

Lampiran 1

Hasil Uji Distribusi Ukuran Partikel Formula A Batch I

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,52	79,11	0,8103
	40	425	6,0529	25,85	53,26	0,0818
	60	250	5,5215	17,37	35,89	-0,3613
	80	180	5,1930	9,95	25,94	-0,6452
	100	150	5,0106	4,43	21,51	-0,7889
	120	125	4,8283	6,77	14,74	-1,0478
	0	0		14,74	0	-
				99,63		
II	20	850	6,7452	20,43	79,22	0,8141
	40	425	6,0529	25,86	53,36	0,0860
	60	250	5,5215	17,45	35,91	-0,3608
	80	180	5,1930	9,85	26,04	-0,6421
	100	150	5,0106	4,51	21,55	-0,7876
	120	125	4,8283	6,72	14,83	-1,0439
	0	0		14,83	0	-
				99,65		
III	20	850	6,7452	20,35	79,29	0,8165
	40	425	6,0529	25,85	53,44	0,0863
	60	250	5,5215	17,55	35,89	-0,3613
	80	180	5,1930	9,91	25,98	-0,6439
	100	150	5,0106	4,49	21,49	-0,7896
	120	125	4,8283	6,76	14,73	-1,0483
	0	0		14,73	0	-
				99,64		

Lampiran 2

Hasil Uji Distribusi Ukuran Partikel Formula A Batch II

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,40	79,15	0,8117
	40	425	6,0529	25,92	53,23	0,0810
	60	250	5,5215	17,55	35,68	-0,3670
	80	180	5,1930	9,70	25,98	-0,6439
	100	150	5,0106	4,48	21,50	-0,7893
	120	125	4,8283	6,75	14,75	-1,0474
	0	0		14,75	0	-
				99,55		
II	20	850	6,7452	20,43	79,13	0,8110
	40	425	6,0529	25,88	53,25	0,0815
	60	250	5,5215	17,62	35,63	-0,3684
	80	180	5,1930	9,80	25,83	-0,6484
	100	150	5,0106	4,30	21,53	-0,7883
	120	125	4,8283	6,79	14,74	-1,0478
	0	0		14,74	0	-
				99,56		
III	20	850	6,7452	20,36	79,22	0,8141
	40	425	6,0529	25,95	53,27	0,0820
	60	250	5,5215	17,60	35,67	-0,3673
	80	180	5,1930	9,86	25,81	-0,6491
	100	150	5,0106	4,25	21,56	-0,7872
	120	125	4,8283	6,82	14,74	-1,0478
	0	0		14,74	0	0
				99,58		

Lampiran 3

Hasil Uji Distribusi Ukuran Partikel Formula A Batch III

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,25	79,20	0,8135
	40	425	6,0529	25,90	53,30	0,0828
	60	250	5,5215	17,60	35,70	-0,3665
	80	180	5,1930	9,80	25,90	-0,6464
	100	150	5,0106	4,40	21,50	-0,7893
	120	125	4,8283	6,78	14,72	-1,0487
	0	0		14,72	0	-
				99,45		
II	20	850	6,7452	20,35	79,15	0,8117
	40	425	6,0529	25,88	53,27	0,0820
	60	250	5,5215	17,55	35,72	-0,3659
	80	180	5,1930	9,76	25,96	-0,6445
	100	150	5,0106	4,38	21,58	-0,7865
	120	125	4,8283	6,85	14,73	-1,0483
	0	0		14,73	0	-
				99,40		
III	20	850	6,7452	20,15	79,28	0,8162
	40	425	6,0529	25,95	53,33	0,0835
	60	250	5,5215	17,62	35,71	-0,3662
	80	180	5,1930	9,75	25,96	-0,6445
	100	150	5,0106	4,45	21,51	-0,7889
	120	125	4,8283	6,80	14,71	-1,0491
	0	0		14,71	0	-
				99,43		

Lampiran 4

Hasil Uji Distribusi Ukuran Partikel Formula B Batch I

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,22	79,36	0,8189
	40	425	6,0529	26,85	52,51	0,0630
	60	250	5,5215	18,30	34,21	-0,4068
	80	180	5,1930	8,30	25,91	-0,6461
	100	150	5,0106	4,35	21,56	-0,7872
	120	125	4,8283	7,20	14,36	-1,0643
	0	0		14,36	0	
				99,58		
II	20	850	6,7452	20,27	79,34	0,8183
	40	425	6,0529	26,76	52,58	0,0648
	60	250	5,5215	18,20	34,38	-0,4022
	80	180	5,1930	8,45	25,93	-0,6455
	100	150	5,0106	4,30	21,63	-0,7848
	120	125	4,8283	7,33	14,30	-1,0669
	0	0		14,30	0	
				99,61		
III	20	850	6,7452	20,30	79,25	0,8152
	40	425	6,0529	26,81	52,44	0,0613
	60	250	5,5215	18,27	34,17	-0,4078
	80	180	5,1930	8,25	25,92	-0,6458
	100	150	5,0106	4,32	21,60	-0,7858
	120	125	4,8283	7,25	14,35	-1,0647
	0	0		14,35	0	
				99,55		

Lampiran 5

Hasil Uji Distribusi Ukuran Partikel Formula B Batch II

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,45	79,17	0,8124
	40	425	6,0529	26,76	52,41	0,0605
	60	250	5,5215	18,31	34,10	-0,4097
	80	180	5,1930	8,19	25,91	-0,6461
	100	150	5,0106	4,37	21,54	-0,7879
	120	125	4,8283	7,29	14,25	-1,0691
	0	0		14,25	0	-
				99,62		
II	20	850	6,7452	20,33	79,32	0,8176
	40	425	6,0529	26,92	52,40	0,0603
	60	250	5,5215	18,29	34,11	-0,4096
	80	180	5,1930	8,23	25,88	-0,6469
	100	150	5,0106	4,31	21,57	-0,7868
	120	125	4,8283	7,15	14,42	-1,0617
	0	0		14,42	0	-
				99,65		
III	20	850	6,7452	20,55	79,12	0,8106
	40	425	6,0529	26,65	52,47	0,0620
	60	250	5,5215	18,35	34,12	-0,4092
	80	180	5,1930	8,20	25,92	-0,6457
	100	150	5,0106	4,28	21,64	-0,7845
	120	125	4,8283	7,35	14,29	-1,0674
	0	0		14,29	0	-
				99,67		

Lampiran 6

Hasil Uji Distribusi Ukuran Partikel Formula B Batch III

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,32	79,24	0,8148
	40	425	6,0529	26,76	52,48	0,0623
	60	250	5,5215	18,23	34,25	-0,4057
	80	180	5,1930	8,46	25,79	-0,6497
	100	150	5,0106	4,10	21,69	-0,7827
	120	125	4,8283	7,29	14,40	-1,0626
	0	0		14,40	0	-
				99,56		
II	20	850	6,7452	20,42	79,18	0,8127
	40	425	6,0529	26,62	52,56	0,0628
	60	250	5,5215	18,43	34,13	-0,4089
	80	180	5,1930	8,15	25,98	-0,6439
	100	150	5,0106	4,32	21,66	-0,7838
	120	125	4,8283	7,37	14,29	-1,0674
	0	0		14,29	0	-
				99,60		
III	20	850	6,7452	20,25	79,27	0,8158
	40	425	6,0529	26,80	52,47	0,0620
	60	250	5,5215	18,33	34,14	-0,4086
	80	180	5,1930	8,11	26,03	-0,6424
	100	150	5,0106	4,35	21,68	-0,7831
	120	125	4,8283	7,25	14,43	-1,0613
	0	0		14,43	0	-
				99,52		

Lampiran 7

Hasil Uji Distribusi Ukuran Partikel Formula C Batch I

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,48	79,16	0,8121
	40	425	6,0529	27,15	52,01	0,0503
	60	250	5,5215	19,20	32,81	-0,4453
	80	180	5,1930	7,85	24,96	-0,6758
	100	150	5,0106	5,43	19,53	-0,8586
	120	125	4,8283	6,50	13,03	-1,1250
	0	0		13,03	0	-
				99,64		
II	20	850	6,7452	20,21	79,24	0,8148
	40	425	6,0529	27,09	52,15	0,0540
	60	250	5,5215	19,30	32,85	-0,4442
	80	180	5,1930	7,93	24,92	-0,6771
	100	150	5,0106	5,31	19,61	-0,8557
	120	125	4,8283	6,63	12,98	-1,1273
	0	0		12,98	0	
				99,45		
III	20	850	6,7452	20,56	79,14	0,8114
	40	425	6,0529	27,13	52,01	0,0505
	60	250	5,5215	19,27	32,74	-0,4472
	80	180	5,1930	7,85	24,89	-0,6781
	100	150	5,0106	5,24	19,65	-0,8543
	120	125	4,8283	6,59	13,06	-1,1236
	0	0		13,06	0	
				99,70		

