

**LAMPIRAN A**  
**RANGKUMAN RUMUS ANAVA**

N = jumlah subyek = P x n

P = jumlah perlakuan

n = banyaknya ulangan

$$JK_{\text{tot}} = \text{jumlah kuadrat total} = \sum (Y^2_{ij}) = \frac{J^2}{N}$$

$J^2$  = kuadrat jumlah seluruh nilai pengamatan

$\sum (Y^2_{ij})$  = jumlah kuadrat seluruh nilai pengamatan

$$JK(P_y) = \text{jumlah kuadrat perlakuan antar kelompok} = \frac{\sum J_i^2}{n} = \frac{J^2}{N}$$

$JK(E_y)$  = jumlah kuadrat perlakuan dalam kelompok =  $JK_{\text{tot}} - JK(P_y)$

$db(P_y)$  = derajat bebas perlakuan antar kelompok = P - 1

$db(E_y)$  = derajat bebas perlakuan dalam kelompok = N - P

$db_{\text{tot}}$  = derajat bebas total = N - 1

$$RJK(P_y) = \text{mean kuadrat perlakuan antar kelompok} = \frac{JK(P_y)}{db_{(P_y)}}$$

$$RJK(E_y) = \text{mean kuadrat perlakuan dalam kelompok} = \frac{JK(E_y)}{db_{(E_y)}}$$

$$F \text{ hitung} = \frac{RJK(P_y)}{RJK(E_y)}$$

F hitung = harga F yang diperoleh

**LAMPIRAN B**  
**PERHITUNGAN ANAVA DAN HSD**

**Perhitungan Anava Kadar Asam Urat Serum Darah Tikus Putih Pada Berbagai Waktu Pengamatan Perhitungan Anava Kadar Asam Urat Serum Darah Tikus (hari ke-0)**

| Hewan | Konsentrasi (mg/dl) |        |       |        |        | Jumlah |
|-------|---------------------|--------|-------|--------|--------|--------|
|       | K                   | E 1    | E 2   | E 3    | P      |        |
| 1     | 2,3                 | 2,4    | 2,3   | 2,1    | 2,4    |        |
| 2     | 2,0                 | 2,3    | 2,0   | 2,2    | 2,5    |        |
| 3     | 2,1                 | 2,0    | 2,4   | 2,2    | 2,0    |        |
| 4     | 2,3                 | 2,0    | 2,1   | 2,1    | 2,1    |        |
| 5     | 2,1                 | 2,0    | 2,2   | 2,3    | 2,1    |        |
| N     | 5                   | 5      | 5     | 5      | 5      | 5      |
| X     | 2,16                | 2,14   | 2,2   | 2,18   | 2,22   |        |
| Ji    | 10,8                | 10,7   | 11    | 10,9   | 11,1   | 54,5   |
| J2i   | 116,64              | 114,49 | 121   | 118,81 | 123,21 | 594,15 |
| Y2ij  | 23,4                | 23,05  | 23,94 | 23,79  | 24,83  | 119,01 |

$$JKT = \sum Y^2_{ij} - \frac{\sum J^2}{N} = 119,01 - \frac{(54,5)^2}{25} = 0,2$$

$$JKPy = \sum J^2_{i/n} - \frac{\sum J^2}{N} = 594,15/5 - \frac{(54,5)^2}{25} = 0,02$$

$$JKEy = JKT - JKPy = 0,2 - 0,02 = 0,18$$

$$dbT = Kn - 1 = 25 - 1 = 24$$

$$dbPy = K - 1 = 5 - 1 = 4$$

$$dbEy = dbT - dbPy = 24 - 4 = 20$$

$$RRJKPy = JKPy/dbPy = 0,02/4 = 0,005$$

$$RJKEy = JKEy/dbEy = 0,18/20 = 0,01$$

$$Fr = RJKPy/RJKEy = 0,005/0,01 = 0,5$$

$$F \text{ tabel } P(0,05) (4;20) = 2,87 \quad F \text{ tabel } p (0,01) (4;20) = 4,43$$

**Kesimpulan:** karena F hitung < F tabel, maka Ho diterima dan Ha ditolak, dengan demikian perlakuan-perlakuan memberikan efek yang tidak berbeda secara bermakna antar kelompok perlakuan.

Perhitungan Anava Kadar Asam Urat Serum Darah Tikus (Hari ke-11)

| Hewan | Konsentrasi (mg/dl) |        |        |        |        | Jumlah  |
|-------|---------------------|--------|--------|--------|--------|---------|
|       | K                   | E 1    | E 2    | E 3    | P      |         |
| 1     | 3,2                 | 2,8    | 3,0    | 3,3    | 3,6    |         |
| 2     | 2,8                 | 3,0    | 2,9    | 3,1    | 3,5    |         |
| 3     | 3,1                 | 2,9    | 3,1    | 2,9    | 3,5    |         |
| 4     | 3,2                 | 3,2    | 3,0    | 3,2    | 3,2    |         |
| 5     | 3,0                 | 2,7    | 3,2    | 3,1    | 3,3    |         |
| N     | 5                   | 5      | 5      | 5      | 5      | 5       |
| X     | 3,06                | 2,92   | 3,04   | 3,12   | 3,42   |         |
| Ji    | 15,3                | 14,6   | 15,2   | 15,6   | 17,1   | 77,8    |
| J2i   | 234,09              | 213,16 | 231,04 | 243,36 | 292,41 | 1214,06 |
| Y2ij  | 46,93               | 42,78  | 46,26  | 48,76  | 58,59  | 243,32  |

$$\begin{aligned}
 \text{JKT} &= \sum Y^2_{ij} - \sum J^2 / N = 243,32 - (77,8)^2/25 = 1,2064 \\
 \text{JKPy} &= \sum J^2_{i/n} - \sum J^2 / N = 1214,06/5 - (77,8)^2/25 = 0,6984 \\
 \text{JKEy} &= \text{JKT} - \text{JKPy} = 1,2064 - 0,698 = 0,508 \\
 \text{dbT} &= \text{Kn} - 1 = 25 - 1 = 24 \\
 \text{dbPy} &= \text{K} - 1 = 5 - 1 = 4 \\
 \text{dbEy} &= \text{dbT} - \text{dbPy} = 24 - 4 = 20 \\
 \text{RRJKPy} &= \text{JKPy}/\text{dbPy} = 0,6984/4 = 0,1746 \\
 \text{RJKEy} &= \text{JKEy}/\text{dbEy} = 0,508/20 = 0,0254 \\
 \text{Fr} &= \text{RJKPy}/\text{RJKEy} = 0,1746/0,0254 = 6,874 \\
 \text{F tabel P(0,05) (4;20)} &= 2,87 \qquad \text{F tabel p (0,01) (4;20)} = 4,43
 \end{aligned}$$

