Pengiraan berikut menunjukkan tahap kecekapan peruntukkan untuk tahun 1970. Pengiraan tersebut berdasarkan kepada fungsi permintaan dan kos sut yang dianggarkan, permintaan dan harga keseimbangan pada tahap kecekapan peruntukkan adalah :-

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171\ H_t + 0.2702\ \text{Log } M_t + 0.0542\ \text{Log } Z_t + 0.5082\ \text{Log } QD_{t-1} + 0.5695\ \text{Log } HP_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982\ \text{Log } QD_t + 0.0968\ \text{Log } QB_t + 0.0782\ \text{Log } PBD_t + 0.3037\ \text{Log } F_t + 0.5439\ \text{Log } W_t + 0.3734\ \text{Log } CB_t$$

Daripada nilai penganggaran :

i) $KS_t = H_t$ dan gantikan H_t dengan KS_t

ii) $M_t = 102$

iii) $Z_t = 8.54$

Xi) $H_t = 3.54$

iv) $W_t = 104.25$

v) $QB_t = 12.154$

vi) $QD_{t-1} = 118.45$

vii) $CB_t = 10.0954$

viii) $F_t = 104.75$

X) $QD_t = 119.815$

Xi) $HP_t = 3.2$

Xii) $PBD_t = 6.1745$

Data diambil dari jadual 5.3.3

$$\log QD_t = \text{Log } 2.0388 - 0.4171 \left[\text{Log } 1.1979 - 0.7982 \right.$$

$$\text{Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t$$

$$\left. + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t \right]$$

$$+ 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1}$$

$$+ 0.5695 \text{ Log } HP_t$$

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 [\text{Log } 1.1979 - 0.7982 \text{ Log } QD_t$$

$$+ 0.0968 \text{ Log } (12.154) + 0.0782 \text{ Log } (6.1745) +$$

$$0.5439 \text{ Log } (104.25) + 0.3037 \text{ Log } (104.75) + 0.3734$$

$$\text{Log } (10.0954)] + 0.2702 \text{ Log } (102.0) + 0.0542$$

$$\text{Log } (8.54) + 0.5082 \text{ Log } (118.45) + 0.5695$$

$$\text{Log } (3.2).$$

$$\text{Log } QD_t = 0.3094 - 0.4171 [\ 0.0784 - 0.7982 \text{ Log } QD_t +$$

$$0.1050 + 0.0618 + 1.0976 + 0.6135 + 0.3749\ ] +$$

$$0.8129 + 0.0505 + 1.0538 + 0.2877.$$

$$= 0.3094 - 0.4171 [\ - 0.7982 \text{ Log } QD_t + 2.331\ ]$$

$$+ 0.8129 + 0.0505 + 1.0538 + 0.2877$$

$$= 0.3321 \text{ Log } QD_t + 0.3094 - 0.9724 + 0.8129 +$$

$$0.0505 + 1.0538 + 0.2877.$$

$$\text{Log } QD_t - 0.3321 \text{ Log } QD_t = 1.5419$$

$$\text{Log } QD_t = \frac{1.5419}{0.6671} = 2.3114$$

Antilogkan QDt

$$QD_t = 204.84$$

Oleh kerana Ht = KSt , maka Ht sama dengan persamaan KSt dapat digunakan sebagai harga, pada kuantiti 204.84 dan harga :-

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.7982 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.5439 \text{ Log } F_t + 0.3037 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (204.84) + 0.0968 \text{ Log } (12.154) + 0.0782 \text{ Log } (6.1745) + 0.5439 \text{ Log } (104.25) + 0.3037 \text{ Log } (104.75) + 0.3734 \text{ Log } (10.0954).$$

$$\text{Log } H_t = 0.0784 - 1.8449 + 0.1050 + 0.0618 + 1.0976 + 0.6135 + 0.3749 .$$