Lampiran 8

Hasil Uji Distribusi Ukuran Partikel Formula C Batch II

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,25	79,25	0,8152
	40	425	6,0529	27,18	52,07	0,0520
	60	250	5,5215	19,42	32,65	-0,4497
	80	180	5,1930	7,80	24,85	-0,6794
	100	150	5,0106	5,33	19,52	-0,8589
	120	125	4,8283	6,42	13,10	-1,1218
	0	0		13,10	0	-
				99,50		
II	20	850	6,7452	20,19	79,26	0,8155
	40	425	6,0529	27,10	52,16	0,0543
	60	250	5,5215	19,36	32,80	-0,4456
	80	180	5,1930	7,81	24,99	-0,6748
	100	150	5,0106	5,44	19,55	-0,8578
	120	125	4,8283	6,53	13,02	-1,1255
	0	0		13,02	0	-
				99,45		
III	20	850	6,7452	20,34	79,21	0,8138
	40	425	6,0529	27,02	52,19	0,0550
	60	250	5,5215	19,45	32,74	-0,4472
	80	180	5,1930	7,76	24,98	-0,6752
	100	150	5,0106	5,46	19,52	-0,8589
	120	125	4,8283	6,45	13,07	-1,1232
	0	0		13,07	0	-
				99,55		

Lampiran 9

Hasil Uji Distribusi Ukuran Partikel Formula C Batch III

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,41	79,22	0,8141
	40	425	6,0529	27,12	52,10	0,0528
	60	250	5,5215	19,40	32,70	-0,4484
	80	180	5,1930	7,59	25,11	-0,6709
	100	150	5,0106	5,49	19,62	-0,8554
	120	125	4,8283	6,53	13,09	-1,1223
	0	0		13,09	0	-
				99,63		
II	20	850	6,7452	20,37	79,21	0,8138
	40	425	6,0529	27,15	52,06	0,0518
	60	250	5,5215	19,35	32,71	-0,4414
	80	180	5,1930	7,75	24,96	-0,6758
	100	150	5,0106	5,33	19,63	-0,8550
	120	125	4,8283	6,60	13,03	-1,1250
	0	0		13,03	0	-
				99,58		
III	20	850	6,7452	20,42	79,18	0,8128
	40	425	6,0529	27,02	52,10	0,0528
	60	250	5,5215	19,27	32,83	-0,4447
	80	180	5,1930	7,80	25,03	-0,6735
	100	150	5,0106	5,35	19,68	-0,8532
	120	125	4,8283	6,60	13,08	-1,1227
	0	0		13,08	0	-
				99,54		

Lampiran 10

Hasil Uji Distribusi Ukuran Partikel Formula D Batch I

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,45	79,13	0,8110
	40	425	6,0529	28,65	50,48	0,0101
	60	250	5,5215	19,32	31,16	-0,4914
	80	180	5,1930	7,25	23,91	-0,7094
	100	150	5,0106	4,85	19,06	-0,8799
	120	125	4,8283	6,30	12,76	-1,1376
	0	0		12,76	0	-
				99,58		
II	20	850	6,7452	20,55	79,12	0,8107
	40	425	6,0529	28,36	50,76	0,0190
	60	250	5,5215	19,60	31,16	-0,4914
	80	180	5,1930	7,20	23,96	-0,7077
	100	150	5,0106	4,84	19,12	-0,8736
	120	125	4,8283	6,36	12,96	-1,1376
	0	0		12,76	0	-
				99,67		
III	20	850	6,7452	20,35	79,15	0,8117
	40	425	6,0529	28,52	50,63	0,0158
	60	250	5,5215	19,45	31,18	-0,4908
	80	180	5,1930	7,28	23,90	-0,7097
	100	150	5,0106	4,87	19,03	-0,8768
	120	125	4,8283	6,21	12,82	-1,1348
	0	0		12,82	0	-
				99,50		

Lampiran 11

Hasil Uji Distribusi Ukuran Partikel Formula D Batch II

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,20	79,25	0,8152
	40	425	6,0529	28,56	50,69	0,0173
	60	250	5,5215	19,51	31,18	-0,4908
	80	180	5,1930	7,28	23,90	-0,7096
	100	150	5,0106	4,78	19,12	-0,8736
	120	125	4,8283	6,23	12,89	-1,1314
	0	0		12,89		0
				99,45		
II	20	850	6,7452	20,23	79,29	0,8116
	40	425	6,0529	28,72	50,57	0,0143
	60	250	5,5215	19,52	31,05	-0,4944
	80	180	5,1930	7,11	23,94	-0,7084
	100	150	5,0106	4,83	19,11	-0,8739
	120	125	4,8283	6,26	12,85	-1,1333
	0	0		12,85	0	0
				99,52		
III	20	850	6,7452	20,37	79,16	0,8121
	40	425	6,0529	28,56	50,60	0,0150
	60	250	5,5215	19,54	31,06	-0,4999
	80	180	5,1930	7,06	24,00	-0,7065
	100	150	5,0106	4,90	19,10	-0,8743
	120	125	4,8283	6,27	12,83	-1,1343
	0	0		12,83	0	0
				99,53		

Lampiran 12

Hasil Uji Distribusi Ukuran Partikel Formula D Batch III

Replikasi	Mesh	d (μm)	$\ln d$ (μm)	Berat granul yang lebih kecil (gram)	% Berat kumulatif granul yang lebih kecil	Nilai Z
I	20	850	6,7452	20,31	79,17	0,8124
	40	425	6,0529	28,75	50,42	0,0105
	60	250	5,5215	19,42	31,00	-0,4958
	80	180	5,1930	7,05	23,95	-0,7081
	100	150	5,0106	4,75	19,20	-0,8707
	120	125	4,8283	6,41	12,79	-1,1362
	0	0		12,79	0	-
				99,48		
II	20	850	6,7452	20,51	79,11	0,8103
	40	425	6,0529	28,59	50,52	0,0130
	60	250	5,5215	19,43	31,09	-0,4933
	80	180	5,1930	7,17	23,92	-0,7090
	100	150	5,0106	4,88	19,04	-0,8764
	120	125	4,8283	6,23	12,81	-1,1352
	0	0		12,81	0	-
				99,62		
III	20	850	6,7452	20,24	79,26	0,8182
	40	425	6,0529	28,49	50,77	0,0193
	60	250	5,5215	19,65	31,12	-0,4925
	80	180	5,1930	7,19	23,93	-0,7087
	100	150	5,0106	4,79	19,14	-0,8728
	120	125	4,8283	6,28	12,86	-1,1328
	0	0		12,86	0	-
				99,50		

Lampiran 13

PERHITUNGAN ANAVA
KEKERASAN TABLET

ULANGAN	PERLAKUAN				JUMLAH
	A	B	C	D	
1	5,36	7,23	7,84	3,38	
2	5,38	7,2	7,85	3,36	
3	5,34	7,24	7,85	3,36	
n	3	3	3	3	12
RATA-RATA	5,360	7,223	7,847	3,367	-
J _i	16,08	21,67	23,54	10,1	71,39
J _i ²	258,57	469,59	554,13	102,01	1384,30

Perhitungan JK:

$$k = 4$$

$$n = 3$$

$$N = 12$$

$$\left(\sum Y_i^2 \right) = 461,4343$$

$$JK \text{ TOTAL} = \sum Y_{ij}^2 - \frac{J^2}{N} = 36,7233$$

$$JK. Py = \frac{\sum J_i^2}{n} - \frac{J^2}{N} = 36,7213$$

$$JK.Ey = \text{TOTAL} - Py = 0,0020$$

TABEL ANAVA

SV	db	JK	RJK	F hit.	F (0,05)	F (0,01)
Py	3	36,7213	12,2404	48961,722	4,07	7,59
Ey	8	0,0020	0,0003			
TOTAL	11	36,7233	-	-	-	-

$$\text{db (TOTAL)} = \text{kn} - 1$$

$$\text{RJK} = \text{JK} / \text{db}$$

$$\text{db (Py)} = (\text{k} - 1)$$

$$\text{F hitung} = \text{RJK (Py)} / \text{RJK (Ey)}$$

$$\text{db (Ey)} = \text{db (TOTAL - Py)}$$

Kriteria Pengujian:

2. Bila F hitung > F(0,05) maka berbeda signifikan

PENGUJIAN HIPOTESA :

a. $H : \mu_i = 0$

Yang berarti tidak ada perbedaan kekerasan yang signifikan sebagai akibat perbedaan perlakuan.

b. KESIMPULAN:

Karena F hitung > F(0,05) maka H_0 ditolak dengan sangat signifikan. Jadi perlakuan-perlakuan mengakibatkan perbedaan efek yang sangat signifikan.