**Kesimpulan:** Karena F hitung < F tabel, maka Ho diterima dan Ha ditolak, dengan demikian perlakuan-perlakuan memberikan efek yang tidak berbeda secara bermakna antar kelompok perlakuan, maka dilanjutkan dengan uji HSD 1% dan 5% untuk melihat dimana letak perbedaan bermakna antar setiap kelompok sampel.

$$\begin{aligned}
 \text{HSD 5\%} &= q (0,05; p; \text{db/dk}) - \sqrt{(\text{R JKEy}/n)} \\
 &= 4,23 \sqrt{(2 \times 0,0254)/5} \\
 &= 0,43
 \end{aligned}$$

Perhitungan Anava Kadar Asam Urat Serum Darah Tikus (Hari ke-22)

| Hewan | Konsentrasi (mg/dl) |        |        |        |        | Jumlah |
|-------|---------------------|--------|--------|--------|--------|--------|
|       | K                   | E 1    | E 2    | E 3    | P      |        |
| 1     | 3,4                 | 2,6    | 2,7    | 2,1    | 2,4    |        |
| 2     | 2,9                 | 2,8    | 2,6    | 2,4    | 2,5    |        |
| 3     | 3,0                 | 2,6    | 2,7    | 2,3    | 2,3    |        |
| 4     | 2,9                 | 3,7    | 2,5    | 2,2    | 2,2    |        |
| 5     | 2,9                 | 2,5    | 2,4    | 2,2    | 2,3    |        |
| N     | 5                   | 5      | 5      | 5      | 5      | 25     |
| X     | 3,02                | 2,64   | 2,58   | 2,24   | 2,34   |        |
| Ji    | 15,1                | 13,2   | 12,9   | 11,2   | 11,6   | 64     |
| J2i   | 228,01              | 174,24 | 166,41 | 125,44 | 134,56 | 828,66 |
| Y2ij  | 45,79               | 34,9   | 33,35  | 25,14  | 27,43  | 166,61 |

$$\begin{aligned}
 \text{JKT} &= \sum Y^2_{ij} - \sum J^2 / N &= 166,61 - (64)^2 / 25 &= 2,77 \\
 \text{JKPy} &= \sum J^2_{i/n} - \sum J^2 / N &= 828,66 / 5 - (64)^2 / 25 &= 1,892 \\
 \text{JKEy} &= \text{JKT} - \text{JKPy} &= 2,77 - 1,892 &= 0,88 \\
 \text{dbT} &= K_n - 1 &= 25 - 1 &= 24 \\
 \text{dbPy} &= K - 1 &= 5 - 1 &= 4 \\
 \text{dbEy} &= \text{dbT} - \text{dbPy} &= 24 - 4 &= 20 \\
 \text{RRJKPy} &= \text{JKPy} / \text{dbPy} &= 1,892 / 4 &= 0,473 \\
 \text{RJKEy} &= \text{JKEy} / \text{dbEy} &= 0,88 / 20 &= 0,044 \\
 \text{Fr} &= \text{RRJKPy} / \text{RJKEy} &= 0,473 / 0,044 &= 10,61 \\
 \text{F tabel } P(0,05) (4;20) &= 2,87 & & \text{F tabel } p (0,01) (4;20) = 4,43
 \end{aligned}$$

**Kesimpulan:** Karena F hitung > F tabel, maka Ho ditolak dan Ha diterima, dengan demikian perlakuan-perlakuan memberikan efek yang berbeda secara bermakna antar kelompok perlakuan, maka dilanjutkan dengan uji HSD 1% dan 5% untuk melihat dimana letak perbedaan bermakna antar setiap kelompok sampel.

$$\begin{aligned}
 \text{HSD } 5\% &= q (0,05; p; \text{db/dk}) - \sqrt{(R \text{ JKEy} / n)} \\
 &= 4,23 \sqrt{(2 \times 0,0427) / 5} \\
 &= 0,55 \\
 \text{HSD } 1\% &= q (0,01; p; \text{db/dk}) - \sqrt{(R \text{ JKEy} / n)} \\
 &= 5,29 \sqrt{(2 \times 0,1306) / 5} \\
 &= 0,6914
 \end{aligned}$$

- **Perhitungan Susut Pengeringan Simplisia**

| Replikasi        | Hasil Pengeringan | Susut | Syarat       | Keterangan |
|------------------|-------------------|-------|--------------|------------|
| 1                | 8,01              |       |              | MS         |
| 2                | 7,99              |       |              | MS         |
| 3                | 8,08              |       |              | MS         |
| <b>Rata-rata</b> | <b>8,03</b>       |       | <b>≤ 10%</b> | <b>MS</b>  |

**Keterangan: MS: Memenuhi syarat (MMI II, 1977)**

- **Perhitungan Penetapan Kadar Abu Simplisia**

$$\text{Kadar abu} = \frac{(\text{Berat konstan krus} + \text{abu}) - (\text{Berat konstan krus kosong})}{\text{berat serbuk}} \times 100\%$$

| Replikasi                            | Berat Serbuk (gram) | Berat konstan krus kosong (gram) | Berat konstan krus + abu (gram) | Kadar abu | syarat       | ket       |
|--------------------------------------|---------------------|----------------------------------|---------------------------------|-----------|--------------|-----------|
| 1                                    | 2,00                | 20,3415                          | 20,5175                         | 8,8 %     |              | MS        |
| 2                                    | 2,02                | 20,4127                          | 20,5879                         | 8,76 %    |              | MS        |
| 3                                    | 2,03                | 20,3871                          | 20,5648                         | 8,75 %    |              | MS        |
| <b>Rata-rata % kadar abu = 8,77%</b> |                     |                                  |                                 |           | <b>≤ 12%</b> | <b>MS</b> |

