

MTH601 Solved Final Term Paper 1

Waqar.siddhu@gmail.com

Year 2017

For More Plz Visit

WWW.VirtualAcademyLive.com



In the Name of Allāh, the Most Gracious, the Most Merciful

Paper Pattern

MCQS 40 each 1 mark
Short 4 each 2 marks
Short 4 each 3 marks
long 4 each 5 marks

MTH601 Operations Research			BC08040074
Question No : 1 of 52			Marks: 1 (Budgeted Time 1 Min)
The cost matrix in assignment problem is always diagonal	matrix		
	WWW.Virt	tualAcademy	Live.com
Answer (Please select your correct option)			
square matrix	correc	<u>ct</u>	
identity matrix			
zero matrix		Made by	: Waqar Siddhu
MTH601 Operations Research Question No : 2 of 52			BC08040074 Marks: 1 (Budgeted Time 1 Min)
Which of the following binary operation in assignment pro	blem among all the elements in the given profit matrix	from the highest element in the matrix	ζ
	WWW.Virt	tualAcademy	Live.com
Answer (Please select your correct option)			
Subtraction	correct		
Division			
Multiplication			
Addition		Made bu	: Magar Siddhu

WTH601 Operations Research Question No: 3 of 52	BC08040074 Marks: 1 (Budgeted Time 1 Min)
PANCET MAIN TO SELECT THE SELECT	
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
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
0.25	
C	
0.222	
C 0.333	
0.9708	
C	correct
4	
c	Made by: Waqar Siddhu
MTH601 Operations Research	BC08040074
Question No : 4 of 52	Marks: 1 (Budgeted Time 1 Min)
In sequencing problems, the Johnson's algorithm in finding	g the optimal ordering of n jobs through 3 machines can be applied, if the problem is converted into following number of machines problems
A STATE OF THE PROPERTY OF THE	프로스스 스타트에 아르아 2011년 이 프로스 인터를 보고 있는데 이 프로스 전에 나타보다 보고 있다면 하는데 그 등에 가장 이 프로스 스타트에 가장 아르아 그 나타보다. 그는데 그 등에 아르아 그 나타보다 보고 있는데 그 등에 아르아 그 나타보다. 이 아르아 그는데 그 등에 아르아 그 들어 아르아 그 등에 아르아 그 들어 아르아 그 들어 아르아 그 등에 아르아 그 들어 아르아 그를 되었다면 어느 그를 되었다면 어느 그 들어 아르아 그를 되었다면 어느 그를 되었다면 어느 그 들어 아르아 그를 되었다면 어느 그 들어 아니라고 되었다면 어느 그 되었다면 어느 그 들어 아니라고 되었다면 어느 그 그 들어 아니라고 되었다면 어느 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	- To to to the caan to a definy 2 to e.e. o
3n	
C	correct
C 3n1	
2×3 = 6	
c	
<u> </u>	
C 2	Made by: Waqar Siddhu
MTH601 Operations Research	BC08040074
Question No : 5 of 52	Marks: 1 (Budgeted Time 1 Min)
If the money carries a rate of interest of 12% per year, th	
in the money carries a rate of interest of 1276 per year, in	e present worth factor of one rupee due in one year is
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
0.08333	
C	
0.89285	
	correct
0.0769	
C 0.0769	
1	
13	Made by: Wagar Siddhu
С	. Dane pa. Madur Zinnit
HORSE THE RESERVE	