UJI HSD / TUCKEY

PERLAKUAN	MEAN	A 5,360	B 7,223	C 7,847	D 3,367
A	5,360	0	1,863 *	2,487 *	1,993 *
B	7,223		0	0,623 *	3,857 *
C	7,847			0	4,480 *
D	3,367				0

$$RJK = 0,000$$

$$q_{(5\%/2; p; db)} = 4,53$$

$$n = 3$$

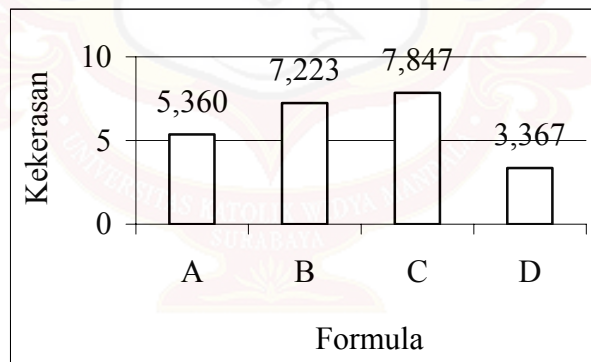
$$db = 8$$

$$HSD(5\%) = q \sqrt{\frac{RJK}{n}} = 0,041$$

Keterangan

* : Perbedaannya signifikan, karena selisihnya > HSD(5%)

TS : Perbedaannya tidak signifikan, karena selisihnya < HSD (5%)



PERHITUNGAN ANAVA
Kerapuhan Tablet

ULANGAN	PERLAKUAN				JUMLAH
	A	B	C	D	
1	0,363	0,257	0,16	0,903	
2	0,353	0,237	0,15	0,96	
3	0,327	0,25	0,167	0,957	
n	3	3	3	3	12
RATA-RATA	0,348	0,248	0,159	0,940	-
Ji	1,043	0,744	0,477	2,82	5,084
Ji ²	1,09	0,55	0,23	7,95	9,82

Perhitungan JK:

$$k = 4$$

$$n = 3$$

$$N = 12$$

$$(\sum Y_i^2) = 3,276872$$

$$J = \sum J_i = 5,084$$

$$JK \text{ TOTAL} = \sum Y_{ij}^2 - \frac{J^2}{N} = 1,1230$$

$$JK. Py = \frac{\sum J_i^2}{n} - \frac{J^2}{N} = 1,1199$$

$$JK.Ey = \text{TOTAL} - Py = 0,0031$$

TABEL ANAVA

SV	db	JK	RJK	F hit.	F (0,05)	F (0,01)
Py	3	1,1199	0,3733	963,105	4,07	7,59
Ey	8	0,0031	0,0004			
TOTAL	11	1,1230	-	-	-	-

$$\text{db (TOTAL)} = \text{kn} - 1$$

$$\text{RJK} = \text{JK} / \text{db}$$

$$\text{db (Py)} = (\text{k} - 1)$$

$$\text{F hitung} = \text{RJK (Py)} / \text{RJK (Ey)}$$

$$\text{db (Ey)} = \text{db (TOTAL - Py)}$$

Kriteria Pengujian:

- Bila F hitung > F(0,05) maka berbeda signifikan

PENGUJIAN HIPOTESA :

a. $H : \mu_i = 0$

Yang berarti tidak ada perbedaan kerapuhan yang signifikan sebagai akibat perbedaan perlakuan.

b. KESIMPULAN:

Karena F hitung > F(0,05) maka H ditolak dengan sangat signifikan. Jadi perlakuan-perlakuan mengakibatkan perbedaan efek yang sangat signifikan.

UJI HSD/TUCKEY

PERLAKUAN	MEAN	A 0,348	B 0,248	C 0,159	D 0,940
A	0,348	0	0,100 *	0,189 *	0,592 *
B	0,248		0	0,089 *	0,692 *
C	0,159			0	0,781 *
D	0,940				0

RJK = 0,000

$$q_{(5\%/2; p; db)} = 4,53$$

n = 3

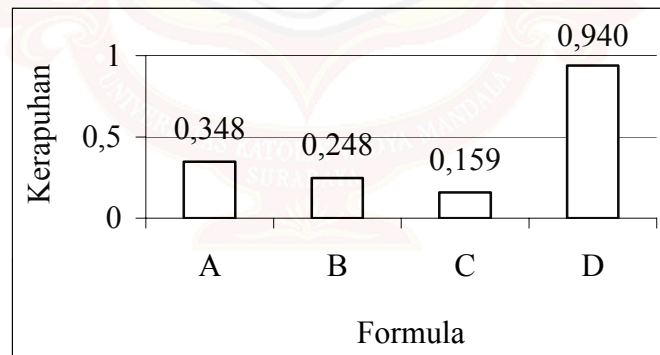
db = 8

$$HSD(5\%) = q \sqrt{\frac{RJK}{n}} = 0,051$$

Keterangan

* : Perbedaannya signifikan, karena selisihnya > HSD(5%)

TS : Perbedaannya tidak signifikan, karena selisihnya < HSD (5%)



PERHITUNGAN ANAVA
Waktu Hancur Tablet

ULANGAN	PERLAKUAN				JUMLAH
	A	B	C	D	
1	8,67	10,33	12	1	
2	8,67	10	12,67	1	
3	8,17	10,33	12	1	
n	3	3	3	3	12
RATA-RATA	8,503	10,220	12,223	1,000	-
J _i	25,51	30,66	36,67	3	95,84
J _i ²	650,76	940,04	1344,69	9,00	2944,48

Perhitungan JK:

$$k = 4$$

$$n = 3$$

$$N = 12$$

$$(\sum Y_i^2) = 982,0334$$

$$J = \sum J_i = 95,84$$

$$JK \text{ TOTAL} = \sum Y_{ij}^2 - \frac{J^2}{N} = 216,5913$$

$$JK. Py = \frac{\sum J_i^2}{n} - \frac{J^2}{N} = 216,0527$$

$$JK.Ey = \text{TOTAL} - Py = 0,5385$$

TABEL ANAVA

SV	db	JK	RJK	F hit.	F (0,05)	F (0,01)
Py	3	216,0527	72,0176	1069,833	4,07	7,59
Ey	8	0,5385	0,0673			
TOTAL	11	216,5913	-	-	-	-

$$\text{db (TOTAL)} = \text{kn} - 1$$

$$\text{RJK} = \text{JK} / \text{db}$$

$$\text{db (Py)} = (\text{k} - 1)$$

$$\text{F hitung} = \text{RJK (Py)} / \text{RJK (Ey)}$$

$$\text{db (Ey)} = \text{db (TOTAL - Py)}$$

Kriteria Pengujian:

3. Bila F hitung > F(0.05) maka berbeda signifikan

PENGUJIAN HIPOTESA :

- a. $H : \text{Pi} = 0$

Yang berarti tidak ada perbedaan waktu hancur tablet yang signifikan sebagai akibat perbedaan perlakuan.

- b. KESIMPULAN:

Karena F hitung > F(0,05) maka H ditolak dengan sangat signifikan. Jadi perlakuan-perlakuan mengakibatkan perbedaan efek yang sangat signifikan.

UJI HSD/TUCKEY

PERLAKUAN	MEAN	A 8,503	B 10,220	C 12,223	D 1,000
A	8,503	0	1,717 *	3,720 *	7,503 *
B	10,220		0	2,003 *	9,220 *
C	12,223			0	11,223 *
D	1,000				0

RJK = 0,067

$$q_{(5\%/2; p; db)} = 4,53$$

n = 3

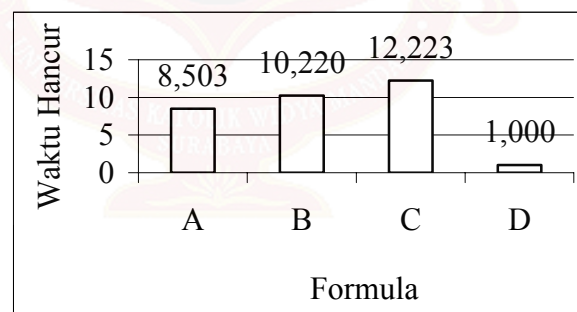
$$HSD(5\%) = q \sqrt{\frac{RJK}{n}} = 0,679$$

db = 8

Keterangan

* : Perbedaannya signifikan, karena selisihnya > HSD(5%)

TS : Perbedaannya tidak signifikan, karena selisihnya < HSD (5%)



PERHITUNGAN ANAVA
Disolusi obat

ULANGAN	PERLAKUAN				JUMLAH
	A	B	C	D	
1	80,64	76,42	74,37	83,43	
2	80,96	74,47	72,76	82,78	
3	80,96	77,72	74,37	83,11	
n	3	3	3	3	12
RATA-RATA	80,853	76,203	73,833	83,107	-
Ji	242,56	228,61	221,5	249,32	941,99
Ji ²	58835,35	52262,53	49062,25	62160,46	222320,60

Perhitungan JK:

$$k = 4$$

$$n = 3$$

$$N = 12$$

$$(\sum Y_i^2) = 74114,2253$$

$$J = \sum J_i = 941,99$$

$$JK \text{ TOTAL} = \sum Y_{ij}^2 - \frac{J^2}{N} = 168,7953$$

$$JK. Py = \frac{\sum J_i^2}{n} - \frac{J^2}{N} = 161,4360$$

$$JK.Ey = \text{TOTAL} - Py = 7,3593$$

TABEL ANAVA

SV	db	JK	RJK	F hit.	F (0,05)	F (0,01)
Py	3	161,4360	53,8120	58,497	4,07	7,59
Ey	8	7,3593	0,9199			
TOTAL	11	168,7953	-	-	-	-

$$db (TOTAL) = kn - 1$$

$$RJK = JK / db$$

$$db (Py) = (k - 1)$$

$$F \text{ hitung} = RJK (Py) / RJK (Ey)$$

$$db (Ey) = db (TOTAL - Py)$$

Kriteria Pengujian:

4. Bila $F \text{ hitung} > F(0,05)$ maka berbeda signifikan

PENGUJIAN HIPOTESA :

- a. $H : P_i = 0$

Yang berarti tidak ada perbedaan disolusi (harga Q) yang signifikan sebagai akibat perbedaan perlakuan.

