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Question No : 1 of 52

Marks: 1 (Budgeted Time 1 Min)

The cost matrix in assignment problem is always diagonal matrix

VuAnswers.com

Answer ( Please select your correct option )

square matrix

correct

identity matrix

zero matrix

Made by: Waqar Siddhu

Question No : 2 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following binary operation in assignment problem among all the elements in the given profit matrix from the highest element in the matrix

VuAnswers.com

Answer ( Please select your correct option )

Subtraction

correct

Division

Multiplication

Addition

Made by: Waqar Siddhu

Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

During a replacement if the value of money decreases at the rate of 3% then the present worth factor of unit amount to be spent after one year is given by

VuAnswers.com

Answer ( Please select your correct option )

0.25

0.333

0.9708

correct

4

Made by: Waqar Siddhu

Question No : 4 of 52

Marks: 1 (Budgeted Time 1 Min)

In sequencing problems, the Johnson's algorithm in finding the optimal ordering of  $n$  jobs through 3 machines can be applied, if the problem is converted into following number of machines problems.

VuAnswers.com

Answer ( Please select your correct option )

  $3n$ 

correct

  $3n!$   $2 \times 3 = 6$  2

Made by: Waqar Siddhu

Question No : 5 of 52

Marks: 1 (Budgeted Time 1 Min)

If the money carries a rate of interest of **12%** per year, the present worth factor of one rupee due in one year is

VuAnswers.com

Answer ( Please select your correct option )

0.08333

0.89285

correct

0.0769

13

Made by: Waqar Siddhu

Question No : 6 of 52

Marks: 1 (Budgeted Time 1 Min)

Degeneracy in a  $5 \times 6$  transportation problem occurs when the number of occupied cell is less than

VuAnswers.com

Answer ( Please select your correct option )

20 but greater than 10

10

correct

Zero

Infinity

Made by: Waqar Siddhu

Question No : 7 of 52

Marks: 1 (Budgeted Time 1 Min)

We go in probabilistic replacement model when period between installation and failure is

VuAnswers.com

Answer ( Please select your correct option )

varying exponentially

varying linearly

correct

Constant

is not constant (varying arbitrarily)

Made by: Waqar Siddhu

Question No : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

Any set of non negative allocations ( $X_{ij} \geq 0$ ) which satisfies the row and column sum is called a \_\_\_\_\_ solution.

VuAnswers.com

Answer ( Please select your correct option )

feasible

non basic feasible

basic infeasible

optimal

correct

Made by: Waqar Siddhu

Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

If a basic feasible solution contains less than " $m + n - 1$ " (Here  $m$  is the number of rows,  $n$  is the number of columns in transportation problem) non negative allocation, then it is said to be

VuAnswers.com

Answer ( Please select your correct option )

Degenerate

correct

Multiple Solutions

Non degenerate

Alternative Optima

Made by: Waqar Siddhu

Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

Consider the following cost table:

		Destinations			Supply
		D1	D2	D3	
Source	S1	5	1	2	25
	S2	7	2	4	10

VuAnswers.com

Answer ( Please select your correct option )

 10 15 25 5correct

Made by: Waqar Siddhu

Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

Source	S1	5	1	2	25
	S2	7	2	4	10
	S3	3	3	5	15
	Demand	10	20	20	

VuAnswers.com

Answer ( Please select your correct option )

 10 15 25 5correct

Made by: Waqar Siddhu

Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

Source	Destinations			Supply
	D1	D2	D3	
S1	5	1	2	25
S2	7	2	4	10

VuAnswers.com

Answer ( Please select your correct option )

 I, II and III I only II only III only I and II onlycorrect

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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

	S3	3	3	5	15
	10				
Demand	10	20	20		

Using Vogel's Approximation Method:

These below are the three cells which can be next cell:

VuAnswers.com

Answer ( Please select your correct option )

I, II and III

I only

II only

III only

I and II only

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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

- I.  $S3 \rightarrow D2$   
II.  $S2 \rightarrow D2$   
III.  $S1 \rightarrow D3$

Which one is the correct option?

