024) Total Marks: 1

If an artificial variable is not included while converting a constraint of type '>=' into equation, then we will have ----- solution.

Select the correct option

- infeasible
- degenerate
- non-degenerate
- feasible

Question # 6 of 10 (Start time: 01:42:53 PM, 06 July 2024) Total Marks: 1

If the decision variables in primal problem are nonnegative then decision variables in dual are negative.

Select the correct option

- True
- False

In two phase method, for the phase-I, if the objective function has zero value with all vanishing artificial variables then we -----.

Select the correct option

- proceed for 2nd phase
- Infeasible solution
- necessarily have optimal solution
- cant proceed for 2nd phase

The dual of the dual of a Linear Programming problem is itself the ----- problem.

Select the correct option

- assignment
- transportation
- dual
- primal

In Simplex Standard table to solve an LP problem, if the ratio by taking the RHS of each row and dividing by the corresponding element of the key column is $\{2/3, 5/2, 3, -1/2\}$, then which of the following variable will be leaving?

Select the correct option

- Variable corresponding to '2/3' (a Tie case)
- Variable corresponding to '5'
- Variable corresponding to ' $(2/3)+(2/3)=4/3$ '
- Variable corresponding to '-1/2'

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

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

In M-method, if the given LP problem has the feasible solution then the optimization algorithm enforces artificial variable to-----,

Select the correct option

- Optimal solution
- Zero
- + Infinity
- Infinity

In the Simplex method to solve an LP problem of maximization, if at the end of an iteration, there is a negative coefficient in the objective row then the given problem-----,

Select the correct option

- has been maximized
- has no solution
- needs further improvement
- cant be optimized

By Simplex method, to minimize $Z = 2x + 9y$ 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

- $x > 0$
- $y > 0$
- $x < 0$
- $y < 0$

When constraints are of greater than or equal to type, then we _____

Select the correct option

- both of these
- non of these
- add slack variable and subtract artificial variable
- subtract slack variable and add artificial variable

Question # 8 of 10 (Start time: 01:57:45 PM, 06 July 2024) Total Marks: 1

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

Question # 9 of 10 (Start time: 01:58:39 PM, 06 July 2024) Total Marks: 1

While solving an LP problem by Simplex method, if we have '3' constraint equations in '5' variables then to find basic variables we have to put any ----- variables equal to zero.

Select the correct option

1

2

4

3

Learning4Help (Waqas Qureshi) VMS handling project contact on+923421718143

Question # 1 of 10 (Start time: 02:29:57 PM, 06 July 2024) Total Marks: 1

If in a LP problem, the objective is to maximize: $z = 2x + 3y$, with all associated constraints of ' \leq ' type, then in the 1st iteration, $z =$ -----.

Select the correct option

- 6
- 1
- 0
- 5

Question # 1 of 10 (Start time: 02:29:57 PM, 06 July 2024) Total Marks: 1

A Linear Programming problem may not have any feasible solution.

Select the correct option

- False
- True

While solving an LP problem by the Simplex method, in the standard table, the element at the intersection of key column and key row is called ----- element.

Select the correct option

- Leaving
- Slack
- Entering
- Pivot

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
- non-degenerate solution
- infeasible solution
- degenerate solution

Question # 4 of 10 (Start time: 02:31:59 PM, 06 July 2024) Total Marks: 1

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

Select the correct option

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

Question # 5 of 10 (Start time: 02:32:07 PM, 06 July 2024) Total Marks: 1

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

- (1,2)
- (2,2)
- (-4,-2)
- (0,0)

In the initial table of Simplex method, the objective function should not contain the terms involving-----variables.

Select the correct option

- artificial
- non-basic
- degenerate
- basic

Question # 8 of 10 (Start time: 02:35:39 PM, 06 July 2024)

Total Marks: 1

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
- zero
- maximum or minimum
- strictly negative

Learning4Help (Waqas Qureshi) LMS Handling project contact on+923421718143

vulms.vu.edu.pk/Quiz/QuizQuestion.aspx

ECO401_handouts... MTH 302 MTH603 Mid Term... CS607AI_Complete... Microsoft Word - U... Microsoft Word - fo... Introduction to Psyc... Second Language A... Online Journalism...