- b. KESIMPULAN:

Karena $F \text{ hitung} > F(0,05)$ maka H ditolak dengan sangat signifikan. Jadi perlakuan-perlakuan mengakibatkan perbedaan efek yang sangat signifikan.

UJI HSD/TUCKEY

PERLAKUAN	MEAN	A 80,853	B 76,203	C 73,833	D 83,107
A	80,853	0	4,650 *	7,020 *	2,253 ts
B	76,203		0	2,370 ts	6,903 *
C	73,833			0	9,273 *
D	83,107				0

$$RJK = 0,920$$

$$q_{(5\%/2; p; db)} = 4,53$$

$$n = 3$$

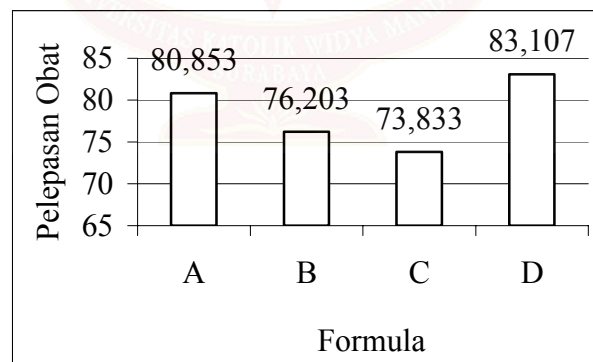
$$HSD(5\%) = q \sqrt{\frac{RJK}{n}} = 2,508$$

$$db = 8$$

Keterangan

* : Perbedaannya signifikan, karena selisihnya > HSD(5%)

TS : Perbedaannya tidak signifikan, karena selisihnya < HSD (5%)



Sertifikat Analisis Magnesium Stearat



QUALITÄTSMANAGEMENT

Service for Industry

CERTIFICATE OF ANALYSIS

customer: PT BRATACO
 contact person:
 FAX:
 your order-number: PTB0735/V1104 our order-number: 4011746
 delivered on: 04.08.2006 quantity: 9000
 brand: LIGA MAGNESIUM STEARATE MF-2-V VEGETABLE charge-no. C447175
 manufacturing date: 2006-07-19 expiry date: 2008-07-19

product is in accordance with the USP27/NF22/BP2003/Ph.Eur 4rd ed./DAB10/JP 14th ed./FCC 5th ed

parameter	unit	method	result
Titration A	°C	Ph.Eur	59
Titration A	metal reaction	USP/NF	passes test
Titration B	retention time GC	USP/NF	retentions match
Acidity	ml 0.01N HCl	Ph.Eur	<0.5
alkalinity	ml 0.01 N NaOH	Ph.Eur	<0.5
heavy metals as Pb	ppm	JP	<20
As	ppm	BAE 300-B	<1
cadmium	ppm	BAE 300-B	<1
mercury	ppm	BAE 300-B	<1
arsenic	%	Ph.Eur	<0.1
phosphate	%	Ph.Eur	<0.5
acid value of the fatty acid	mg KOH/g	Ph.Eur	204.8
acid content of stearic acid	%	USP/NF	65.1
acid content of stearic and palmitic acid	%	USP/NF	98.5
total aerobic microbial count	cfu/g	USP/NF	<10
total yeasts	cfu/g	USP/NF	105
total coliforms	cfu/g	USP/NF	absent
total staphylococci	cfu/g	USP/NF	absent
total volatile impurities		USP/NF	meets USP/NF
water-soluble	%	BAE 600	3.9
moisture content	%	BAE 200 c	4.7
free fatty acid	%	BAE 400	0.6
acid insoluble at 200 mesh	%	BAE 608	0.2
density tapped	g/ml	BAE 611a	0.32
surface area BET	qm/g	USP/NF	10.0
identification		BAE 601	in accordance

Venio 27 08 04

Results of the above mentioned delivery are based upon careful test according to the guidelines of our quality assurance system. They do not release the customer from entry control. Besides we do not guarantee the properties for concrete applications.

This certificate was issued by EDV and does not bear a signature.



Sertifikat Analisa Talkum

99 19:08

55231

MINMETAL GUANGXI

CERTIFICATE OF ANALYSIS

CHINA GUANGXI METALS & MINERALS
 IMPORT & EXPORT (GROUP) COMPANY
 Tel: 86 77 5864200 Fax: 86 77 586231
 3 Yuezhu Road, Nanning, Guangxi, P.R.China
 E-mail address: nm-metal@public.net.cn

Certificate No.: 4503E990368
 Issuing Date: April 1, 2005

Name of Commodity: OSMANTHUS BRAND GUANGXI TALC POWDER
 Quantity/Weight: 8,000 Bags / 200 Metric tons
 Invoice No.: NM99057 Dated April 01, 2005

Representative samples were drawn at random for inspection with results as follows:

SiO ₂ :	60.50%	Water soluble substance:	0.05%
MgO:	31.30%	Water soluble iron:	Negative
Whiteness:	91.2	Acid or alkali:	Neutral
Arsenic:	less than 2 ppm	Bulk density:	0.42g/cm ³
Lead (as pb):	less than 10 ppm	Acid soluble substance:	1.20%
Fungus:	1.50 pieces/g	Loss on ignition:	1.00%
Fineness:	98.5% passing through 325 mesh		

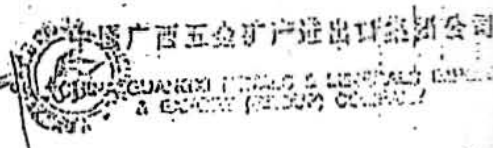
Packing: In 5-ply Kraft paper bags of about 25 kgs net weight each. Packing sound.

Conclusion: Upon inspection, this lot of commodities conforms to the stipulations of the contract no. 99TP01

Quality Manager:



Issued by:



广西五金矿产进出口集团公司
 CHINA GUANGXI METALS & MINERALS IMPORT & EXPORT (GROUP) COMPANY

Sertifikat Analisis Laktosa



DMV INTERNATIONAL

Certificate of analysis

Page 1/2

Issue date
20.10.2006
Purchase order
002762/PH/01469
Delivery item
80258824 000010
Order item
221769 000010
Total Quantity Item
20.000 KG

Material:

Pharmatose 200 M.

Lactose USP/NF, Ph.Eur., JP

in multi layer paper bag with a poly-ethylene innerbag contents 25 kg net.

Description: Lactose Monohydrate USP/NF, Ph.Eur., JP

White, crystalline powder, odourless

Particle size characteristics:

d10 10 ± 10 µm

d50 40 ± 15 µm

d90 95 ± 25 µm

Lactose monohydrate min. 99.0 %

Identification: Complies Pharmacopoeia tests

Lot: 10194470

Quantity: 20.000 KG

Manufacture date: 09.2006

Expiry date: 08.2008

Characteristic	Unit	SPECIFICATION		Value
		Lower Limit	Upper Limit	
Water (KF)	%	4,5	5,5	4,9
Loss on drying	%	0,0	0,5	0,3
Specific rotation 20°C anhydr.	NON	54,4	55,9	55,2
Residue on ignition/Sulph.Ash	%	0,00	0,10	0,05
Absorb.1%, 1 cm at 270-300 nm	NON	0,00	0,07	0,01
Absorb.1%, 1 cm at 210-220 nm	NON	0,00	0,25	0,04
Absorb.1%, 1 cm at 400 nm	NON	0,00	0,04	0,01
Appearance of solution (Ph.Eur Clear and not more coloured than ref.BY7				Passes test
Clarity and Colour of Solution Clear and colourless or nearly colourless				Passes test
Acidify (ml 0.1N NaOH/6g)	ml/6g	0,0	0,4	0,2
Heavy Metals (max 5 ppm)				Passes test
Particle size (PSD) % < 45 µm	%	50,0	65,0	56,1
Particle Size (PSD) % < 100 µm	%	90,0	100,0	93,1
Particle size (PSD) % < 150 µm	%	96,0	100,0	95,6

(This is an electronic document)

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Sertifikat Analisis Laktosa



DMV INTERNATIONAL

Certificate of analysis

Issue Date
20.10.2006
Purchase order
002762/PH/01469
Delivery item
80256824 000010
Order item
221769 000010
Total Quantity Item
20.000 KG

Lot: 10194470
Manufacture date: 09.2006

Quantity: 20.000 KG
Expiry date: 06.2008

Characteristic	Unit	SPECIFICATION		Value
		Lower Limit	Upper Limit	
Particle size (PSD) < 250 µm %	%	99,0	100,0	100,0
Standard plate count	cfu/g	0	100	<10
Yeasts and Moulds	cfu/g	0	10	<10
Enterobacteriaceae	cfu/g	0	1	0
E. coli in 10 g				negative
Salmonella in 100g				negative