**Keterangan: MS: Memenuhi syarat (MMI II, 1977).**



- **Pemeriksaan Kadar Sari Larut Etanol**

$$\text{Kadar Sari Larut Etanol} = \frac{(\text{Berat konstan cawan+serbuk}) - (\text{berat cawan})}{\text{berat serbuk}} \times 100\%$$

| No   | Berat serbuk (gram) | Berat konstan cawan (gram) | Berat konstan cawan + serbuk (gram) | Kadar sari larut etanol | Syarat      | Ket       |
|--|---------------------|----------------------------|-------------------------------------|-------------------------|-------------|-----------|
| 1  | 5,0046              | 71,0013                    | 71,3797                             | 7,56 %                  |             | MS        |
| 2  | 5,0019              | 69,9891                    | 70,3637                             | 7,49 %                  |             | MS        |
| 3  | 5,0035              | 70,5445                    | 70,9438                             | 7,98 %                  |             | MS        |
| <b>% kadar sari larut etanol rata-rata =</b> |                     |                            |                                     | <b>7,68 %</b>           | <b>≥ 4%</b> | <b>MS</b> |

**Keterangan: MS: Memenuhi syarat (MMI II, 1977)**

- **Perhitungan Harga Rf Pada Pemeriksaan Secara KLT**

| Zat berkhasiat | Pengamatan | Warna           | Harga Rf |
|----------------|------------|-----------------|----------|
| Flavonoid      | UV 254 nm  | Biru fluoresens | 0,41     |
|                | UV 366 nm  | Biru fluoresens | 0.40     |

**Keterangan:**

$$\text{Harga Rf} = \frac{\text{Jarak yang ditempuh noda}}{\text{Jarak yang ditempuh eluen}}$$

## LAMPIRAN C

## HASIL PERHITUNGAN % PENURUNAN KADAR ASAM URAT DARAH

| Hari ke- | % Penurunan Kadar Asam Urat Darah |         |         |            |
|----------|-----------------------------------|---------|---------|------------|
|          | 10% v/v                           | 15% v/v | 20% v/v | Alopurinol |
| 22       | 9,5890                            | 15,1316 | 28,2051 | 31,5789    |

Contoh perhitungan % penurunan kadar asam urat darah berdasarkan rumus:

$$\% \text{ Penurunan Kadar Asam Urat Darah} = \frac{G_0 - G}{G_0} \times 100\%$$

Keterangan:  $G_0$  = Kadar Asam Urat Darah yang diambil pada hari ke-11

$G$  = Kadar Asam Urat Darah yang diambil pada hari ke-22

Pada kelompok tikus yang diberi ekstrak Batang Brotowali secara oral dengan dosis 1,0 g/kg BB pada hari ke-22 adalah sebagai berikut:

$$G_0 = 2,92$$

$$G = 2,64$$

$$\begin{aligned} \text{Maka \% penurunan kadar asam urat darah} &= \frac{(2,92 - 2,64) \times 100\%}{2,92} \\ &= 9,5890 \% \end{aligned}$$

LAMPIRAN D

TABEL III F  
Tabel uji F

Baris pertama pada setiap pasangan baris adalah titik pada distribusi F untuk aras 0.05; baris kedua untuk aras 0.01.