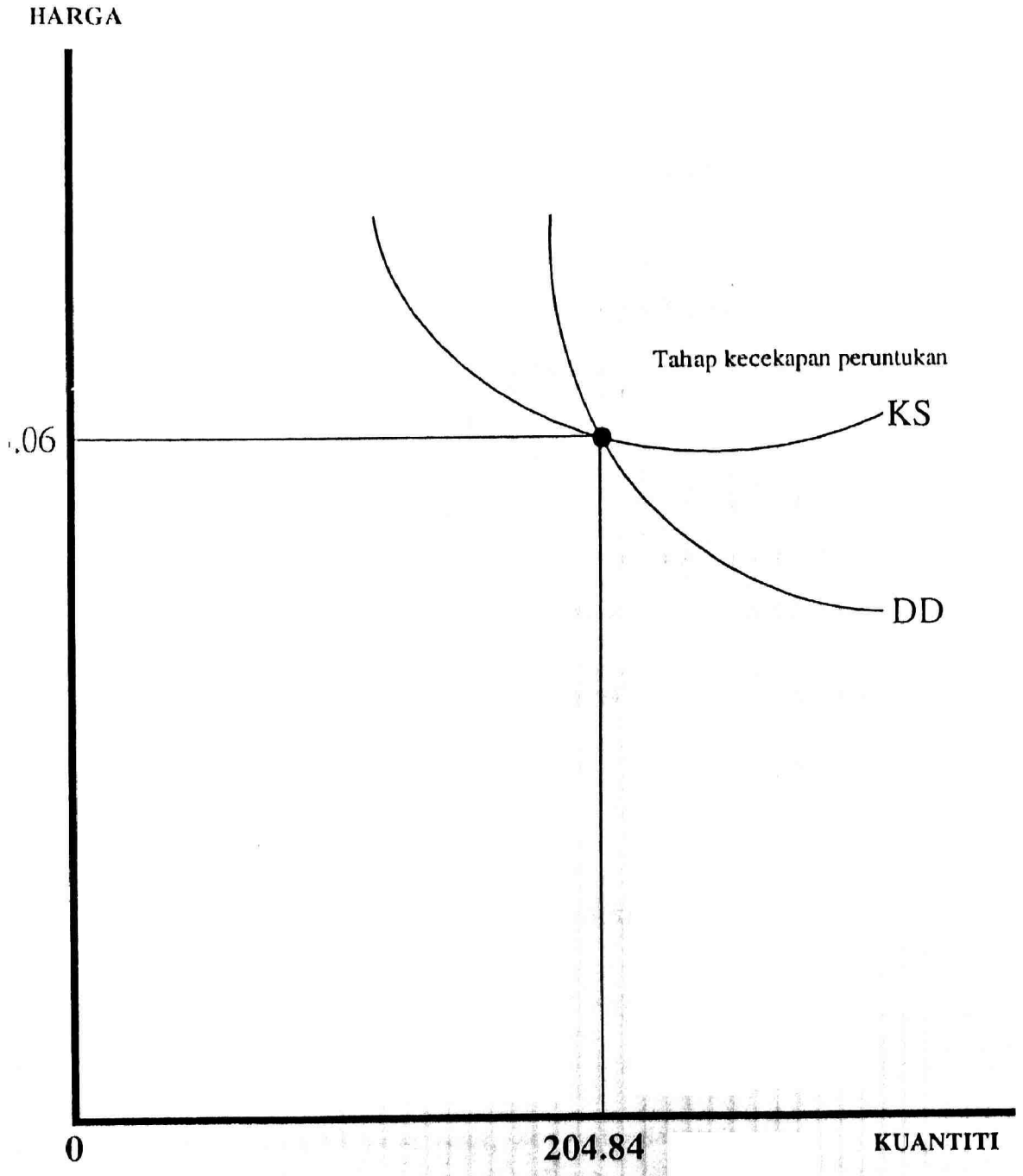
$$= 0.4862$$

Antilogkan Ht

$$H_t = 3.064$$

Tahap kecekapan peruntukan dapat diterangkan dengan meng gunakan Rajah 5.1 dimana harga dan kuantiti keseimbangan adalah pada 3.064 dan 204.64:-