J. Hermans
IS Manager



Sertifikat Analisa Aerosol



Inspection certificate EN 10204 - 3.1

Wacker Chemicals South Asia
 Pvt. Ltd.
 101/102/103 Industrial Avenue
 MIDC, Andheri - 400 050
 Mumbai, India

Liefer Datum / Date of delivery 18.10.2006	Liefersehen / Delivery note 22463949
Besch. Nr. / Requisition No. P13-1131/VH1406	Besch. Datum / Date of requisition 02.08.2006
Arbeits Nr. / Order No. N761396/000001/02.08.2006	Kundennummer / Customer No. 255128/1 fax: 65426617

result and date of issue: 08.10.2006

HDK N20 PHARMA
 10KG BAG WITH VALVE

Technische Daten Technical data	Prüfmethodenfällbedingung Test method/inspection condition	Einheit Unit	Wert Measured value	Untere Grenze Lower limit	Obere Grenze Upper limit
MATERIAL: 60040976 / Lot-No.: VA70582 / NET: 960.000 KG / BEST USE BEFORE END DATE: 10.2009					
Surface H ₂ O 1.1MN 927246132	PV09001	wt%	209	170	210
pH value in response EN ISO 7879	PV09005	wt%	4.1	3.8	4.3
Sieve residue $10\mu\text{m}$ EN ISO 787-18	PV09004	%	0.003	0.000	0.040
Content heavy metals	QSCA023	ppm	≤ 25		25
Loss on ignition USP	QSCA023	%	0.5	0.0	7.0
Content chlorine atomole USP	QSCA023	%	100.1	90.0	100.5
Content arsenic (As)	QSCA023	ppm	≤ 5		5
Content chlorine (Cl)	QSCA023	ppm	≤ 250		250
Identification acc. to ICH	QSCA023		positive		
Typical general properties					
Tap density EN ISO 787-11	ca 40 g/l				
Loss on drying EN ISO 787-2	$\leq 1.5\%$				



This certificate was issued by machine and is thus valid without a signature

Diese Angaben erfordern den Käufer nicht von der Verpflichtung zu eigenen Qualitätsprüfungen bei Eingang der Ware, insbesondere hinsichtlich eventueller Verfälschungen bei Transport oder Zerschlagung, die außerhalb unserer Kontrolle liegen. Im Rahmen unserer sonstigen Allgemeinen Marktübungen.

This data does not absolve the purchaser, on checking the quality of all supplies immediately on receipt, particularly regarding the possible influences of transport and intermediate storage conditions.



Sertifikat Analisis *Tara Gum*

b BRATACHEM
The Nationwide Chemical Distributor

Head Office :
Jl. Cikong Baras No. 76
Jakarta Pusat 10150 - Indonesia
Telp : (62-21) 362-2733; 3648116
Fax : (62-21) 363-2826; 362-2736
E-mail : bratachem@indosat.net.id

Certificate of Analysis

Product Name: Aglumix 01, Tara Gum
Lot No.: 66060804
Quality: Standard
Package: 25 kg plastic lined paper bags
Manufacturing Date: April 1, 2004
Expiration Date: April 1, 2006

Physical and Chemical analysis

Aspects	Units	Results
Odor		White powder
Galactomannans	%	Odorless
Proteins (N x 5.7)	%	Mic. 84.78
Fats	%	Max. 4.1
Ashes	%	Max. 0.65
Insolubles in acid	%	Max. 1.85
Moisture	%	Max. 1.52
Lead	ppm	Max. 7.1
Arsenic	ppm	Max. 3
Mercury	ppm	Max. 3
Cadmium	ppm	Max. 1
Total heavy metals (Cu + Zn)	ppm	Max. 1
Starches		Max. 20
Viscosity	Cps	Not detectable
Particle size	%	5000/6300 (mesh 100) : more than 80

Bacteriological Analysis

Total plate count	u.f.c/g	< or equal 5000
Moulds & yeast	u.f.c/g	< or equal 500
Escherichia Coli	u.f.c/g	< 1
Salmonella	25 g	Negative

Methods: Moisture : FCC, p187 appendix II p749 (Gum gum loss and drying). Proteins : AOAC 984.13, Vol 1 c4, p19 (Kjeldahl method). Acid insoluble matter : FCC, p188. Ash : FCC, p748 appendix II c (Ash total). Arsenic : AOAC 932, 13 vol 1 c9, p22. Mercury : AOAC, 971.71 vol 1 c9, pp35-36. Lead : AOAC 972.25 vol 1 c9, p32. Viscosity : Brookfield AOCS 10-87 (1 cps/impas). Aerobic Microorganisms: AOAC (990.12 recount Aerobics Microorganisms in food; dried rehydratic film). E. Coli-Coliforms: AOAC (991.14 E.Coli-Coliforms recount in food; dried rehydratic film). Salmonella ICMSE, Vol.12 nd. Ed reprinted 1988. Starch : NTP 202.108 section 7.2.2.1988; Cadmium AOAC 973.34 vol 1, 17th Ed. 2000; Copper AACC met. 40-70 vol 9th Ed. 1995; Zinc: AACC met. 40-70 vol 9th Ed. 1995

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IMPORTER
MANUFACTURER
DISTRIBUTOR

YUNG ZIP CHEMICAL IND. CO., LTD.
 59, Yu Shih Road
 Youth Industrial District
 Tachia, Taiwan, 437
 R. O. C.

TEL: 886-4-26818780, 26811344 FAX: 886-4-26812911

CERTIFICATE OF ANALYSIS

D S T
 (Sodium Starch Glycolate)

Lot No.: SSGA02121

Mfg. Date: Nov. 29, 2007

Analysis Following USP 30/NF 25

Exp. Date: Nov. 28, 2010

ITEMS	SPECIFICATIONS	RESULTS
Description	A white, tasteless, odorless, relatively free-flowing powder.	Confirmed
Identification	USP 30/NF 25	Confirmed
Microbial limits	Salmonella E. Coli	Negative Negative
pH	Between 5.5 and 7.5	6.1
Loss on drying	Not more than 10.0 %	2.5 %
Iron	Not more than 0.002 %	Passed
Heavy metals	Not more than 0.002 %	Passed
Sodium chloride	Not more than 7.0 %	4.0 %
Sodium glycolate	Not more than 2.0 %	1.8 %
Assay	Sodium (Na) (2.8% to 4.2%)	3.2 %

Conclusion : Passed

Chien-Sheng Tseng
 Chien-Sheng Tseng
 Director Quality Assurance

Date
 12/28/2007/40053



DINAS KESEHATAN PROPINSI JAWA TIMUR
BALAI MATERIA MEDICA
Jalan Lahor No.87 Telp. (0341) 593396 Batu (65313)
KOTA BATU

Nomor : 074 / 78 / 111.14 / IV / 2007
Sifat : Biasa
Perihal : **Determinasi Tanaman Kayu Rapet**

Memenuhi permohonan saudara
Nama : Fitria Yunita
N I M : 2443003148
Fakultas : Fakultas Farmasi Universitas Widya Mandala

Perihal determinasi tanaman Kayu Rapet
Divisi : Spermatophyta
Sub divisi : Angiospermae
Kelas : Dicotyledonae
Bangsa : Apocynales
Suku : Apocynaceae
Marga : Parameria
Jenis : *Parameria laevigata* (Juss.)Moldenke

Demikian determinasi ini kami buat untuk dipergunakan sebagaimana mestinya.

Batu , 24 April 2007
An. Kepala Balai Materia Medica Batu
Seksi Penyuluhan Tanaman Obat



Unik Purwaningtyas, SKM
Np. 140 189 603

Tabel Z

z	0	1	2	3	4	5	6	7	8	9
0	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
.1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
.2	.5793	.5832	.5871	.5920	.5948	.5987	.6026	.6064	.6103	.6141
.3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
.4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
.5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
.6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
.7	.7580	.7611	.7642	.7673	.7703	.7734	.7764	.7794	.7823	.7852
.8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
.9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9278	.9292	.9306	.9319
1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9430	.9441
1.6	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
1.7	.9554	.9564	.9573	.9582	.9591	.9599	.9608	.9616	.9625	.9633
1.8	.9641	.9648	.9656	.9664	.9671	.9678	.9686	.9693	.9700	.9706
1.9	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9762	.9767
2.0	.9772	.9778	.9783	.9788	.9792	.9798	.9803	.9808	.9812	.9817
2.1	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
2.2	.9861	.9864	.9868	.9871	.9874	.9878	.9881	.9884	.9887	.9890
2.3	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
2.4	.9918	.9920	.9922	.9925	.9927	.9929	.9931	.9932	.9934	.9936
2.5	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9951	.9952
2.6	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
2.7	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
2.8	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
2.9	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
3.	.9987	.9990	.9993	.9995	.9997	.9998	.9998	.9999	.9999	1.0000

