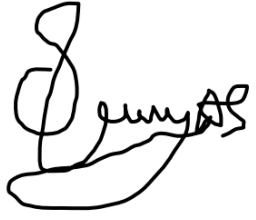




**LEMBAR JAWABAN**  
**INSTITUT TEKNOLOGI DAN BISNIS SWADHARMA JAKARTA**  
**FAKULTAS TEKNOLOGI**

1

NAMA	: Semmy Andrianto Suihana	TANDA TANGAN MAHASISWA
NIM	: 211211002	
HARI/TANGGAL	: Rabu, 02 Febuary 2022	
FAKULTAS	: Teknologi	
PROGRAM STUDI	: Teknologi Informatika	
KELAS	: Malaka pagi	
MATAKULIAH	: Aljabar linear	
NAMA DOSEN	: Septiana Ningtyas, S.KOM, M.KOM	

**JAWABAN**

1. 
$$\begin{aligned} P_1 : & x_1 - x_2 + 2x_3 - x_4 = -8 \\ P_2 : & 2x_1 - 2x_2 + 3x_3 - 3x_4 = -20 \\ P_3 : & x_1 + x_2 + x_3 = -2 \\ P_4 : & x_1 - x_2 + 4x_3 + 3x_4 = 4 \end{aligned}$$

Metode gaus

1	-1	2	-1	-8	b1
2	-2	3	-3	-20	b2
1	1	1	0	-2	b3
1	-1	4	3	4	b4

		tahap 1				
		1	-1	2	-1	-8
b2-2*b1		0	0	-1	-1	-4
b3-1*b1		0	2	-1	1	6
b4-1*b1		0	0	2	4	12
		tahap 2				
		1	-1	2	-1	-8
pertukaran b2 dgn b3		0	2	-1	1	6
		0	0	-1	-1	-4
		0	0	2	4	12
		tahap 3				
		1	-1	2	-1	-8
b2/2		0	1	-1	1	3
b3/-1		0	0	1	1	4
b4+2*b3		0	0	0	2	4
		tahap 4				
		1	-1	2	-1	-8
		0	1	-1	1	3
		0	0	1	1	4
b4/2		0	0	0	1	2

Metode gaus jordan

		1	-1	2	-1	-8
		2	-2	3	-3	-20
		1	1	1	0	-2
		1	-1	4	3	4
		tahap 1				
	b1/1	1	-1	2	-1	-8
	b2-(2/1)*b1	0	0	-1	-1	-4
	b3-(1/1)*b1	0	2	-1	1	6
	b4-(1/1)*b1	0	0	2	4	12
		tahap 2				
		1	-1	2	-1	-8
	pertukaran b2 dengan b3	0	2	-1	1	6
		0	0	-1	-1	-4
		0	0	2	4	12
		tahap 2				
	b1-(-1/1)*b2	1	0	2	-1	-5
	b2/2	0	1	-1	1	3
		0	0	-1	-1	-4
		0	0	2	4	12

		tahap 3			
	b1-(2/1)*b3	1	0	0	-3
	b2-(-1/1)*b3	0	1	0	2
	b3-1	0	0	1	1
	b4-(2/1)*b3	0	0	0	2
		tahap 4			
	b1-(-3/1)*b4	1	0	0	0
	b2-(2/1)*b4	0	1	0	0
	b3-(1/1)*b4	0	0	1	0
	b4/2	0	0	0	1

2. Tentukan nilai  $(AB)^T = B^T A^T$

A	=	<table><tr><td>5</td><td>6</td><td>7</td></tr><tr><td>4</td><td>5</td><td>6</td></tr><tr><td>8</td><td>9</td><td>1</td></tr></table>	5	6	7	4	5	6	8	9	1
5	6	7									
4	5	6									
8	9	1									

B	=	<table><tr><td>1</td><td>4</td><td>3</td></tr><tr><td>3</td><td>6</td><td>1</td></tr><tr><td>7</td><td>5</td><td>2</td></tr></table>	1	4	3	3	6	1	7	5	2
1	4	3									
3	6	1									
7	5	2									

$$=(AB)^T = \begin{bmatrix} 5 & 6 & 7 \\ 4 & 5 & 6 \\ 8 & 9 & 1 \end{bmatrix} \times \begin{bmatrix} 1 & 4 & 3 \\ 3 & 6 & 1 \\ 7 & 5 & 2 \end{bmatrix}$$