Rajah 5.1 : Menunjukan tahap kecekapan peruntukkan untuk tahun 1970



SUMBER : Pengiraan pada tahun 1970

Lampiran ini menjelaskan perhubungan antara keluk permintaan dan keluk kos sut untuk tahun 1970. data untuk tahun ini di ambil daripada Jadual 5.3.3. 2 andaian berkenaan dengan kuantiti di minta dilakukan untuk menjelaskan perhubungan antara keluk-keluk tersebut:

A) Andaian pertama.
Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 200.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \text{ Log } H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$0.4171 \text{ Log } H_t = \text{Log } 2.0388 + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} - \text{Log } QD_t + 0.5695 \text{ Log } HP_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (102.00) + 0.0542 \text{ Log } (8.54) + 0.5082 \text{ Log } (118.45) - \text{Log } (200.00) + 0.5695 \text{ Log } (3.2)$$

$$= 0.3094 + 0.8129 + 0.0505 + 1.0538 - 2.3010 + 0.2877$$

$$0.4171 \text{ Log } H_t = 0.2133$$

$$\text{Log } H_t = \frac{0.2133}{0.4171} = 0.5113$$

Antilogkan Log Ht

$$H_t = 3.25$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t$$

$$+ 0.0782 \text{ Log PBD}_t + 0.3037 \text{ Log F}_t + 0.5439$$

$$\text{Log W}_t + 0.3734 \text{ Log CB}_t$$

$$\text{Log KS}_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (200.00) + 0.0968 \text{ Log}$$

$$(12.154) + 0.0782 \text{ Log } (6.1745) + 0.3037 \text{ Log}$$

$$(104.25) + 0.5439 \text{ Log } (104.75) + 0.3734$$

$$\text{Log } (10.0954)$$

$$\text{Log KS}_t = 0.0784 - 1.8367 + 0.1050 + 0.0618 + 1.0976 +$$

$$0.6135 + 0.3749$$

$$\text{Log KS}_t = 0.4939$$

Antilogkan Log KSt

$$KS_t = 3.118$$

B) Andaian Kedua.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 210.00 . Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log QD}_t = \text{Log } 2.0388 - 0.4171 \text{ Log H}_t + 0.2702 \text{ Log M}_t$$

$$+ 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} + 0.5695$$

$$\text{Log HP}_t$$

$$0.4171 \text{ Log H}_t = \text{Log } 2.0388 + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t$$

$$+ 0.5082 \text{ Log QD}_{t-1} - \text{Log QD}_t + 0.5695 \text{ Log HP}_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (102.00) + 0.0542$$

$$\text{Log } (8.54) + 0.5082 \text{ Log } (118.45) -$$

$$\text{Log } (210.00) + 0.5695 \text{ Log } (3.2)$$

$$= 0.3094 + 0.8129 + 0.0505 + 1.0528 - 2.322 + 0.2877$$

$$0.4171 \text{ Log } H_t = 0.1921$$

$$\text{Log } H_t = \frac{0.1921}{0.4171} = 0.4605$$

Antilogkan Log Ht

$$H_t = 2.89$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (210.00) + 0.0968 \text{ Log } (12.154) + 0.0782 \text{ Log } (6.1745) + 0.3037 \text{ Log } (104.25) + 0.5439 \text{ Log } (104.75) + 0.3734 \text{ Log } (10.0954)$$

$$\text{Log } KS = 0.0784 - 1.8536 + 0.1050 + 0.0618 + 1.0970 + 0.6135 + 0.3749$$