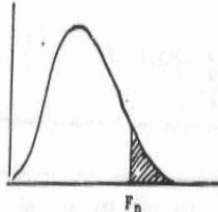
z	0	1	2	3	4	5	6	7	8	9
- 3 .	.0013	.0010	.0007	.0005	.0003	.0002	.0002	.0001	.0001	.0000
- 2 . 9	.0019	.0018	.0017	.0017	.0016	.0016	.0015	.0015	.0014	.0014
- 2 . 8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019
- 2 . 7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026
- 2 . 6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036
- 2 . 5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048
- 2 . 4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064
- 2 . 3	.0107	.0104	.0102	.0099	.0096	.0094	.0091	.0089	.0087	.0084
- 2 . 2	.0139	.0136	.0132	.0129	.0126	.0122	.0119	.0116	.0113	.0110
- 2 . 1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143
- 2 . 0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183
- 1 . 9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0238	.0233
- 1 . 8	.0359	.0352	.0344	.0336	.0329	.0322	.0314	.0307	.0300	.0294
- 1 . 7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
- 1 . 6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
- 1 . 5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0570	.0559
- 1 . 4	.0806	.0793	.0778	.0764	.0749	.0735	.0722	.0708	.0694	.0681
- 1 . 3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
- 1 . 2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
- 1 . 1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
- 1 . 0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
- . 9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
- . 8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
- . 7	.2420	.2389	.2358	.2327	.2297	.2266	.2236	.2206	.2177	.2148
- . 6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
- . 5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
- . 4	.3448	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
- . 3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
- . 2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
- . 1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
- . 0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641

Dikutip dari: Gennaro (1970).

Lampiran 25

DAFTAR D

Nilai Perzentil Untuk Distribusi F
 (Bilangan Dalam Badan Daftar Menyatakan F_p , Baris Atas Untuk $p = 0,05$ dan Baris Bawah Untuk $p = 0,01$).



$U_2 = dk$ penyebut	$U_1 = dk$ pembilang																									
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞		
1	161	200	216	225	230	234	237	239	241	242	243	244	245	246	248	249	250	251	252	253	253	254	254	254	254	
2	4052	4999	5403	5625	5764	5859	5928	5981	6022	6056	6082	6106	6142	6169	6208	6234	6258	6286	6302	6323	6334	6352	6361	6366		
3	18,51	19,00	19,16	19,25	19,30	19,33	19,36	19,37	19,38	19,39	19,40	19,41	19,42	19,43	19,44	19,45	19,46	19,47	19,48	19,49	19,49	19,50	19,50	19,50		
4	98,49	99,01	99,17	99,25	99,30	99,33	99,34	99,36	99,38	99,40	99,41	99,42	99,43	99,44	99,45	99,45	99,46	99,47	99,48	99,48	99,49	99,49	99,50	99,50		
5	10,13	9,55	9,28	9,12	9,01	8,94	8,88	8,84	8,81	8,78	8,76	8,74	8,71	8,69	8,66	8,64	8,62	8,60	8,58	8,57	8,56	8,54	8,54	8,53		
6	34,12	30,81	29,46	28,71	28,24	27,91	27,67	27,49	27,34	27,23	27,13	27,05	26,92	26,83	26,69	26,60	26,50	26,41	26,30	26,27	26,23	26,18	26,14	26,12		
7	7,71	6,94	6,59	6,39	6,26	6,16	6,09	6,04	6,00	5,96	5,93	5,91	5,87	5,84	5,80	5,77	5,74	5,71	5,70	5,68	5,66	5,65	5,64	5,63		
8	21,20	18,00	16,69	15,98	15,52	15,21	14,98	14,80	14,66	14,54	14,45	14,37	14,24	14,15	14,02	13,93	13,83	13,74	13,69	13,61	13,57	13,52	13,48	13,46		
9	6,61	5,79	5,41	5,19	5,05	4,95	4,88	4,82	4,78	4,74	4,70	4,68	4,64	4,60	4,56	4,53	4,50	4,46	4,44	4,42	4,40	4,38	4,37	4,36		
10	16,26	13,27	12,06	11,39	10,97	10,67	10,45	10,27	10,15	10,05	9,96	9,89	9,77	9,68	9,55	9,47	9,38	9,29	9,24	9,17	9,13	9,07	9,04	9,02		
11	5,99	5,14	4,76	4,53	4,39	4,28	4,21	4,15	4,10	4,06	4,03	4,00	3,96	3,92	3,87	3,84	3,81	3,77	3,75	3,72	3,71	3,69	3,68	3,67		
12	13,74	10,92	9,78	9,15	8,76	8,47	8,26	8,10	7,98	7,87	7,79	7,72	7,60	7,52	7,39	7,31	7,23	7,14	7,09	7,02	6,99	6,94	6,90	6,88		
13	5,59	4,74	4,35	4,12	3,97	3,87	3,79	3,73	3,68	3,63	3,60	3,57	3,52	3,49	3,44	3,41	3,38	3,34	3,32	3,29	3,28	3,25	3,24	3,23		
14	12,25	9,55	8,45	7,85	7,46	7,19	7,00	6,84	6,71	6,62	6,54	6,47	6,35	6,27	6,15	6,07	5,98	5,90	5,85	5,78	5,75	5,70	5,67	5,65		
15	5,32	4,46	4,07	3,84	3,69	3,58	3,50	3,44	3,39	3,34	3,31	3,28	3,23	3,20	3,15	3,12	3,08	3,05	3,03	3,00	2,98	2,96	2,94	2,93		
16	11,26	8,65	7,59	7,01	6,63	6,37	6,19	6,03	5,91	5,82	5,74	5,67	5,56	5,48	5,36	5,28	5,20	5,11	5,06	5,00	4,96	4,91	4,88	4,86		
17	5,12	4,26	3,86	3,63	3,48	3,37	3,29	3,23	3,18	3,13	3,10	3,07	3,02	2,98	2,93	2,90	2,86	2,82	2,80	2,77	2,76	2,73	2,72	2,71		
18	10,56	8,02	6,99	6,42	6,06	5,80	5,62	5,47	5,35	5,26	5,18	5,11	5,00	4,92	4,80	4,73	4,64	4,56	4,51	4,45	4,41	4,36	4,33	4,31		

Sumber : Sudjana (1985)

penyebut	$U_i = dk \text{ pembilang}$																								
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞	
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.97	2.94	2.91	2.86	2.82	2.77	2.74	2.70	2.67	2.64	2.61	2.58	2.50	2.47	2.45	2.41
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.86	2.82	2.79	2.74	2.70	2.65	2.61	2.57	2.53	2.50	2.47	2.42	2.35	2.31	2.28	2.24
12	4.75	3.88	3.49	3.26	3.11	3.00	2.92	2.85	2.80	2.76	2.72	2.69	2.64	2.60	2.54	2.50	2.46	2.42	2.40	2.36	2.33	2.25	2.21	2.18	2.13
13	4.67	3.80	3.41	3.18	3.02	2.92	2.84	2.77	2.72	2.67	2.63	2.60	2.55	2.51	2.46	2.42	2.38	2.34	2.32	2.28	2.25	2.17	2.13	2.10	2.05
14	4.60	3.74	3.34	3.11	2.96	2.85	2.77	2.70	2.65	2.60	2.56	2.53	2.48	2.44	2.39	2.35	2.31	2.27	2.24	2.21	2.19	2.16	2.14	2.13	2.11
15	4.54	3.68	3.29	3.06	2.90	2.79	2.70	2.64	2.59	2.55	2.51	2.48	2.43	2.39	2.33	2.29	2.25	2.21	2.18	2.15	2.13	2.10	2.08	2.07	2.05
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.45	2.42	2.37	2.33	2.28	2.24	2.20	2.16	2.13	2.10	2.08	2.04	2.02	2.01	1.99
17	4.45	3.59	3.20	2.96	2.81	2.70	2.62	2.56	2.50	2.45	2.41	2.38	2.33	2.29	2.23	2.19	2.15	2.11	2.08	2.04	2.02	1.99	1.97	1.97	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.37	2.34	2.29	2.25	2.19	2.15	2.11	2.07	2.04	2.00	1.98	1.95	1.93	1.93	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.55	2.48	2.43	2.38	2.34	2.31	2.26	2.22	2.15	2.11	2.07	2.02	1.98	1.96	1.93	1.91	1.91	1.90	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.52	2.45	2.40	2.35	2.31	2.28	2.23	2.18	2.12	2.08	2.04	1.99	1.96	1.92	1.89	1.87	1.87	1.86	1.84
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.28	2.25	2.20	2.15	2.09	2.05	2.00	1.96	1.93	1.89	1.87	1.84	1.84	1.83	1.81
22	4.30	3.44	3.05	2.82	2.66	2.55	2.47	2.40	2.35	2.30	2.26	2.23	2.18	2.13	2.07	2.03	1.98	1.94	1.91	1.87	1.84	1.81	1.80	1.78	1.76
23	4.28	3.42	3.03	2.80	2.64	2.53	2.45	2.38	2.32	2.28	2.24	2.20	2.14	2.10	2.04	2.00	1.96	1.91	1.88	1.84	1.82	1.79	1.77	1.76	1.74
	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	3.21	3.14	3.07	2.97	2.89	2.78	2.70	2.62	2.53	2.48	2.41	2.37	2.32	2.28	2.26	2.24