|   |    | Derajat kebebasan untuk rata-rata kuadrat yang lebih besar |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |  |  |  |  |
|---|----|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|--|--|--|
|   |    | 1  | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 14           | 16           | 20           | 24           | 30           | 40           | 50           | 75           | 100          | 200          | 500          | ∞            |  |  |  |  |
| Derajat kebebasan untuk rata-rata kuadrat yang lebih kecil. | 16 | 4.49<br>8.53   | 3.63<br>6.23 | 3.24<br>5.29 | 3.01<br>4.77 | 2.85<br>4.44 | 2.74<br>4.20 | 2.66<br>4.03 | 2.59<br>3.89 | 2.54<br>3.78 | 2.49<br>3.69 | 2.45<br>3.61 | 2.42<br>3.55 | 2.37<br>3.45 | 2.33<br>3.37 | 2.28<br>3.25 | 2.24<br>3.18 | 2.20<br>3.10 | 2.16<br>3.01 | 2.13<br>2.96 | 2.09<br>2.89 | 2.07<br>2.86 | 2.04<br>2.80 | 2.02<br>2.77 | 2.02<br>2.75 |  |  |  |  |
|   | 17 | 4.45<br>8.40   | 3.59<br>6.11 | 3.20<br>5.18 | 2.96<br>4.67 | 2.81<br>4.34 | 2.70<br>4.10 | 2.62<br>3.93 | 2.55<br>3.79 | 2.50<br>3.68 | 2.45<br>3.59 | 2.41<br>3.52 | 2.38<br>3.45 | 2.33<br>3.35 | 2.29<br>3.27 | 2.23<br>3.16 | 2.19<br>3.08 | 2.15<br>3.00 | 2.11<br>2.92 | 2.08<br>2.86 | 2.04<br>2.79 | 2.02<br>2.76 | 1.99<br>2.70 | 1.97<br>2.67 | 1.96<br>2.65 |  |  |  |  |
|   | 18 | 4.41<br>8.28   | 3.55<br>6.01 | 3.16<br>5.09 | 2.93<br>4.58 | 2.77<br>4.25 | 2.66<br>4.01 | 2.58<br>3.85 | 2.51<br>3.71 | 2.46<br>3.60 | 2.41<br>3.51 | 2.37<br>3.44 | 2.34<br>3.37 | 2.29<br>3.27 | 2.25<br>3.19 | 2.19<br>3.07 | 2.15<br>3.00 | 2.11<br>2.91 | 2.07<br>2.83 | 2.04<br>2.78 | 2.00<br>2.71 | 1.98<br>2.68 | 1.95<br>2.62 | 1.93<br>2.59 | 1.92<br>2.57 |  |  |  |  |
|   | 19 | 4.38<br>8.18   | 3.52<br>5.93 | 3.13<br>5.01 | 2.90<br>4.50 | 2.74<br>4.17 | 2.63<br>3.94 | 2.55<br>3.77 | 2.48<br>3.63 | 2.43<br>3.52 | 2.38<br>3.43 | 2.34<br>3.36 | 2.31<br>3.30 | 2.26<br>3.19 | 2.21<br>3.12 | 2.15<br>3.00 | 2.11<br>2.92 | 2.07<br>2.84 | 2.02<br>2.76 | 2.00<br>2.70 | 1.96<br>2.63 | 1.94<br>2.60 | 1.91<br>2.54 | 1.89<br>2.51 | 1.88<br>2.49 |  |  |  |  |
|   | 20 | 4.35<br>8.10   | 3.49<br>5.85 | 3.10<br>4.94 | 2.87<br>4.43 | 2.71<br>4.10 | 2.60<br>3.87 | 2.52<br>3.71 | 2.45<br>3.56 | 2.40<br>3.45 | 2.35<br>3.37 | 2.31<br>3.30 | 2.28<br>3.23 | 2.23<br>3.13 | 2.18<br>3.05 | 2.12<br>2.94 | 2.08<br>2.86 | 2.04<br>2.77 | 1.99<br>2.69 | 1.96<br>2.63 | 1.92<br>2.56 | 1.90<br>2.53 | 1.87<br>2.47 | 1.85<br>2.44 | 1.84<br>2.42 |  |  |  |  |
|   | 21 | 4.32<br>8.02   | 3.47<br>5.78 | 3.07<br>4.87 | 2.84<br>4.37 | 2.68<br>4.04 | 2.57<br>3.81 | 2.49<br>3.65 | 2.42<br>3.51 | 2.37<br>3.40 | 2.32<br>3.31 | 2.28<br>3.24 | 2.23<br>3.17 | 2.18<br>3.07 | 2.12<br>2.99 | 2.09<br>2.88 | 2.05<br>2.80 | 2.00<br>2.72 | 1.96<br>2.63 | 1.93<br>2.58 | 1.89<br>2.51 | 1.87<br>2.47 | 1.84<br>2.42 | 1.82<br>2.38 | 1.81<br>2.36 |  |  |  |  |
|   | 22 | 4.30<br>7.94   | 3.44<br>5.72 | 3.05<br>4.82 | 2.82<br>4.31 | 2.66<br>3.99 | 2.55<br>3.76 | 2.47<br>3.59 | 2.40<br>3.45 | 2.35<br>3.35 | 2.30<br>3.26 | 2.26<br>3.18 | 2.23<br>3.12 | 2.18<br>3.02 | 2.13<br>2.94 | 2.07<br>2.83 | 2.03<br>2.75 | 1.98<br>2.67 | 1.93<br>2.58 | 1.91<br>2.53 | 1.87<br>2.46 | 1.84<br>2.42 | 1.81<br>2.37 | 1.80<br>2.33 | 1.78<br>2.31 |  |  |  |  |
|   | 23 | 4.28<br>7.88   | 3.42<br>5.66 | 3.03<br>4.76 | 2.80<br>4.26 | 2.64<br>3.94 | 2.53<br>3.71 | 2.45<br>3.54 | 2.38<br>3.41 | 2.32<br>3.30 | 2.28<br>3.21 | 2.24<br>3.14 | 2.20<br>3.07 | 2.14<br>2.97 | 2.10<br>2.89 | 2.04<br>2.78 | 2.00<br>2.70 | 1.96<br>2.62 | 1.91<br>2.53 | 1.88<br>2.48 | 1.84<br>2.41 | 1.82<br>2.37 | 1.79<br>2.32 | 1.77<br>2.28 | 1.76<br>2.26 |  |  |  |  |
|   | 24 | 4.26<br>7.82   | 3.40<br>5.61 | 3.01<br>4.72 | 2.78<br>4.22 | 2.62<br>3.90 | 2.51<br>3.67 | 2.43<br>3.50 | 2.36<br>3.36 | 2.30<br>3.25 | 2.26<br>3.17 | 2.22<br>3.09 | 2.18<br>3.03 | 2.13<br>2.93 | 2.09<br>2.85 | 2.02<br>2.74 | 1.98<br>2.66 | 1.94<br>2.58 | 1.89<br>2.49 | 1.86<br>2.44 | 1.82<br>2.36 | 1.80<br>2.33 | 1.77<br>2.27 | 1.74<br>2.23 | 1.72<br>2.21 |  |  |  |  |
|   | 25 | 4.24<br>7.77   | 3.38<br>5.57 | 2.99<br>4.68 | 2.76<br>4.18 | 2.60<br>3.86 | 2.49<br>3.63 | 2.41<br>3.46 | 2.34<br>3.32 | 2.28<br>3.21 | 2.24<br>3.13 | 2.20<br>3.05 | 2.16<br>2.99 | 2.11<br>2.89 | 2.06<br>2.81 | 2.00<br>2.70 | 1.96<br>2.62 | 1.92<br>2.54 | 1.87<br>2.45 | 1.84<br>2.40 | 1.80<br>2.32 | 1.77<br>2.29 | 1.74<br>2.23 | 1.72<br>2.19 | 1.71<br>2.17 |  |  |  |  |
|   | 26 | 4.22<br>7.72   | 3.37<br>5.53 | 2.89<br>4.64 | 2.74<br>4.14 | 2.59<br>3.82 | 2.47<br>3.59 | 2.39<br>3.42 | 2.32<br>3.29 | 2.27<br>3.17 | 2.22<br>3.09 | 2.18<br>3.02 | 2.15<br>2.96 | 2.10<br>2.86 | 2.05<br>2.77 | 1.99<br>2.66 | 1.95<br>2.58 | 1.90<br>2.50 | 1.85<br>2.41 | 1.82<br>2.36 | 1.78<br>2.28 | 1.76<br>2.25 | 1.72<br>2.19 | 1.70<br>2.15 | 1.69<br>2.13 |  |  |  |  |
|   | 27 | 4.21<br>7.68   | 3.35<br>5.49 | 2.96<br>4.60 | 2.73<br>4.11 | 2.57<br>3.79 | 2.46<br>3.56 | 2.37<br>3.39 | 2.30<br>3.26 | 2.25<br>3.14 | 2.20<br>3.06 | 2.16<br>2.98 | 2.13<br>2.93 | 2.08<br>2.83 | 2.03<br>2.74 | 1.97<br>2.63 | 1.93<br>2.55 | 1.88<br>2.47 | 1.84<br>2.38 | 1.80<br>2.33 | 1.76<br>2.25 | 1.74<br>2.21 | 1.71<br>2.16 | 1.68<br>2.12 | 1.67<br>2.10 |  |  |  |  |
|   | 28 | 4.20<br>7.64   | 3.34<br>5.45 | 2.95<br>4.57 | 2.71<br>4.07 | 2.56<br>3.76 | 2.44<br>3.53 | 2.36<br>3.36 | 2.29<br>3.23 | 2.24<br>3.11 | 2.19<br>3.03 | 2.15<br>2.95 | 2.12<br>2.90 | 2.06<br>2.80 | 2.02<br>2.71 | 1.96<br>2.60 | 1.91<br>2.52 | 1.87<br>2.44 | 1.81<br>2.35 | 1.78<br>2.30 | 1.75<br>2.22 | 1.72<br>2.18 | 1.69<br>2.13 | 1.67<br>2.09 | 1.65<br>2.06 |  |  |  |  |
|   | 29 | 4.18<br>7.60   | 3.33<br>5.52 | 2.93<br>4.54 | 2.70<br>4.04 | 2.54<br>3.73 | 2.43<br>3.50 | 2.35<br>3.32 | 2.28<br>3.20 | 2.22<br>3.08 | 2.18<br>3.00 | 2.14<br>2.92 | 2.10<br>2.87 | 2.05<br>2.77 | 2.00<br>2.68 | 1.94<br>2.57 | 1.90<br>2.49 | 1.85<br>2.41 | 1.80<br>2.32 | 1.77<br>2.27 | 1.73<br>2.19 | 1.71<br>2.15 | 1.68<br>2.10 | 1.65<br>2.06 | 1.64<br>2.03 |  |  |  |  |
|   | 30 | 4.17<br>7.56   | 3.32<br>5.39 | 2.92<br>4.51 | 2.69<br>4.02 | 2.53<br>3.70 | 2.42<br>3.47 | 2.34<br>3.30 | 2.27<br>3.17 | 2.21<br>3.06 | 2.16<br>2.98 | 2.12<br>2.90 | 2.09<br>2.84 | 2.04<br>2.74 | 1.99<br>2.66 | 1.93<br>2.55 | 1.89<br>2.47 | 1.84<br>2.38 | 1.79<br>2.29 | 1.76<br>2.24 | 1.72<br>2.16 | 1.69<br>2.13 | 1.66<br>2.07 | 1.64<br>2.03 | 1.62<br>2.01 |  |  |  |  |