MTH601 Operations Research		BC08040074
Question No : 6 of 52		Marks: 1 (Budgeted Time 1 Min)
Degeneracy in a $5{ imes}6$ transportation problem occurs when	the number of occupied cell is less than	
	\^/\^/\^/\	/irtualAcademyLive.com
Answer (Please select your correct option)	VV VV . \	III tualAcadelliyElve.com
20 but greater than 10		
C		
c 10	correct	
Zero		
0		
Infinity		Made by: Wagar Siddhu
MTH601 Operations Research		BC08040074
Question No : 7 of 52		Marks: 1 (Budgeted Time 1 Min)
We go in probabilistic replacement model when period betw	reen installation and failure is	
	www.\	/irtualAcademyLive.com
Answer (Please select your correct option)		—————————————————————————————————————
varying exponentially		
varying linearly		
0	correc	<u>t</u>
Constant		
is not constant (varying arbitrarily)		Made by: Wagar Siddhu
MTH601 Operations Research		BC08040074
Question No : 8 of 52		Marks: 1 (Budgeted Time 1 Min)
	at a second and a second a second and a second a second and a second a second and a	
Any set of non negative allocations $(X_{ij} \ge 0)$ which satisfies	the row and column sum is called a	solution.
	WWW.\	/irtualAcademyLive.com
Answer (Please select your correct option)		
feasible		
C		
non basic feasible		
non basic teasible		
basic infeasible		
C		
optimal		
Оршпа	correct	Made by: Wagar Siddhu
AND THE PROPERTY OF A STATE OF THE PARTY OF	SOLD SALES BEING A SOLD	

uestion No : 9 of 52			Marks: 1 (Budget	ed Time 1 Min)
If a basic feasible solution contains less than " $m+n-1$ " (Here n	n is the number of rows, n is the number of colu	nns in transportation problem) non neg	gative allocation, then it is said to b	oe .
	VANAMAZ V.	1/4	•	
nswer (Please select your correct option)	www.virt	ual Academy L	ive.com	
Degenerate				
C	correct			
Multiple Solutions				
Non degenerate				
C				
Alternative Optima		Made by:	Magar S	iddh
TH601 Operations Research		. g.,c ,g.	pp inqui	BC0804007
uestion No : 10 of 52			Marks: 1 (Budget	ed Time 1 Min)
Consider the following cost table:				
Destinations D1 D2	D3 Supply			
Source S1 5 1	2 25			
S2 7 2 nswer (Please select your correct option)	WWW.Virt	ualAcademyL	ive.com	
10				
C				
15				
C				
25				
С				
5	Summany,	Mode but	14000F 6	:446.
TH601 Operations Research	correct	Made by:	Madar 2	BC08040074
uestion No : 10 of 52			Marks: 1 (Budget	
Source S1 5 1	2 25 4 10			
S3 3 3 Demand 10 20	5 15			
Demand 10 20				
	WWW.Virt	ual Academy L	ive.com	
nswer (Please select your correct option)	<u> </u>		Λ	
С 10				
15				
c i				
25				
c and a second				
5	(25,437)22		1 10 6	
c	correct	Made by:	Wagar S	iaahu

MTHA01 Operations Research

PC09040074

MTH601 Operations Research	BC08040074
Question No : 12 of 52	Marks: 1 (Budgeted Time 1 Min)
We go in probabilistic replacement model when period between	installation and failure is
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	VVVVV.VII taalAcaaeliiyEive.com
varying exponentially	
C Varying exponentially	
varying linearly	
C	correct
Constant	
is not constant (varying arbitrarily)	Made by: Wagar Siddhu
C	
MTH601 Operations Research	BC08040074
Question No : 13 of 52	Marks: 1 (Budgeted Time 1 Min)
If the mean arrival and mean service rates are 4 and 7 respective	ly in a queue then expected waiting time in the system is
	VAVVAV Vistoral A and amout in a com-
Annual Disease relatively segret artist t	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
$c \left \frac{1}{3} \right $	
33	correct
3	
C	
28	
7	Mada bus \$40aaa Ciddha
C 4	Made by: Wagar Siddhu
MTH601 Operations Research	BC08040074
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 " μ " =
	VAVVAVVAV Vistorial A and demonstrate a comp
Anewor / Please refer tour source source)	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
6 per hour	correct
	SOMA SALE
4 per hour	
c	
10 per hour	
1/6 per hour	
C life per nour	Made by: Wagar Siddhu
VENEZURA STEGRALIST CONTRACTOR STEGRALIST	