DAFTAR D (lanjutan)

DAFTAR D (lanjutan)

$U_2 = dk$ penyebut	$U_1 = dk$ pembilang																																															
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞																								
24	4,26	3,40	3,01	2,78	2,62	2,51	2,43	2,36	2,30	2,26	2,22	2,18	2,13	2,09	2,02	1,98	1,94	1,89	1,86	1,82	1,80	1,76	1,74	1,73	7,82	5,61	4,72	4,22	3,90	3,67	3,50	3,36	3,25	3,17	3,09	3,03	2,93	2,85	2,74	2,66	2,58	2,49	2,44	2,36	2,33	2,27	2,23	2,21
25	4,24	3,38	2,99	2,76	2,60	2,49	2,41	2,34	2,28	2,24	2,20	2,16	2,11	2,06	2,00	1,96	1,92	1,87	1,84	1,80	1,77	1,74	1,72	1,71	7,77	5,57	4,68	4,18	3,86	3,63	3,46	3,32	3,21	3,13	3,05	2,99	2,89	2,81	2,70	2,62	2,54	2,45	2,40	2,32	2,29	2,23	2,19	2,17
26	4,22	3,37	2,99	2,74	2,59	2,47	2,39	2,32	2,27	2,22	2,18	2,15	2,10	2,05	1,99	1,95	1,90	1,85	1,82	1,78	1,76	1,72	1,70	1,69	7,72	5,53	4,64	4,14	3,82	3,59	3,42	3,29	3,17	3,09	3,02	2,96	2,86	2,77	2,66	2,58	2,50	2,41	2,36	2,28	2,25	2,19	2,15	2,13
27	4,21	3,35	2,96	2,73	2,57	2,46	2,37	2,30	2,25	2,20	2,16	2,13	2,08	2,03	1,97	1,93	1,88	1,84	1,80	1,76	1,74	1,71	1,68	1,67	7,68	5,49	4,60	4,11	3,79	3,56	3,39	3,26	3,14	3,06	2,98	2,93	2,83	2,74	2,63	2,55	2,47	2,38	2,33	2,25	2,21	2,16	2,12	2,10
28	4,20	3,34	2,95	2,71	2,56	2,44	2,36	2,29	2,24	2,19	2,15	2,12	2,06	2,02	1,96	1,91	1,87	1,81	1,78	1,75	1,72	1,69	1,67	1,65	7,64	5,45	4,57	4,07	3,76	3,53	3,36	3,23	3,11	3,03	2,95	2,90	2,80	2,71	2,60	2,52	2,44	2,35	2,30	2,22	2,18	2,13	2,09	2,06
29	4,18	3,33	2,93	2,70	2,54	2,43	2,35	2,28	2,22	2,18	2,14	2,10	2,05	2,00	1,94	1,90	1,85	1,80	1,77	1,73	1,71	1,68	1,65	1,64	7,60	5,52	4,54	4,04	3,73	3,50	3,33	3,20	3,08	3,00	2,92	2,87	2,77	2,68	2,57	2,49	2,41	2,32	2,27	2,19	2,15	2,10	2,06	2,03
30	4,17	3,32	2,92	2,69	2,53	2,42	2,34	2,27	2,21	2,16	2,12	2,09	2,04	1,99	1,93	1,89	1,84	1,79	1,76	1,72	1,69	1,66	1,64	1,62	7,56	5,39	4,51	4,02	3,70	3,47	3,30	3,17	3,06	2,98	2,90	2,84	2,74	2,66	2,55	2,47	2,38	2,29	2,24	2,16	2,13	2,07	2,03	2,01
32	4,15	3,30	2,90	2,67	2,51	2,40	2,32	2,25	2,19	2,14	2,10	2,07	2,02	1,97	1,91	1,86	1,82	1,76	1,74	1,69	1,67	1,64	1,61	1,59	7,50	5,34	4,46	3,97	3,66	3,42	3,25	3,12	3,01	2,94	2,86	2,80	2,70	2,62	2,51	2,42	2,34	2,25	2,20	2,12	2,08	2,02	1,98	1,96
34	4,13	3,28	2,88	2,65	2,49	2,38	2,30	2,23	2,17	2,12	2,08	2,05	2,00	1,95	1,89	1,84	1,80	1,74	1,71	1,67	1,64	1,61	1,59	1,57	7,44	5,28	4,42	3,93	3,61	3,38	3,21	3,08	2,97	2,89	2,82	2,76	2,66	2,58	2,47	2,38	2,30	2,21	2,15	2,08	2,04	1,98	1,94	1,91
36	4,11	3,26	2,86	2,63	2,48	2,36	2,28	2,21	2,15	2,10	2,06	2,03	1,89	1,93	1,87	1,82	1,78	1,72	1,69	1,65	1,62	1,59	1,56	1,55	7,39	5,25	4,38	3,89	3,58	3,35	3,18	3,04	2,94	2,86	2,78	2,72	2,62	2,54	2,43	2,35	2,26	2,17	2,12	2,04	2,00	1,94	1,90	1,87
38	4,10	3,25	2,85	2,62	2,46	2,35	2,26	2,19	2,14	2,09	2,05	2,02	1,96	1,92	1,85	1,80	1,76	1,71	1,67	1,63	1,60	1,57	1,54	1,53	7,35	5,21	4,34	3,86	3,54	3,32	3,15	3,02	2,91	2,82	2,75	2,69	2,59	2,51	2,40	2,32	2,22	2,14	2,08	2,00	1,97	1,90	1,86	1,84
40	4,08	3,23	2,84	2,61	2,45	2,34	2,25	2,18	2,12	2,07	2,04	2,00	1,95	1,90	1,84	1,79	1,74	1,69	1,66	1,61	1,59	1,55	1,53	1,51	7,31	5,18	4,31	3,83	3,51	3,29	3,12	2,99	2,88	2,80	2,73	2,66	2,56	2,49	2,37	2,29	2,20	2,11	2,05	1,97	1,94	1,88	1,84	1,81
42	4,07	3,32	2,83	2,59	2,44	2,32	2,24	2,17	2,11	2,06	2,02	1,99	1,94	1,89	1,82	1,78	1,73	1,68	1,64	1,60	1,57	1,54	1,51	1,49	7,27	5,15	4,29	3,80	3,49	3,26	3,10	2,96	2,86	2,77	2,70	2,64	2,54	2,46	2,35	2,26	2,17	2,08	2,02	1,94	1,91	1,85	1,80	1,78
44	4,06	3,21	2,82	2,58	2,43	2,31	2,23	2,16	2,10	2,05	2,01	1,98	1,92	1,88	1,81	1,76	1,72	1,66	1,63	1,58	1,56	1,52	1,50	1,48	7,24	5,12	4,26	3,78	3,46	3,24	3,07	2,94	2,84	2,75	2,68	2,62	2,52	2,44	2,32	2,24	2,15	2,06	2,00	1,92	1,88	1,82	1,78	1,75
46	4,05	3,20	2,81	2,57	2,42	2,30	2,22	2,14	2,09	2,04	2,00	1,97	1,91	1,87	1,80	1,75	1,71	1,65	1,62	1,57	1,54	1,51	1,48	1,46	7,21	5,10	4,24	3,76	3,44	3,22	3,05	2,92	2,82	2,73	2,66	2,60	2,50	2,42	2,30	2,22	2,13	2,04	1,98	1,90	1,86	1,80	1,76	1,72
48	4,04	3,19	2,80	2,56	2,41	2,30	2,21	2,14	2,08	2,03	1,99	1,96	1,90	1,86	1,79	1,74	1,70	1,64	1,61	1,56	1,53	1,50	1,47	1,45	7,19	5,08	4,22	3,74	3,42	3,20	3,04	2,90	2,80	2,71	2,64	2,58	2,48	2,40	2,28	2,20	2,11	2,02	1,96	1,88	1,84	1,78	1,73	1,70