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$$=(AB)^T =$$

$$\begin{bmatrix} 5 \times 1 + 6 \times 3 + 7 \times 7 & 5 \times 4 + 6 \times 6 + 7 \times 5 & 5 \times 3 + 6 \times 1 + 7 \times 2 \\ 4 \times 1 + 5 \times 3 + 6 \times 7 & 4 \times 4 + 5 \times 6 + 6 \times 5 & 4 \times 3 + 5 \times 1 + 6 \times 2 \\ 8 \times 1 + 8 \times 3 + 1 \times 7 & 8 \times 4 + 9 \times 6 + 1 \times 5 & 8 \times 3 + 9 \times 1 + 1 \times 2 \end{bmatrix} =$$

$$\begin{bmatrix} 5 + 18 + 49 & 20 + 36 + 35 & 15 + 6 + 14 \\ 4 + 15 + 42 & 16 + 30 + 30 & 12 + 5 + 12 \\ 8 + 24 + 7 & 32 + 54 + 5 & 24 + 9 + 2 \end{bmatrix} = \begin{bmatrix} 72 & 91 & 35 \\ 61 & 76 & 29 \\ 39 & 91 & 35 \end{bmatrix}$$

$$=(AB)^T \begin{bmatrix} 72 & 61 & 39 \\ 91 & 76 & 91 \\ 35 & 29 & 35 \end{bmatrix}$$

$$=B^T = \begin{bmatrix} 1 & 3 & 7 \\ 4 & 6 & 5 \\ 3 & 1 & 2 \end{bmatrix}$$

$$=A^T = \begin{bmatrix} 5 & 4 & 8 \\ 6 & 5 & 9 \\ 7 & 6 & 1 \end{bmatrix}$$

$$=B^T A^T = \begin{bmatrix} 1 & 3 & 7 \\ 4 & 6 & 5 \\ 3 & 1 & 2 \end{bmatrix} \times \begin{bmatrix} 5 & 4 & 8 \\ 6 & 5 & 9 \\ 7 & 6 & 1 \end{bmatrix} = \begin{bmatrix} 5 + 18 + 49 & 4 + 15 + 42 & 8 + 27 + 7 \\ 20 + 36 + 35 & 16 + 30 + 30 & 12 + 5 + 12 \\ 15 + 6 + 14 & 32 + 51 + 5 & 24 + 9 + 2 \end{bmatrix} = \begin{bmatrix} 72 & 61 & 39 \\ 91 & 76 & 91 \\ 35 & 29 & 35 \end{bmatrix}$$

$$=B^T A^T = \begin{bmatrix} 72 & 61 & 39 \\ 91 & 76 & 91 \\ 35 & 29 & 35 \end{bmatrix} = (AB)^T = B^T A^T = \begin{bmatrix} 72 & 61 & 39 \\ 91 & 76 & 91 \\ 35 & 29 & 35 \end{bmatrix}$$



INSTITUT TEKNOLOGI DAN BISNIS  
SWADHARMA

**KARTU PESERTA UJIAN AKHIR SEMESTER**

Nama Mahasiswa : SEMMY ANDRIANTO SUIHANA  
NIM : 211211002  
Fakultas : Teknologi  
Program Studi : Teknik Informatika S1

Jenjang Pendidikan : STRATA SATU (S1)  
Tahun Akademik : 2021/2022 Gasal Reguler  
Semester : 1  
Kode Keamanan : 35852295

No	KODE	MATA KULIAH	SKS	KELAS	JADWAL UJIAN			PENGAWAS	
					HARI - TANGGAL	JAM	RUANG / NO	Nama	Tanda Tangan
1	TB2102	BAHASA INGGRIS	2	KB01	Senin / 07-02-2022	13:00-14:30	/ null		
2	TI2102	KALKULUS	4	KB01	Senin / 31-01-2022	13:00-14:30	/ null		
3	TB2101	PENDIDIKAN AGAMA	2	KB03	Senin / 31-01-2022	19:00-20:30	/ null		
4	TI2104	INFORMATION THEORY	4	KB01	Selasa / 08-02-2022	13:00-14:30	/ null		
5	TI2101	ALJABAR LINIER	2	KB01	Rabu / 02-02-2022	13:00-14:30	/ null		
6	TI2103	MATEMATIKA DISKRIT	4	KB01	Rabu / 09-02-2022	13:00-14:30	/ null		
7	TI2105	PENGANTAR SISTEM DIGITAL	2	KB01	Jumat / 04-02-2022	13:00-14:30	/ null		



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