MTH601 Operations Research	BC08040074
Question No : 15 of 52	Marks: 1 (Budgeted Time 1 Min)
	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 arrival rate is 5 per hour and the service rate is 10 per hour then the equipment utilization " ρ " is equal to
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
0.50	correct
c 0.20	
5	
2 MTH601 Operations Research	Made by: Wagar Siddhu
Question No : 16 of 52	Marks: 1 (Budgeted Time 1 Min)
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
1/8 = 0.125	correct
c 8	
c 4	
%=0.25 MTH601 Operations Research	Made by: Wagar Siddhu
Question No : 17 of 52	Marks: 1 (Budgeted Time 1 Min)
A repairman services three machines. For each machine the of 2 hours. Then the mean service time " μ " is	time between service requirements is 8 hours following exponential distribution. The time of repair also has the same distribution with a mean
Answer (Please select your correct option)	WWW.VirtualAcademyLive.com
c ½=0.5	correct
c 4	
° 1/4 = 0.25	
2 C	Made by: Wagar Siddhu

Question No : 18 of 52			Marks: 1 (i	Budgeted Time 1 Min)
If "Ni" be the Number of replacement made at the end of the i th week and "	Pj" be the probability of failure	during the i th week, then $N_I =$		
	WWW.Vi	rtual Academy I	Live.com	
Answer (Please select your correct option)			- A	
C NoP1	correct			
C N.P.				
N _o P _o				
N _{P2}		— Made by:	Wagar	Siddhu
MTH601 Operations Research				BC08040074
Question No : 19 of 52			Marks: 1 (i	Budgeted Time 1 Min)
Answer (Please select your correct option)	WWW.Vi	rtual Academy	Live.com	
V = 1/(1+r)	correct			
v = (1+r)				
v = (1+r)/10				
v = (1/r)		- Made by:	Wagar	Siddhu
ATH601 Operations Research				BC08040074
Question No : 20 of 52 Formula for a geometric series " $x + \nu x + \nu^2 x + + \nu^{n-1} x$ " is			Marks: 1 (f	Budgeted Time 1 Min)
Answer (Please select your correct option)	WWW.Vi	rtualAcademy	Live.com	
$P(n) = x \frac{1-\nu^n}{1-\nu}$	correct			
$P(\nu) = \frac{1-\nu^n}{1-\nu}$				
$C \qquad P(n) = n \frac{1-\nu}{1-\nu^n}$				
$C P(\nu) = \frac{1-\nu}{1-\nu^n}$		Made by:	Wagar	Siddhu

MTH601 Operations Research

BC08040074

MTH601 Operations Research			BC08040074
Question No : 21 of 52		Marks: 1 (Bu	dgeted Time 1 Min)
Product of 'item cost' and 'ordered item' is			1
	WWW.VirtualAca	demvLive.com_	
Answer (Please select your correct option)			
Crash cost			8
C			
Cost period			
c Son period	correct		
	SMAANNE		
Set up cost			ē.
Shortage cost	Ma	do but \$40000	C:44b.
С	.7130	de by: Waqar ,	
MTH601 Operations Research Question No : 22 of 52		Market 1/Du	BC08040074 dgeted Time 1 Min)
######################################		marks: 1 (Du	ogeted rime riminj
Standard Deviation (S.D.) = MAD			
			9
	WWW.VirtualAca	demyLive.com	- 6
Answer (Please select your correct option)		A	
$\frac{1}{2\pi}$			
V 3			
5			<u> </u>
$c \sqrt{\frac{2}{\pi}}$			9
$c\sqrt{\frac{\pi}{2}}$	correct		8
12	EMBAZEI		
$C\sqrt{\frac{3\pi}{2}}$	Ma	de by: Waqar .	Giddhu
MTH601 Operations Research	2 5/4	ac 29. pp. adjac.	BC08040074
Question No : 23 of 52		Marks: 1 (Bu	dgeted Time 1 Min)
MAD = S.D.			
			ě
	140404/10 . IA		
	WWW.VirtualAca	demyLive.com_	
Answer (Please select your correct option)		A	
$c \sqrt{\frac{2}{\pi}}$	correct		
$c\sqrt{\frac{\pi}{2}}$			
$C \sqrt{\frac{1}{2}}$			
27			
$c\sqrt{\frac{2\pi}{3}}$			6
N Section 1	Approximate and the second sec		- Demision III
$C \sqrt{\frac{3\pi}{2}}$	Ma	de by: Waqar .	Siddhu
1 V 2	Description of the second second	THE WAR THE THE THE	SERVICE STREET