(bersambung)



### Tabel uji F (lanjutan)

Baris pertama pada setiap pasangan baris adalah titik pada distribusi F untuk aras 0,05; baris kedua untuk aras 0,01.

|  |    | Derajat kebebasan untuk rataan kuadrat yang lebih besar. |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |  |  |  |
|--|----|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|--|--|
|  |    | 1  | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 14           | 16           | 20           | 24           | 30           | 40           | 50           | 75           | 100          | 200          | 500          | ∞            |              |  |  |  |
| Derajat kebebasan untuk rataan kuadrat yang lebih kecil. | 32 | 4.15<br>7.50   | 3.30<br>5.34 | 2.90<br>4.46 | 2.67<br>3.97 | 2.51<br>3.66 | 2.40<br>3.42 | 2.32<br>3.25 | 2.25<br>3.12 | 2.19<br>3.01 | 2.14<br>2.94 | 2.10<br>2.86 | 2.07<br>2.80 | 2.02<br>2.70 | 1.97<br>2.62 | 1.91<br>2.51 | 1.86<br>2.42 | 1.82<br>2.34 | 1.76<br>2.25 | 1.74<br>2.20 | 1.69<br>2.12 | 1.67<br>2.08 | 1.64<br>2.02 | 1.61<br>1.98 | 1.59<br>1.96 |              |  |  |  |
|  | 34 | 4.13<br>7.44   | 3.28<br>5.29 | 2.88<br>4.42 | 2.65<br>3.93 | 2.49<br>3.61 | 2.38<br>3.38 | 2.30<br>3.21 | 2.23<br>3.08 | 2.17<br>2.97 | 2.12<br>2.89 | 2.08<br>2.82 | 2.05<br>2.76 | 2.00<br>2.66 | 1.95<br>2.58 | 1.89<br>2.47 | 1.84<br>2.38 | 1.80<br>2.30 | 1.74<br>2.21 | 1.71<br>2.15 | 1.67<br>2.08 | 1.64<br>2.04 | 1.61<br>1.98 | 1.59<br>1.94 | 1.57<br>1.91 |              |  |  |  |
|  | 36 | 4.11<br>7.39   | 3.26<br>5.25 | 2.86<br>4.38 | 2.63<br>3.89 | 2.48<br>3.58 | 2.36<br>3.35 | 2.28<br>3.18 | 2.21<br>3.04 | 2.15<br>2.94 | 2.10<br>2.86 | 2.06<br>2.78 | 2.03<br>2.72 | 2.00<br>2.62 | 1.93<br>2.54 | 1.87<br>2.43 | 1.82<br>2.35 | 1.78<br>2.26 | 1.72<br>2.17 | 1.69<br>2.12 | 1.65<br>2.04 | 1.62<br>2.00 | 1.59<br>1.94 | 1.56<br>1.90 | 1.55<br>1.87 |              |  |  |  |
|  | 38 | 4.10<br>7.35   | 3.25<br>5.21 | 2.85<br>4.34 | 2.62<br>3.86 | 2.46<br>3.54 | 2.35<br>3.32 | 2.26<br>3.15 | 2.19<br>3.02 | 2.14<br>2.91 | 2.09<br>2.82 | 2.05<br>2.75 | 2.02<br>2.69 | 1.96<br>2.59 | 1.92<br>2.51 | 1.85<br>2.40 | 1.80<br>2.32 | 1.76<br>2.22 | 1.71<br>2.14 | 1.67<br>2.08 | 1.63<br>2.00 | 1.60<br>1.97 | 1.57<br>1.90 | 1.54<br>1.88 | 1.53<br>1.84 |              |  |  |  |
|  | 40 | 4.08<br>7.31   | 3.23<br>5.18 | 2.84<br>4.31 | 2.61<br>3.83 | 2.45<br>3.51 | 2.34<br>3.29 | 2.25<br>3.12 | 2.18<br>2.99 | 2.12<br>2.88 | 2.07<br>2.80 | 2.04<br>2.73 | 2.00<br>2.66 | 1.95<br>2.56 | 1.90<br>2.49 | 1.84<br>2.37 | 1.79<br>2.29 | 1.74<br>2.20 | 1.69<br>2.11 | 1.66<br>2.05 | 1.61<br>1.97 | 1.59<br>1.94 | 1.55<br>1.88 | 1.53<br>1.84 | 1.51<br>1.81 |              |  |  |  |
|  | 42 | 4.07<br>7.27   | 3.22<br>5.15 | 2.83<br>4.29 | 2.59<br>3.80 | 2.44<br>3.49 | 2.32<br>3.26 | 2.24<br>3.10 | 2.17<br>2.96 | 2.11<br>2.86 | 2.06<br>2.77 | 2.02<br>2.70 | 1.90<br>2.64 | 1.94<br>2.54 | 1.89<br>2.46 | 1.82<br>2.35 | 1.78<br>2.26 | 1.73<br>2.17 | 1.68<br>2.08 | 1.64<br>2.02 | 1.60<br>1.94 | 1.57<br>1.91 | 1.54<br>1.85 | 1.51<br>1.80 | 1.49<br>1.78 |              |  |  |  |
|  | 44 | 4.06<br>7.24   | 3.21<br>5.12 | 2.82<br>4.26 | 2.58<br>3.78 | 2.43<br>3.46 | 2.31<br>3.24 | 2.23<br>3.07 | 2.16<br>2.94 | 2.10<br>2.84 | 2.05<br>2.75 | 2.01<br>2.68 | 1.98<br>2.62 | 1.92<br>2.52 | 1.88<br>2.44 | 1.81<br>2.32 | 1.76<br>2.24 | 1.72<br>2.15 | 1.66<br>2.06 | 1.63<br>2.09 | 1.58<br>1.92 | 1.56<br>1.88 | 1.52<br>1.82 | 1.50<br>1.82 | 1.48<br>1.78 | 1.46<br>1.75 |  |  |  |