VuAnswers.com

Answer ( Please select your correct option )

I, II and III

I only

II only

III only

I and II only

Made by: Waqar Siddhu

Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

We go in probabilistic replacement model when period between installation and failure is

VuAnswers.com

Answer ( Please select your correct option )

varying exponentially

varying linearly

correct

Constant

is not constant (varying arbitrarily)

Made by: Waqar Siddhu

Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

If the mean arrival and mean service rates are 4 and 7 respectively in a queue then expected waiting time in the system is

VuAnswers.com

Answer ( Please select your correct option )

$\frac{1}{3}$  correct

3

28

$\frac{7}{4}$

Made by: Waqar Siddhu

Question No : 14 of 52

Marks: 1 (Budgeted Time 1 Min)

In a bank, every 15 minutes one customer arrives for cashing the cheque. The staff in the payment counter takes only 10 minutes for serving a customer on an average, then the service rate " $\mu$ " = \_\_\_\_\_.

VuAnswers.com

Answer ( Please select your correct option )

- 6 per hour correct
- 4 per hour
- 10 per hour
- 1/6 per hour

Made by: Waqar Siddhu

Question No : 15 of 52

Marks: 1 (Budgeted Time 1 Min)

A duplicating machine maintained for office use is used and operated by people in the office who need to make copies. Since the work to be copied varies in length (number of pages of the original) and copies required, the service rate is randomly distributed, the arrival rate is 5 per hour and the service rate is 10 per hour then the equipment utilization " $\rho$ " is equal to

**VuAnswers.com**

Answer ( Please select your correct option )

 0.50**correct** 0.20 5 2**Made by: Waqar Siddhu**

Question No : 16 of 52

Marks: 1 (Budgeted Time 1 Min)

A repairman services three machines. For each machine the time between service requirements is 8 hours following exponential distribution. The time of repair also has the same distribution with a mean of 2 hours. Then the average rate " $\lambda$ " is

[VuAnswers.com](http://VuAnswers.com)

Answer ( Please select your correct option )

$1/8 = 0.125$

correct 8 4

$1/4 = 0.25$

**Made by: Waqar Siddhu**

Question No : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

A repairman services three machines. For each machine the time between service requirements is 8 hours following exponential distribution. The time of repair also has the same distribution with a mean of 2 hours. Then the mean service time " $\mu$ " is

**VuAnswers.com**

Answer ( Please select your correct option )

$\frac{1}{2} = 0.5$

**correct** 4

$\frac{1}{4} = 0.25$

 2**Made by: Waqar Siddhu**

Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

If " $N_i$ " be the Number of replacement made at the end of the  $i^{\text{th}}$  week and " $P_j$ " be the probability of failure during the  $i^{\text{th}}$  week, then  $N_i = \dots\dots\dots$ .

VuAnswers.com

Answer ( Please select your correct option )

$N_0P_1$

correct

$N_iP_1$

$N_0P_0$

$N_iP_2$

Made by: Waqar Siddhu

Question No : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

The present worth of a rupee to be spent after a year is denoted by  $v$  and given by

VuAnswers.com

Answer ( Please select your correct option )

$v = 1 / (1 + r)$

correct

$v = (1 + r)$

$v = (1 + r) / 10$

$v = (1 / r)$

Made by: Waqar Siddhu

Question No : 20 of 52

Marks: 1 (Budgeted Time 1 Min)

Formula for a geometric series " $x + vx + v^2x + \dots + v^{n-1}x$ " is

VuAnswers.com

Answer ( Please select your correct option )

$P(n) = x \frac{1 - v^n}{1 - v}$

correct

$P(n) = \frac{1 - v^n}{1 - v}$

$P(n) = x \frac{1 - v}{1 - v^n}$

$P(n) = \frac{1 - v}{1 - v^n}$

Made by: Waqar Siddhu

Question No : 21 of 52

Marks: 1 (Budgeted Time 1 Min)

Product of 'item cost' and 'ordered item' is

VuAnswers.com

Answer ( Please select your correct option )

Crash cost

Cost period

correct

Set up cost

Shortage cost

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Question No : 22 of 52

Marks: 1 (Budgeted Time 1 Min)

Standard Deviation (S.D.) = \_\_\_\_\_ MAD

VuAnswers.com

Answer ( Please select your correct option )

$\sqrt{\frac{2\pi}{3}}$

$\sqrt{\frac{2}{\pi}}$

$\sqrt{\frac{\pi}{2}}$

correct

$\sqrt{\frac{3\pi}{2}}$

Made by: Waqar Siddhu

Question No : 23 of 52

Marks: 1 (Budgeted Time 1 Min)

MAD = ----- S.D.