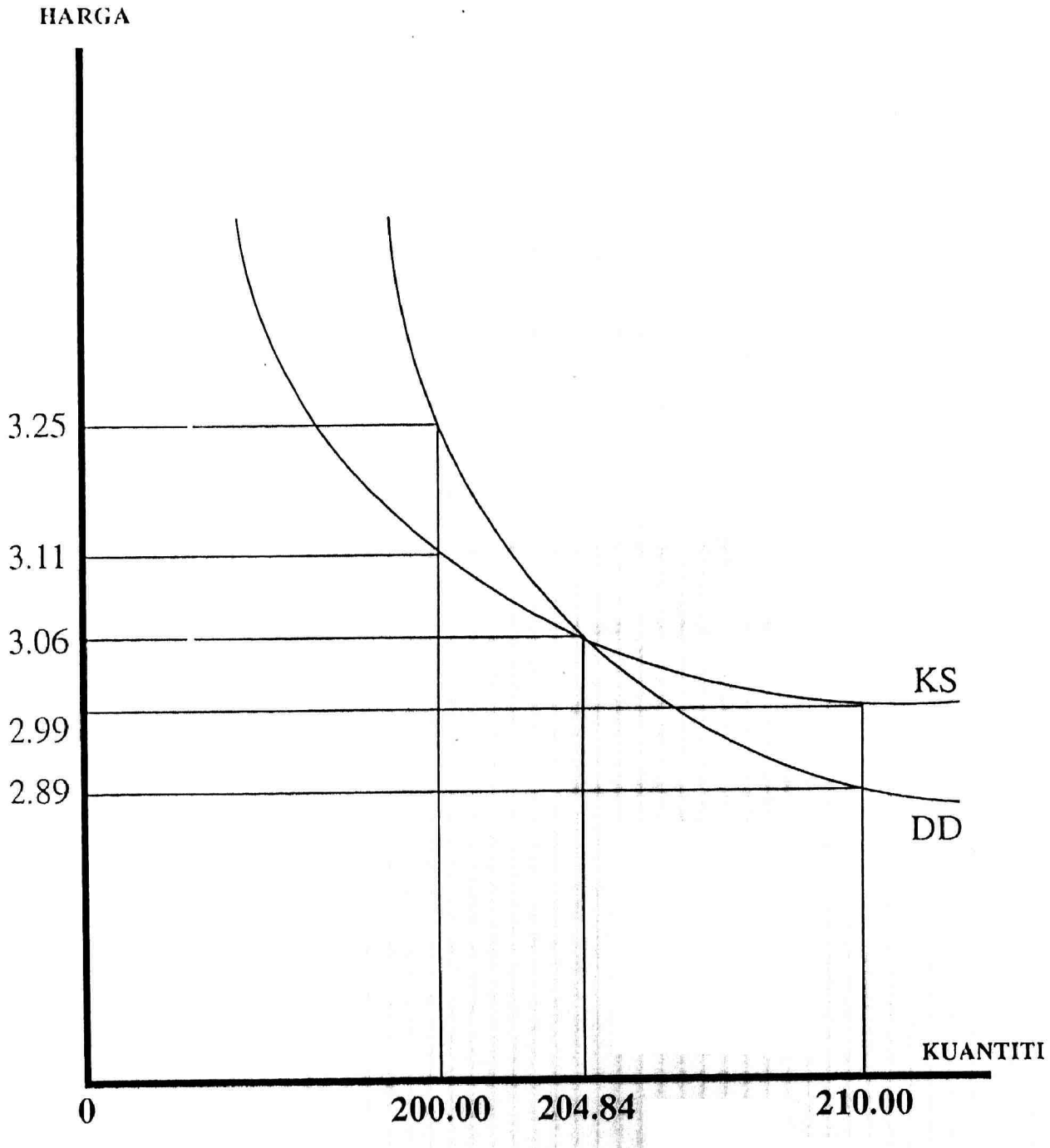
$$\text{Log } KS_t = 0.477$$

Antilogkan Log KSt

$$KS_t = 2.99$$

Rajah berikut menunjukkan keluk kos sut terletak di bawah keluk permintaan sebelum titik keseimbangan dan selepas titik keseimbangan keluk kos sut terletak di atas keluk permintaan.