|  | 46 | 4.05<br>7.21   | 3.20<br>5.10 | 2.81<br>4.24 | 2.57<br>3.76 | 2.42<br>3.44 | 2.30<br>3.22 | 2.22<br>3.05 | 2.14<br>2.92 | 2.09<br>2.82 | 2.04<br>2.73 | 2.00<br>2.66 | 1.97<br>2.60 | 1.91<br>2.50 | 1.87<br>2.42 | 1.80<br>2.30 | 1.75<br>2.22 | 1.71<br>2.13 | 1.65<br>2.04 | 1.62<br>1.98 | 1.57<br>1.90 | 1.54<br>1.86 | 1.51<br>1.80 | 1.48<br>1.76 | 1.46<br>1.72 |              |  |  |  |
|  | 48 | 4.04<br>7.19   | 3.19<br>5.08 | 2.80<br>4.22 | 2.56<br>3.74 | 2.41<br>3.42 | 2.30<br>3.20 | 2.21<br>3.04 | 2.14<br>2.90 | 2.08<br>2.80 | 2.03<br>2.71 | 1.99<br>2.64 | 1.96<br>2.58 | 1.90<br>2.48 | 1.86<br>2.40 | 1.79<br>2.28 | 1.74<br>2.20 | 1.70<br>2.11 | 1.64<br>2.02 | 1.61<br>1.96 | 1.56<br>1.88 | 1.53<br>1.84 | 1.50<br>1.78 | 1.47<br>1.73 | 1.45<br>1.70 |              |  |  |  |
|  | 50 | 4.03<br>7.17   | 3.18<br>5.06 | 2.79<br>4.20 | 2.56<br>3.72 | 2.40<br>3.41 | 2.29<br>3.18 | 2.20<br>3.02 | 2.13<br>2.88 | 2.07<br>2.78 | 2.02<br>2.70 | 1.98<br>2.62 | 1.95<br>2.56 | 1.90<br>2.46 | 1.85<br>2.39 | 1.78<br>2.26 | 1.74<br>2.18 | 1.69<br>2.10 | 1.63<br>2.00 | 1.60<br>1.94 | 1.55<br>1.86 | 1.52<br>1.82 | 1.48<br>1.71 | 1.46<br>1.71 | 1.44<br>1.68 |              |  |  |  |
|  | 55 | 4.02<br>7.12   | 3.17<br>5.01 | 2.78<br>4.16 | 2.54<br>3.68 | 2.38<br>3.37 | 2.27<br>3.15 | 2.18<br>2.98 | 2.11<br>2.85 | 2.05<br>2.75 | 2.00<br>2.66 | 1.97<br>2.59 | 1.93<br>2.53 | 1.88<br>2.43 | 1.83<br>2.35 | 1.76<br>2.23 | 1.72<br>2.15 | 1.67<br>2.06 | 1.61<br>1.96 | 1.58<br>1.90 | 1.52<br>1.82 | 1.50<br>1.78 | 1.46<br>1.71 | 1.43<br>1.71 | 1.41<br>1.64 |              |  |  |  |
|  | 60 | 4.00<br>7.08   | 3.15<br>4.98 | 2.76<br>4.13 | 2.52<br>3.65 | 2.37<br>3.34 | 2.25<br>3.12 | 2.17<br>2.95 | 2.10<br>2.82 | 2.04<br>2.72 | 1.99<br>2.63 | 1.95<br>2.56 | 1.92<br>2.50 | 1.86<br>2.40 | 1.81<br>2.32 | 1.75<br>2.20 | 1.70<br>2.12 | 1.65<br>2.03 | 1.59<br>1.93 | 1.56<br>1.87 | 1.50<br>1.79 | 1.48<br>1.74 | 1.44<br>1.68 | 1.41<br>1.63 | 1.39<br>1.60 |              |  |  |  |
|  | 65 | 3.99<br>7.04   | 3.14<br>4.95 | 2.75<br>4.10 | 2.51<br>3.62 | 2.36<br>3.31 | 2.24<br>3.09 | 2.15<br>2.93 | 2.08<br>2.79 | 2.02<br>2.70 | 1.98<br>2.61 | 1.94<br>2.54 | 1.90<br>2.47 | 1.85<br>2.37 | 1.80<br>2.30 | 1.73<br>2.18 | 1.68<br>2.09 | 1.63<br>2.00 | 1.57<br>1.90 | 1.54<br>1.84 | 1.49<br>1.76 | 1.46<br>1.71 | 1.42<br>1.64 | 1.39<br>1.64 | 1.37<br>1.56 |              |  |  |  |
|  | 70 | 3.98<br>7.01   | 3.13<br>4.92 | 2.74<br>4.08 | 2.50<br>3.60 | 2.35<br>3.29 | 2.32<br>3.07 | 2.14<br>2.91 | 2.07<br>2.77 | 2.01<br>2.67 | 1.97<br>2.59 | 1.93<br>2.51 | 1.89<br>2.45 | 1.84<br>2.35 | 1.79<br>2.28 | 1.72<br>2.15 | 1.67<br>2.07 | 1.62<br>1.98 | 1.56<br>1.88 | 1.53<br>1.82 | 1.47<br>1.74 | 1.45<br>1.69 | 1.40<br>1.62 | 1.37<br>1.56 | 1.35<br>1.53 |              |  |  |  |
|  | 80 | 3.96<br>6.96   | 3.11<br>4.88 | 2.72<br>4.04 | 2.48<br>3.56 | 2.33<br>3.25 | 2.21<br>3.04 | 2.12<br>2.87 | 2.05<br>2.74 | 1.99<br>2.64 | 1.95<br>2.55 | 1.91<br>2.48 | 1.88<br>2.41 | 1.82<br>2.32 | 1.77<br>2.24 | 1.70<br>2.11 | 1.65<br>2.03 | 1.60<br>1.94 | 1.54<br>1.84 | 1.51<br>1.78 | 1.45<br>1.70 | 1.42<br>1.65 | 1.38<br>1.57 | 1.35<br>1.52 | 1.32<br>1.49 |              |  |  |  |