VuAnswers.com

Answer ( Please select your correct option )

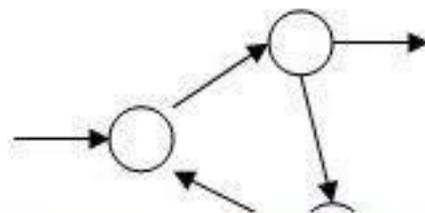
  $\sqrt{\frac{2}{\pi}}$  correct  $\sqrt{\frac{\pi}{2}}$   $\sqrt{\frac{2\pi}{3}}$   $\sqrt{\frac{3\pi}{2}}$ 

Made by: Waqar Siddhu

Question No : 24 of 52

Marks: 1 (Budgeted Time 1 Min)

The following network is an example of



VuAnswers.com

Answer ( Please select your correct option )

Redundancy

Dangling

correct

Cycling

Dummy

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Question No : 25 of 52

Marks: 1 (Budgeted Time 1 Min)

For any activity backward pass computations provide its

VuAnswers.com

Answer ( Please select your correct option )

Earliest start times

Latest start times

Moderate start times

Completion time

correct

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Question No : 26 of 52

Marks: 1 (Budgeted Time 1 Min)

Best possible time estimate that a given activity would take under normal conditions which often exist, is called

VuAnswers.com

Answer ( Please select your correct option )

Most Likely time estimate

Pessimistic time estimate

correct

Smallest time estimate

Activity time estimate

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Question No : 27 of 52

Marks: 1 (Budgeted Time 1 Min)

In PERT, activity time estimates are distributed according to

VuAnswers.com

Answer ( Please select your correct option )

Beta Distribution

correct

Normal Distribution

Poisson distribution

Binomial Distribution

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Question No : 28 of 52

Marks: 1 (Budgeted Time 1 Min)

Solution region for the constraint  $y \leq 0$  is the

VuAnswers.com

Answer ( Please select your correct option )

Half plane below y-axis

Half plane below the line:  $y = 0$

Set of all those points where ordinates are non-positive

All are equivalent

correct

Made by: Waqar Siddhu

Question No : 29 of 52

Marks: 1 (Budgeted Time 1 Min)

In a linear Programming Problem (LPP), which of the following must be hold?

VuAnswers.com

Answer ( Please select your correct option )

Only objective function is linear

Both objective function and constraints are linear

correct

Only constraints needs to be linear

At least one of objective function or constraint should be linear

Made by: Waqar Siddhu

Question No : 30 of 52

Marks: 1 (Budgeted Time 1 Min)

If a company manufacture 'x' units of product 'A' and 'y' units of 'B' with associated profits of Rs.5 and Rs.3 then which of the following is the objective function to maximize is the profit?

VuAnswers.com

Answer ( Please select your correct option )

$z = 15xy$

$z = 5x - 3y$

$z = 3x - 5y$

$z = 5x + 3y$

correct

Made by: Waqar Siddhu

Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

The \_\_\_\_\_ variable is chosen by examining the cost coefficients in the objective function.

VuAnswers.com

Answer ( Please select your correct option )

entering

correct

leaving

positive slack

negative slack

Made by: Waqar Siddhu

Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

While solving a linear programming problem by big M – Method, traditionally the \_\_\_\_\_ variables are chosen in the initial basic feasible solution.

VuAnswers.com

Answer ( Please select your correct option )

neagtive slack

positive slack

entering

artificial

correct

Made by: Waqar Siddhu

Question No : 33 of 52

Marks: 1 (Budgeted Time 1 Min)

In the big-M method, if the introduced \_\_\_\_\_ variables do not leave the basis in the final iteration, then this indicates that the give linear programming problem cant be optimized.