MTH601 Operations Research	BC08040074
Question No : 24 of 52	Marks: 1 (Budgeted Time 1 Min)
The following network is an example of	
•	
→ 0 \ \	
La Contraction of the Contractio	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
Redundancy	
C	
Dangling	
C	correct
Cycling	
C Dummy	Made by: Waqar Siddhu
MTH601 Operations Research	BC08040074
Question No : 25 of 52	Marks: 1 (Budgeted Time 1 Min)
For any activity backward pass computations provide its	
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	**************************************
Earliest start times	
C	
Latest start times	
C	correct
V	
Moderate start times	
Completion time	Made by: Wagar Siddhu
MTH601 Operations Research	BC08040074
Question No : 26 of 52	Marks: 1 (Budgeted Time 1 Min)
Best possible time estimate that a given activity would take und	er normal conditions which often exist, is called
	WWW.VirtualAcademyLive.com
Answer (Please select your correct option)	
Most Likely time estimate	
C	
Pessimistic time estimate	
C C	correct
Smallest time estimate	
Activity time estimate	Made by: Wagar Siddhu
All selle train to the sellent rain to	STATE OF THE PROPERTY OF THE P
A Charles of Magazine and All St. Charles of Magazine	

	H601 Operations Research				BC08040074
Que	stion No : 27 of 52			Marks: 1 (i	Budgeted Time 1 Min)
In	PERT, activity time estimates are distributed according to				
		www.\	/irtualAcademyL	ive.com	
Ans	wer (Please select your correct option)				
C	Beta Distribution	correct			
c	Normal Distribution				
c	Poisson distribution				
С	Binomial Distribution H601 Operations Research		Made by:	Wagar	Siddhu BC08040074
	estion No : 28 of 52			Marks: 1 (i	Budgeted Time 1 Min)
		_www.\	/irtualAcademyL	ive.com ₌	
Ans	wer (Please select your correct option)		•		
c	Half plane below y-axis				
c	Half plane below the line: $y = 0$				
C	Set of all those points where ordinates are non-positive				
С	All are equivalent H601 Operations Research	correct	Made by:	Wagar	Siddhu BC08040074
_	estion No : 29 of 52			Marks: 1 (I	Budgeted Time 1 Min)
In	a linear Programming Problem (LPP), which of the following must be hold	17			
Ans	wer (Please select your correct option)	www.\	/irtualAcademyL	ive.com ₌	
c	Only objective function is linear				
c	Both objective function and constraints are linear		correct		
C	Only constraints needs to be linear				
c	At least one of objective function or constraint should be linear		Made by:	Waqar	Siddhu