Sumber: Scheffler (1987).

**LAMPIRAN E**  
**TABEL UJI HSD (0,05)**

| k<br>d.k. | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   |
|-----------|------|------|------|------|------|------|------|------|------|------|
| 5         | 3.64 | 4.60 | 5.22 | 5.67 | 6.03 | 6.33 | 6.58 | 6.80 | 6.99 | 7.17 |
| 6         | 3.46 | 4.34 | 4.90 | 5.30 | 5.63 | 5.90 | 6.12 | 6.32 | 6.49 | 6.65 |
| 7         | 3.34 | 4.16 | 4.68 | 5.06 | 5.36 | 5.61 | 5.82 | 6.00 | 6.16 | 6.30 |
| 8         | 3.26 | 4.01 | 4.53 | 4.89 | 5.17 | 5.40 | 5.60 | 5.77 | 5.92 | 6.05 |
| 9         | 3.20 | 3.95 | 4.41 | 4.76 | 5.02 | 5.24 | 5.43 | 5.59 | 5.74 | 5.87 |
| 10        | 3.15 | 3.88 | 4.33 | 4.65 | 4.91 | 5.12 | 5.30 | 5.46 | 5.60 | 5.72 |
| 11        | 3.11 | 3.82 | 4.26 | 4.57 | 4.82 | 5.03 | 5.20 | 5.35 | 5.49 | 5.61 |
| 12        | 3.08 | 3.77 | 4.20 | 4.51 | 4.75 | 4.95 | 5.12 | 5.27 | 5.39 | 5.51 |
| 13        | 3.06 | 3.73 | 4.15 | 4.45 | 4.69 | 4.88 | 5.05 | 5.19 | 5.32 | 5.43 |
| 14        | 3.03 | 3.70 | 4.11 | 4.41 | 4.64 | 4.83 | 4.99 | 5.13 | 5.25 | 5.36 |
| 15        | 3.01 | 3.67 | 4.08 | 4.37 | 4.59 | 4.78 | 4.94 | 5.08 | 5.20 | 5.31 |
| 16        | 3.00 | 3.65 | 4.05 | 4.33 | 4.56 | 4.74 | 4.90 | 5.03 | 5.15 | 5.26 |
| 17        | 2.98 | 3.63 | 4.02 | 4.30 | 4.52 | 4.71 | 4.86 | 4.99 | 5.11 | 5.21 |
| 18        | 2.97 | 3.61 | 4.00 | 4.28 | 4.49 | 4.67 | 4.82 | 4.96 | 5.07 | 5.17 |
| 19        | 2.96 | 3.59 | 3.98 | 4.25 | 4.47 | 4.65 | 4.79 | 4.92 | 5.04 | 5.14 |
| 20        | 2.95 | 3.58 | 3.96 | 4.23 | 4.45 | 4.62 | 4.77 | 4.90 | 5.01 | 5.11 |
| 24        | 2.92 | 3.53 | 3.90 | 4.17 | 4.37 | 4.54 | 4.68 | 4.81 | 4.92 | 5.01 |
| 30        | 2.89 | 3.49 | 3.85 | 4.10 | 4.30 | 4.46 | 4.60 | 4.72 | 4.82 | 4.92 |
| 40        | 2.86 | 3.44 | 3.79 | 4.04 | 4.23 | 4.39 | 4.52 | 4.63 | 4.73 | 4.82 |
| 60        | 2.83 | 3.40 | 3.74 | 3.98 | 4.16 | 4.31 | 4.44 | 4.55 | 4.65 | 4.73 |
| 120       | 2.80 | 3.36 | 3.68 | 3.92 | 4.10 | 4.24 | 4.36 | 4.47 | 4.56 | 4.64 |
| ∞         | 2.77 | 3.31 | 3.63 | 3.86 | 4.03 | 4.17 | 4.29 | 4.39 | 4.47 | 4.55 |

Catatan kaki: Dari *Annals of mathematical statistics*. Diulang cetak seizin penerbit, The Institute of Mathematical Statistics.