VuAnswers.com

Answer ( Please select your correct option )

entering

positive slack

negative slack

artificial

correct

Made by: Waqar Siddhu

Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

Zero valued artificial variables may appear as \_\_\_\_\_ variables in the final solution, when one or more of the original constraints equations is redundant.

VuAnswers.com

Answer ( Please select your correct option )

non basic

basic

correct

slacks

surplus

artificial

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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

By using Two phase method to solve a linear programming problem, in phase I, a new objective function is formed by assigning on left hand side, zero to every original variable (including slack and surplus variables) and ----- to each of the artificial variables.

VuAnswers.com

Answer ( Please select your correct option )

 M -M

correct

 +1 -1

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Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

For the linear programming problem;

$$\text{Max } Z = 2x + 3y$$

Subject to

$$\left. \begin{array}{l} x \geq 2 \\ y \leq 3 \\ x, y > 0 \end{array} \right\} \Rightarrow \left. \begin{array}{l} x - s_1 + A = 2 \\ y + s_2 = 3 \\ x, y, s_1, s_2, A > 0 \end{array} \right\}$$

VuAnswers.com

Answer ( Please select your correct option )

$\text{Max } Z = 2x + 3y + A$

$\text{Min } Z = 2x + 3y + A$

$\text{Max } Z = A$

$\text{Min } Z = A$

Made by: Waqar Siddhu

Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

For the linear programming problem;

$$\text{Max } Z = 2x + 3y$$

Subject to

$$\left. \begin{array}{l} x \geq 2 \\ y \leq 3 \\ x, y > 0 \end{array} \right\} \Rightarrow \left. \begin{array}{l} x - s_1 + A = 2 \\ y + s_2 = 3 \\ x, y, s_1, s_2, A > 0 \end{array} \right\}$$

VuAnswers.com

Answer ( Please select your correct option )

$\text{Max } Z = 2x + 3y + A$

$\text{Min } Z = 2x + 3y + A$

$\text{Max } Z = A$

$\text{Min } Z = A$

correct

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Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

$$\left. \begin{array}{l} y \leq 3 \\ x, y \geq 0 \end{array} \right\} \Rightarrow y + s_2 = 3$$
$$\left. \begin{array}{l} x, y, s_1, s_2, A \geq 0 \end{array} \right\}$$

Which of the following is associated objective function of the 1<sup>st</sup> phase?

VuAnswers.com

Answer ( Please select your correct option )

MaxZ = 2x + 3y + A

MinZ = 2x + 3y + A

MaxZ = A

MinZ = A

correct

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Question No : 37 of 52

Marks: 1 (Budgeted Time 1 Min)

The inequality  $2x + 3y \geq 18$  is equivalent to

VuAnswers.com

Answer ( Please select your correct option )

$2x + 3y \leq -18$

$-2x - 3y \geq 18$

$-2x - 3y \geq -18$

$-2x - 3y \leq -18$

correct

Made by: Waqar Siddhu

Question No : 38 of 52

Marks: 1 (Budgeted Time 1 Min)

In which of the following models, Simplex algorithm is not preferred to use due to laborious computations?

VuAnswers.com

Answer ( Please select your correct option )

Transportations models

Degenerate Linear models

correct

Non-degenerate Linear models

Dual or unbounded linear models

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Question No : 39 of 52

Marks: 1 (Budgeted Time 1 Min)

Transportations models consist of ----- like the production centers and ----- which may be the sales centers.

VuAnswers.com

Answer ( Please select your correct option )

(sinks, sources)

(sources, sinks)

correct

(origins, sources)

(sinks, destinations)

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To convert the transportation problem into a maximization model we have to-----.

VuAnswers.com

Answer ( Please select your correct option )

write the inverse of the coefficient matrix

multiply the feasibility condition by  $-1$

multiply the coefficient matrix by  $-1$

We can't convert the transportation problem into a maximization problem, as it is basically a minimization prob

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