ATH601 Operations Research Question No : 30 of 52		BC08040074
	· CID II C CD C	Marks: 1 (Budgeted Time 1 Min)
If a company manufacture x units of product A and y un	uts of B with associated protits of Rs.⊃ and	Rs.3 then which of the following is the objective function to maximize is the profit?
	\A/\A/\A/\\	listual Acadamyl iva com
Answer (Please select your correct option)	vv vv vv. v	'irtualAcademyLive.com
z = 15xy		
C		
z = 5x - 3y		
c 2-32-34		
z = 3x - 5y		
z = 5x + 3y	correct	Made by: Waqar Siddhu
MTH601 Operations Research		BC08040074
Question No : 31 of 52		Marks: 1 (Budgeted Time 1 Min)
The variable is chosen by examining the cos	t coefficents in the objective function.	
	WWW.V	'irtualAcademyLive.com
Answer (Please select your correct option)	A second state of the country of the	Α
entering	correct	
leaving		
positive slack		
negative slack		Made by: Waqar Siddhu
MTH601 Operations Research		BC08040074
Question No : 32 of 52		Marks: 1 (Budgeted Time 1 Min)
While solving a linear programming problem by big $M-Me$	thod, traditionally the variables are	chosen in the initial basic feasible solution.
	www.v	'irtualAcademyLive.com
Answer (Please select your correct option)		
neagtive slack		
1860		
positive slack		
C		
entering		
c		
artificial		
C	correct	Made by: Waqar Siddhu
(9xxxx alienter) mengapi mengapi 100,9xxx alienter mengapi 1	THE RESERVE OF THE PARTY OF THE	

uestion No : 33 of 52		Marks: 1 (Budgeted Time 1 f
in the big-M method, if the introduced	variables do not leave the basis in the final its	eration, then this indicates that the give linear programming problem cant be optimized.
	\^/\^/\^/	VirtualAcademyLive.com
nswer (Please select your correct option)		VIII CadiAcadeIIIyEIVeicoIII
entering		
positive slack		
negative slack		
artificial	correct	Made by: Waqar Siddl
TH601 Operations Research	SOLISSE	BC08040
uestion No : 34 of 52		Marks: 1 (Budgeted Time 1 I
Zero valued artificial variables may appear as	variables in the final solution, when one or	r more of the original constraints equations is redundant.
	WWW.	VirtualAcademyLive.com
nswer (Please select your correct option)		
non basic		
basic	correct	
slacks		
surplus		
artificial		— Made by: Waqar Siddl
TH601 Operations Research uestion No : 35 of 52		BC08040 Marks: 1 (Budgeted Time 1 I
	moving problem in phase T a new chiective funct	tion is formed by assigning on left hand side, zero to every original variable (including slack and
curplus variables) and to each of the artificia		tion is formed by assigning on feir hand side, zero to every original variable (including stack and
	\A/\A/\A/	Virtual Academy Live com
nswer (Please select your correct option)	vv vv vv.	VirtualAcademyLive.com
C M		
с —м	correct	
+1		
-1		Made but \$40aaa Gidd
С		Made by: Wagar Siddl
经生产的社会 包含的基础的		

Question No : 36 of 52			Marks: 1 (Bu	dgeted Time 1 Min)
For the linear programming problem; MaxZ = 2x + 3y Subject to				
$ \begin{array}{c} x \ge 2 \\ y \le 3 \\ \Rightarrow y + s_2 = 3 \\ \Rightarrow y + s_1 = 2 $	www.vii	rtual Academy Liv	e.com_	
Answer (Please select your correct option)		tuan teadening Err		i i
C MaxZ = 2x + 3y + A				
$\operatorname{Min} Z = 2x + 3y + A$				
MaxZ = A				
MinZ = A		Made by: 7	Nagar .	
MTH601 Operations Research Question No : 36 of 52			Marks: 1 (Bu	BC08040074 dgeted Time 1 Min)
			marks. 1 (bu	ogeted (line (min)
For the linear programming problem; MaxZ = 2x + 3y Subject to $x \ge 2$ $x - s_1 + A = 2$				
$y \le 3 \Rightarrow y + s_1 = 3$ $\Rightarrow y + s_1 = 3 \Rightarrow 0$	WWW.Vii	rtual Academy Liv	e.com_	
Answer (Please select your correct option)			A .	
$\max Z = 2x + 3y + A$				
MinZ = 2x + 3y + A				
MaxZ = A				
MinZ = A C MTH601 Operations Research	correct	Made by: 1	Nagar .	Siddhu BC08040074
Question No : 36 of 52			Marks: 1 (Bu	dgeted Time 1 Min)
$y \le 3$ $\Rightarrow y + s_2 = 3$ $x, y \ge 0$ $\Rightarrow x, y, s_1, s_2, A \ge 0$ Which of the following is associated objective function of the 1st phase?			100000000000000000000000000000000000000	
The state of the s	\\/\\/\\/\\/\\/\\/\\/\\/\\	rtual Academy Liv	e com	
Answer (Please select your correct option)				Į.
$\max Z = 2x + 3y + A$				
MinZ = 2x + 3y + A				
MaxZ = A				i i
MinZ = A	correct	Made by: 7	Nagar .	Siddhu
				100