MTH601 - Operations Research (Quiz 3) Quiz Start Time: 02:29 PM, 06 July 2024

Question # 9 of 10 (Start time: 02:36:28 PM, 06 July 2024) Total Marks: 1

We detect an _____ solution to a linear programming problem from the simplex table if at any iteration, any of the candidates for the entering variable have all negative or zero coefficients in the constraints.

Select the correct option Reload Math Equations

- unbounded
- degenerate
- infeasible
- temporarily Degenerate

vulms.vu.edu.pk/Quiz/QuizQuestion.aspx

ECO401_handouts... MTH 302 MTH603 Mid Term... CS607AI_Complete... Microsoft Word - U... Microsoft Word - fo... Introduction to Psyc... Second Language A... Online Journalism...

MTH601 - Operations Research (Quiz 3) Quiz Start Time: 02:29 PM, 06 July 2024

Question # 10 of 10 (Start time: 02:37:44 PM, 06 July 2024) Total Marks: 1

The role of artificial variables in the 'Big M' technique is to _____.

Select the correct option Reload Math Equations

- maximize the objective function
- minimize the objective function.
- optimize resource allocation
- ensure feasibility of the initial basic solution

Question # 1 of 10 (Start time: 02:44:08 PM, 06 July 2024) Total Marks: 1

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

- 2
- 6
- 4
- 10

Question # 2 of 10 (Start time: 02:44:08 PM, 06 July 2024) Total Marks: 1

In the Simplex method, if all the elements in columns of the ratio by taking the RHS of each row and dividing by the corresponding element of the key column, are equal, the situation is known as -----

Select the correct option

- Unboundedness
- Non-degeneracy
- Tie
- Degeneracy

"Minimizing: $Z = 2x - 3y + 5t$ " is equivalent to-----,

Select the correct option

- Minimizing: $Z^* = -2x + 3y - 5t$
- Maximizing: $Z^* = 2x - 3y + 5t$
- Maximizing: $Z^* = -2x + 3y - 5t$
- Minimizing: $Z^* = -2x - 3y - 5t$

Question # 5 of 10 (Start time: 02:47:23 PM, 06 July 2024)

Total Marks: 1

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

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

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
- y<0
- x<0

MTH601 - Operations Research (Quiz 3) Quiz Start Time: 02:44 PM, 06 July 2024

Question # 7 of 10 (Start time: 02:48:53 PM, 06 July 2024) Total Marks: 1

In linear programming, a problem have multiple optimal solutions when

Select the correct option [Reload Math Equations](#)

- there are no constraints in the problem.
- the problem is infeasible.
- the decision variables are unrestricted
- the objective function line is parallel to a binding constraint line.

While solving an LP problem by Simplex method, the inclusion of slacks in the constraints' inequalities helps in finding ----- variables.

Select the correct option

- artificial
- non-basic
- decision
- basic

Question # 10 of 10 (Start time: 02:52:01 PM, 06 July 2024)

Total Marks: 1

In the Two Phase Method the objective of Phase 2 is to -----

Select the correct option

[Reload Math Equations](#)

- find the optimum basic solution for the original problem
- minimize the original objective function
- maximize the original objective function
- maximize the artificial variables

[Click to Save Answer & Move to Next Question](#)

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

- 2
- 24
- 10
- 15

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 it is ----- solution.

Select the correct option

- non-degenerate infeasible
- degenerate feasible
- degenerate infeasible
- non-degenerate feasible

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, (2,4,2), then it is ----- solution.

Select the correct option

- non-degenerate infeasible
- degenerate feasible
- degenerate infeasible
- non-degenerate feasible

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

Select the correct option

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

In two phase method, for the phase-I, a new objective function is expressed as -----.

Select the correct option

- difference of slack variables
- sum of slack variables
- difference of artificial variables
- sum of artificial variables

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

Select the correct option

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

While solving a Linear Programming problem by Simplex Method, an inequality says: ' $2x-3y < 5$ ' is transformed into strict equality of the form-----, where ' $s >= 0$ '.

Select the correct option

- $2x-3y +s + A=5$
- $2x-3y -s =5$
- $2x-3y +s =5$
- $2x-3y -s + A =5$

MTH601 – Operations Research (Quiz 3)

Total Questions :10

Please read the following instructions carefully!