TABEL UJI HSD (0,01)

| k<br>d. k. | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10    | 11    |
|------------|------|------|------|------|------|------|------|------|-------|-------|
| 5          | 5.70 | 6.98 | 7.80 | 8.42 | 8.91 | 9.32 | 9.67 | 9.97 | 10.24 | 10.48 |
| 6          | 5.24 | 6.33 | 7.03 | 7.56 | 7.97 | 8.32 | 8.61 | 8.87 | 9.10  | 9.30  |
| 7          | 4.95 | 5.92 | 6.54 | 7.01 | 7.37 | 7.68 | 7.94 | 8.17 | 8.37  | 8.55  |
| 8          | 4.75 | 5.64 | 6.20 | 6.62 | 6.96 | 7.24 | 7.47 | 7.68 | 7.86  | 8.03  |
| 9          | 4.60 | 5.43 | 5.96 | 6.35 | 6.66 | 6.91 | 7.13 | 7.33 | 7.49  | 7.65  |
| 10         | 4.48 | 5.27 | 5.77 | 6.14 | 6.43 | 6.67 | 6.87 | 7.05 | 7.21  | 7.36  |
| 11         | 4.39 | 5.15 | 5.62 | 5.97 | 6.25 | 6.48 | 6.67 | 6.84 | 6.99  | 7.13  |
| 12         | 4.32 | 5.05 | 5.50 | 5.84 | 6.10 | 6.32 | 6.51 | 6.67 | 6.81  | 6.94  |
| 13         | 4.26 | 4.96 | 5.40 | 5.73 | 5.98 | 6.19 | 6.37 | 6.53 | 6.67  | 6.79  |
| 14         | 4.21 | 4.89 | 5.32 | 5.63 | 5.88 | 6.08 | 6.26 | 6.41 | 6.54  | 6.66  |
| 15         | 4.17 | 4.84 | 5.25 | 5.56 | 5.80 | 5.99 | 6.16 | 6.31 | 6.44  | 6.55  |
| 16         | 4.13 | 4.79 | 5.19 | 5.49 | 5.72 | 5.92 | 6.08 | 6.22 | 6.35  | 6.46  |
| 17         | 4.10 | 4.74 | 5.14 | 5.43 | 5.66 | 5.85 | 6.01 | 6.15 | 6.27  | 6.38  |
| 18         | 4.07 | 4.70 | 5.09 | 5.38 | 5.60 | 5.79 | 5.94 | 6.08 | 6.20  | 6.21  |
| 19         | 4.05 | 4.67 | 5.05 | 5.33 | 5.55 | 5.73 | 5.89 | 6.02 | 6.14  | 6.25  |
| 20         | 4.02 | 4.64 | 5.02 | 5.29 | 5.51 | 5.69 | 5.84 | 5.97 | 6.09  | 6.19  |
| 24         | 3.96 | 4.55 | 4.91 | 5.17 | 5.37 | 5.54 | 5.69 | 5.81 | 5.92  | 6.02  |
| 30         | 3.89 | 4.45 | 4.80 | 5.05 | 5.24 | 5.40 | 5.54 | 5.65 | 5.76  | 5.85  |
| 40         | 3.82 | 4.37 | 4.70 | 4.93 | 5.11 | 5.26 | 5.39 | 5.50 | 5.60  | 5.67  |
| 60         | 3.76 | 4.28 | 4.59 | 4.82 | 4.99 | 5.13 | 5.25 | 5.36 | 5.45  | 5.53  |
| 120        | 3.70 | 4.20 | 4.50 | 4.71 | 4.87 | 5.01 | 5.12 | 5.21 | 5.30  | 5.38  |
| ∞          | 3.64 | 4.12 | 4.40 | 4.60 | 4.76 | 4.88 | 4.99 | 5.08 | 5.16  | 5.23  |

LAMPIRAN F  
HARGA r TABEL

| DEGREES OF FREEDOM (DF) | 5 PERCENT | 1 PERCENT | DEGREES OF FREEDOM (DF) | 5 PERCENT | 1 PERCENT |
|-------------------------|-----------|-----------|-------------------------|-----------|-----------|
| 1                       | .997      | 1.000     | 24                      | .388      | .496      |
| 2                       | .950      | .990      | 25                      | .381      | .487      |
| 3                       | .878      | .959      | 26                      | .374      | .478      |
| 4                       | .811      | .917      | 27                      | .367      | .470      |
| 5                       | .754      | .874      | 28                      | .361      | .463      |
| 6                       | .707      | .834      | 29                      | .355      | .456      |
| 7                       | .666      | .798      | 30                      | .349      | .449      |
| 8                       | .632      | .765      | 35                      | .325      | .418      |
| 9                       | .602      | .735      | 40                      | .304      | .393      |
| 10                      | .576      | .708      | 48                      | .288      | .372      |
| 11                      | .553      | .684      | 50                      | .273      | .354      |
| 12                      | .532      | .661      | 60                      | .250      | .325      |
| 13                      | .514      | .641      | 70                      | .232      | .302      |
| 14                      | .497      | .623      | 80                      | .217      | .283      |
| 15                      | .482      | .606      | 90                      | .205      | .267      |
| 16                      | .468      | .590      | 100                     | .195      | .254      |
| 17                      | .456      | .575      | 125                     | .174      | .228      |
| 18                      | .444      | .561      | 150                     | .159      | .208      |
| 19                      | .433      | .549      | 200                     | .138      | .181      |
| 20                      | .423      | .537      | 300                     | .113      | .148      |
| 21                      | .413      | .526      | 400                     | .098      | .128      |
| 22                      | .404      | .515      | 500                     | .088      | .115      |
| 23                      | .396      | .505      | 1000                    | .062      | .081      |