MTH601 Operations Research

BC08040074

MTH601 Operations Research			***************************************	BC08040074
Question No : 37 of 52			Marks: 1 (Budgeted Time 1 Min)
The inequality $2x + 3y \ge 18$ is equivalent to				
	WWW.Virt	ualAcaden	nvlive.com_	
Answer (Please select your correct option)				
$2x+3y \le -18$				8
$-2x-3y \ge 18$				
0				
$C = -2x - 3y \ge -18$				
		-		
$-2x-3y \le -18$	correct	Mode I	by: Waqar	Ciddha
MTH601 Operations Research	correct	"June"	al. Madar	BC08040074
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?		Management *	9.00.00
in which of the following models, Sunplex algorithms not preferred to use	due to laborious computations?			
		NA William	(T-111-0)	
	$\mathbf{_WWW.Virt}$	ualAcaden	nyLive.com ₌	
Answer (Please select your correct option)				
Transportations models				3
Degenerate Linear models				
C	correct			
Non-degenerate Linear models				
C Tron-degenerate Entea models				
		=		awaraan maay maasa m
Dual or unbounded linear models		Made !	by: Waqar	Siddhu
MTH601 Operations Research		J	9 ,, ,	BC08040074
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 cente	S.		
				9
	VALVALVAL VIII	مرم المحم المري	and has some	
Answer (Please select your correct option)	WWW.Virt	uaiAcadei	nyLive.com	
(sinks, sources)				
(SHRS, SOURCES)				
(sources, sinks)				
	correct			
(origins, sources)				
C				
24/92 92/92 87/9 0X		=		2020020020
(sinks, destinations)		Made !	by: Waqar	Siddhu
		ELECTION FOR	AND THE PROPERTY.	AND THE STREET

100	H601 Operations Research stion No : 40 of 52	BC08040074 Marks: 1 (Budgeted Time 1 Min)
To	convert the transportation problem into a maximization model we have to	
201	convers the seams possession provides also a maximization model we have to	
		\A/\A/\A/\/\/\intual/\aadamudius com
nsv	wer (Please select your correct option)	WWW.VirtualAcademyLive.com
	write the inverse of the coefficient matrix	
C	- Notice and the control of the Selection of Control of	
	multiply the feasibility condition by -1	
C	manapy the teasionary contained by 1	
c	multiply the coefficient matrix by -1	
ļ		
C	We can't convert the transportation problem into a maximization problem,	as it is basically a minimization prob Made by: Wagar Siddhu
	第4.0人自己	
	the contact of the contact of the	
ģ		
	是他们在AFA 2000年度的在AFA 2000年度	世初190年以后1956年前190年以后1956年前190年以后1956年前190
	是他们的ATTAL EXTENDED TO ATTAL EXTENDED	他对自己不是"等"等他对自己不是"等"的是自己的不是"等"等他的自己
	医直角动物 化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	
は、中代のは、一般に対していると		
は一般には、一般に対していると		
は一般ないないというというとなったいない		
される はいない という はいない との おいれいかい		
は 日本		