DAFTAR D (lanjutan)

penyebut	$v_2 = dk$	$v_1 = dk$ pembilang																								
		∞	500	200	100	75	50	40	30	24	20	16	14	12	11	10	9	8	7	6	5	4	3	2	1	
60	4.03	3.18	2.79	2.56	2.40	2.29	2.20	2.13	2.07	2.02	1.98	1.95	1.90	1.85	1.78	1.74	1.69	1.63	1.58	1.52	1.48	1.46	1.41	1.38	1.35	1.32
55	4.02	3.17	2.78	2.54	2.38	2.27	2.18	2.11	2.05	2.00	1.97	1.93	1.88	1.83	1.76	1.72	1.67	1.61	1.55	1.50	1.44	1.41	1.38	1.35	1.32	1.29
50	4.02	3.17	2.78	2.54	2.38	2.27	2.18	2.11	2.05	2.00	1.97	1.93	1.88	1.83	1.76	1.72	1.67	1.61	1.55	1.50	1.44	1.41	1.38	1.35	1.32	1.29
65	3.99	3.14	2.75	2.51	2.36	2.24	2.15	2.08	2.02	1.98	1.94	1.90	1.85	1.80	1.73	1.68	1.63	1.57	1.54	1.49	1.46	1.42	1.39	1.37	1.34	1.31
70	3.98	3.13	2.74	2.50	2.35	2.23	2.14	2.07	2.01	1.97	1.93	1.89	1.84	1.79	1.72	1.67	1.62	1.56	1.53	1.47	1.45	1.40	1.37	1.34	1.31	1.28
75	4.04	3.18	2.79	2.55	2.40	2.29	2.20	2.13	2.07	2.02	1.98	1.94	1.89	1.84	1.77	1.72	1.67	1.61	1.55	1.50	1.44	1.41	1.38	1.35	1.32	1.29
80	3.96	3.11	2.72	2.48	2.33	2.21	2.12	2.05	1.99	1.95	1.91	1.88	1.83	1.78	1.71	1.66	1.61	1.55	1.50	1.44	1.41	1.38	1.35	1.32	1.29	1.26
85	4.01	3.16	2.77	2.52	2.37	2.25	2.16	2.09	2.03	1.99	1.95	1.91	1.86	1.81	1.74	1.69	1.64	1.58	1.53	1.47	1.44	1.41	1.38	1.35	1.32	1.29
90	4.02	3.17	2.78	2.54	2.38	2.27	2.18	2.11	2.05	2.00	1.97	1.93	1.88	1.83	1.76	1.72	1.67	1.61	1.55	1.50	1.44	1.41	1.38	1.35	1.32	1.29
100	3.94	3.09	2.70	2.46	2.30	2.19	2.10	2.03	1.97	1.92	1.88	1.85	1.79	1.75	1.68	1.63	1.57	1.51	1.48	1.42	1.39	1.34	1.30	1.28	1.25	1.22
110	3.91	3.06	2.67	2.43	2.27	2.16	2.07	2.00	1.94	1.89	1.85	1.82	1.76	1.71	1.64	1.59	1.54	1.47	1.44	1.38	1.34	1.29	1.25	1.22	1.19	1.16
120	3.92	3.07	2.68	2.44	2.29	2.17	2.08	2.01	1.95	1.90	1.86	1.83	1.77	1.72	1.65	1.60	1.55	1.49	1.45	1.39	1.36	1.31	1.27	1.25	1.22	1.19
150	3.81	3.04	2.65	2.41	2.26	2.14	2.05	1.98	1.92	1.87	1.83	1.80	1.74	1.69	1.62	1.57	1.52	1.46	1.42	1.36	1.32	1.28	1.22	1.19	1.16	1.13
200	3.89	3.04	2.65	2.41	2.26	2.14	2.05	1.98	1.92	1.87	1.83	1.80	1.74	1.69	1.62	1.57	1.52	1.46	1.42	1.36	1.32	1.28	1.22	1.19	1.16	1.13
400	3.86	3.02	2.62	2.39	2.23	2.12	2.03	1.96	1.90	1.85	1.81	1.78	1.72	1.67	1.60	1.54	1.49	1.43	1.38	1.32	1.28	1.22	1.16	1.13	1.10	1.07
1000	3.85	3.00	2.61	2.38	2.22	2.10	2.02	1.95	1.89	1.84	1.80	1.76	1.70	1.65	1.58	1.53	1.47	1.41	1.36	1.30	1.26	1.19	1.13	1.10	1.07	1.04
∞	3.84	2.99	2.60	2.37	2.21	2.09	2.01	1.94	1.88	1.83	1.79	1.75	1.69	1.64	1.57	1.52	1.46	1.40	1.35	1.29	1.24	1.17	1.11	1.08	1.05	1.02
	6.64	4.60	3.78	3.32	3.02	2.80	2.64	2.51	2.41	2.32	2.24	2.18	2.07	1.99	1.87	1.79	1.69	1.59	1.52	1.41	1.36	1.28	1.18	1.10	1.03	1.00

DAFTAR E

Nilai Rentang Student untuk $\alpha = 0,05$

v	p																			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1	18.0	26.7	32.8	37.2	40.6	43.1	45.4	47.3	49.1	50.6	51.9	53.2	54.3	55.4	56.3	57.2	58.0	58.8	59.6	
2	6.09	8.28	9.80	10.89	11.73	12.43	13.03	13.54	13.99	14.39	14.75	15.08	15.38	15.65	15.91	16.14	16.36	16.57	16.77	
3	4.50	5.88	6.83	7.51	8.04	8.47	8.85	9.18	9.46	9.72	9.95	10.16	10.35	10.52	10.69	10.84	10.98	11.12	11.24	
4	3.93	5.00	5.76	6.31	6.73	7.06	7.35	7.60	7.83	8.03	8.21	8.37	8.52	8.67	8.80	8.92	9.03	9.14	9.24	
5	3.61	4.54	5.18	5.64	5.99	6.28	6.52	6.74	6.93	7.10	7.25	7.39	7.52	7.64	7.75	7.86	7.95	8.04	8.13	
6	3.46	4.34	4.90	5.31	5.63	5.89	6.12	6.32	6.49	6.65	6.79	6.92	7.04	7.14	7.24	7.34	7.43	7.51	7.59	
7	3.34	4.16	4.68	5.06	5.35	5.59	5.80	5.99	6.15	6.29	6.42	6.54	6.65	6.75	6.84	6.93	7.01	7.08	7.16	
8	3.26	4.04	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05	6.18	6.29	6.39	6.48	6.57	6.65	6.73	6.80	6.87	
9	3.20	3.95	4.42	4.76	5.02	5.24	5.43	5.60	5.74	5.87	5.98	6.09	6.19	6.28	6.36	6.44	6.51	6.58	6.65	
10	3.15	3.88	4.33	4.66	4.91	5.12	5.30	5.46	5.60	5.72	5.83	5.93	6.03	6.12	6.20	6.27	6.34	6.41	6.47	
11	3.11	3.82	4.26	4.58	4.82	5.03	5.20	5.35	5.49	5.61	5.71	5.81	5.90	5.98	6.06	6.14	6.20	6.27	6.33	
12	3.08	3.77	4.20	4.51	4.75	4.95	5.12	5.27	5.40	5.51	5.61	5.71	5.80	5.88	5.95	6.02	6.09	6.15	6.21	
13	3.06	3.73	4.15	4.46	4.69	4.88	5.05	5.19	5.32	5.43	5.53	5.63	5.71	5.79	5.86	5.93	6.00	6.06	6.11	
14	3.03	3.70	4.11	4.41	4.64	4.83	4.99	5.13	5.25	5.36	5.46	5.56	5.64	5.72	5.79	5.86	5.92	5.98	6.03	
15	3.01	3.67	4.08	4.37	4.59	4.78	4.94	5.08	5.20	5.31	5.40	5.49	5.57	5.65	5.72	5.79	5.85	5.91	5.96	
16	3.00	3.65	4.05	4.34	4.56	4.74	4.90	5.03	5.15	5.26	5.35	5.44	5.52	5.59	5.66	5.73	5.79	5.84	5.90	
17	2.98	3.62	4.02	4.31	4.52	4.70	4.86	4.99	5.11	5.21	5.31	5.39	5.47	5.55	5.61	5.68	5.74	5.79	5.84	
18	2.97	3.61	4.00	4.28	4.49	4.67	4.83	4.96	5.07	5.17	5.27	5.35	5.43	5.50	5.57	5.63	5.69	5.74	5.79	
19	2.96	3.59	3.98	4.26	4.47	4.64	4.79	4.92	5.04	5.14	5.23	5.32	5.39	5.46	5.53	5.59	5.65	5.70	5.75	
20	2.95	3.58	3.96	4.24	4.45	4.62	4.77	4.90	5.01	5.11	5.20	5.28	5.36	5.43	5.50	5.56	5.61	5.66	5.71	
24	2.92	3.53	3.90	4.17	4.37	4.54	4.68	4.81	4.92	5.01	5.10	5.18	5.25	5.32	5.38	5.44	5.50	5.55	5.59	
30	2.89	3.48	3.84	4.11	4.30	4.46	4.60	4.72	4.83	4.92	5.00	5.08	5.15	5.21	5.27	5.33	5.38	5.43	5.48	
40	2.86	3.44	3.79	4.04	4.23	4.39	4.52	4.63	4.74	4.82	4.90	4.98	5.05	5.11	5.17	5.22	5.27	5.32	5.36	
60	2.83	3.40	3.74	3.98	4.16	4.31	4.44	4.55	4.65	4.73	4.81	4.88	4.94	5.00	5.06	5.11	5.15	5.20	5.24	
120	2.80	3.36	3.69	3.92	4.10	4.24	4.36	4.47	4.56	4.64	4.71	4.78	4.84	4.90	4.95	5.00	5.04	5.09	5.13	
∞	2.77	3.32	3.63	3.86	4.03	4.17	4.29	4.39	4.47	4.55	4.62	4.68	4.74	4.80	4.84	4.89	4.93	4.97	5.01	

Sumber : Sudjana (1985)