1. Quiz will be based upon Multiple Choice Questions (MCQs).
2. You have to attempt the quiz online. You can start attempting the quiz any time within given date(s) of a particular subject by clicking the link for Quiz in VULMS.
3. Each question has a fixed time of 90 seconds. So you have to save your answer before 90 seconds. But due to unstable internet speeds, it is recommended that you should save your answer within 60 seconds. While attempting a question, keep an eye on the remaining time.
4. Attempting quiz is unidirectional. Once you move forward to the next question, you can not go back to the previous one. Therefore before moving to the next question, make sure that you have selected the best option.
5. **DO NOT** press **Back Button / Backspace Button** while attempting a question, otherwise you will lose that question.
6. **DO NOT** refresh the page unnecessarily, **specially** when following messages appear
Saving...
Question Timeout: Now loading next question...
7. **Javascript MUST be enabled** in your browser; otherwise you will not be able to attempt the quiz.
8. If for any reason, you lose access to internet (like power failure or disconnection of internet), you will be able to attempt the quiz again from the question next to the last shown question. But remember that you have to complete the quiz before expiry of the deadline.
9. If any student failed to attempt the quiz in given time then no re-take or offline quiz will be held.

Question # 2 of 10 (Start time: 09:11:26 PM, 06 July 2024) Total Marks: 1

If " $Max Z = x - y$, subject to $x > 3, x < 2, x, y > 0$ " is solved by two phase method, then which of the following would be the objective function of 1st phase?

Select the correct option Reload Math Equations

- Max $Z = A$
- Max $Z = x - y + 0s_1 + 0s_2 + MA$
- Min $Z = x - y + 0s_1 + 0s_2 + MA$
- Min $Z = A$

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 09:12:57 PM, 06 July 2024) Total Marks: 1

In two phase method process, first phase ----- the sum of artificial variables.

Select the correct option

- maximize
- maximize or minimize depending on the situation
- minimize
- non of these

In two phase method if the minimum value of objective function in the first phase is greater than zero, then the solution of original problem

Select the correct option

- is uncertain
- does not exist
- exists
- non of these

MTH601 - Operations Research (Quiz 3)

Quiz Start Time: 09:09 PM, 06 July 2024

Question # 5 of 10 (Start time: 09:14:37 PM, 06 July 2024)

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

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

Degenerate solutions correspond to----- variables.

Select the correct option

- Unbounded
- Dual
- Basic
- Non-basic

MTH601 - Operations Research (Quiz 3)

Quiz Start Time: 09:09 PM, 06 July 2024

Question # 7 of 10 (Start time: 09:15:45 PM, 06 July 2024)

Total Marks: 1

In linear programming, a problem have multiple optimal solutions when -----

Select the correct option

[Reload Math Equations](#)

- there are no constraints in the problem.
- the decision variables are unrestricted
- the objective function line is parallel to a binding constraint line.
- the problem is infeasible.

Question # 8 of 10 (Start time: 09:16:05 PM, 06 July 2024) Total Marks: 1

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

Question # 9 of 10 (Start time: 09:16:43 PM, 06 July 2024) Total Marks: 1

An unrestricted variable in linear programming problem can be defined as.....

Select the correct option

negative

zero

positive, negative or zero

positive

Reload Math Equations

Click to Save Answer & Move to Next Question

Learning4Help (Waqas Qureshi) LMS handling project contact on+923421718143

psrp: Chat Quiz Micro Hanc chat: MTH MTH MTH MTH Hanc Gem SISU Char Char Setti www 88 Spee +

vulms.vu.edu.pk/Quiz/QuizQuestion.aspx

ECO401_handouts... MTH 302 MTH603 Mid Term... CS607AI_Complete... Microsoft Word - U... Microsoft Word - fo... Introduction to Psyc... Second Language A... Online Journalism...

Question: In Simplex standard table to solve an LP problem of Minimization, we choose the candidate for entering variable in-----.

Select the correct option

- Objective function with most negative coefficient
- Objective function with most positive coefficient
- Constraint with most positive coefficient
- Constraint with most negative coefficient

Search Quiz Logi... Whats... 31°C ENG 9:17 PM