Rajah 5.1 : **Menunjukan perhubungan antara keluk kos sut dan permintaan untuk tahun 1970**



SUMBER : Pengiraan pada tahun 1970

Pengiraan berikut menunjukkan tahap kecekapan peruntukkan untuk tahun 1975. Pengiraan tersebut berdasarkan kepada fungsi permintaan dan kos sut yang dianggarkan, permintaan dan harga keseimbangan pada tahap kecekapan peruntukkan adalah :-

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

Daripada nilai penganggaran :

i) $KS_t = H_t$ dan gantikan H_t dengan KS_t

ii) $M_t = 271.00$

iii) $Z_t = 10.03$

Xi) $H_t = 3.41$

iv) $W_t = 101.472$

v) $QB_t = 14.545$

vi) $QD_{t-1} = 210.732$

vii) $CB_t = 10.0874$

viii) $F_t = 103.44$

X) $QD_t = 166.009$

Xii) $HP_t = 3.5$

Xii) $PBD_+ = 6.978$

Data diambil dari jadual 5.3.3.

$$\log QD_t = \text{Log } 2.0388 - 0.4171 \; [\text{Log } 1.1979 - 0.7982 \log QD_t + 0.0968 \log QB_t + 0.0782 \log PBD_t + 0.3037 \log F_t + 0.5439 \log W_t + 0.3734 \log CB_t] + 0.2702 \log M_t + 0.0542 \log Z_t + 0.5082 \log QD_{t-1} + 0.5695 \log HP_t$$

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 [\text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } (14.454) + 0.0782 \text{ Log } (6.978) + 0.5439 \text{ Log } (101.472) + 0.3037 \text{ Log } (103.44) + 0.3734 \text{ Log } (10.0874)] + 0.2702 \text{ Log } (271.0) + 0.0542 \text{ Log } (10.03) + 0.5082 \text{ Log } (210.732) + 0.5695 \text{ Log } (3.5).$$

$$\text{Log } QD_t = 0.3094 - 0.4171 \; [\; 0.0784 - 0.7982 \text{ Log } QD_t + 0.1126 + 0.0659 + 1.0913 + 0.6119 + 0.3748 \;] + 0.6574 + 0.0543 + 1.1912 + 0.3098.$$

$$= 0.3094 - 0.4171 \; [\; - 0.7982 \text{ Log } QD_t + 2.3349] + 0.6574 + 0.0543 + 1.1912 + 0.3098$$

$$= 0.3329 \text{ Log } QD_t + 0.3094 - 0.9739 + 0.6574 + 0.0543 + 1.1912 + 0.3098.$$

$$\text{Log } QD_t - 0.3329 \text{ Log } QD_t = 1.5482$$

$$\text{Log } QD_t = \frac{1.5482}{0.6671} = 2.321$$

Antilogkan QDt

$$QD_t = 209.28$$

Oleh kerana Ht = KSt , maka Ht sama dengan persamaan KSt dapat digunakan sebagai harga, pada kuantiti 209.28 dan harga :-

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.7982 \text{ Log } QB_t$$

$$+ 0.0782 \text{ Log } PBD_t + 0.5439 \text{ Log } F_t + 0.3037$$

$$\text{Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (209.28) + 0.0968 \text{ Log}$$

$$(14.545) + 0.0782 \text{ Log } (6.978) + 0.5439 \text{ Log}$$

$$(101.472) + 0.3037 \text{ Log } (103.44) + 0.3734 \text{ Log}$$

$$(10.0874).$$

$$\text{Log } H_t = 0.0784 - 1.8524 + 0.1126 + 0.0659 + 1.0913$$

$$+ 0.6119 + 0.3748 .$$

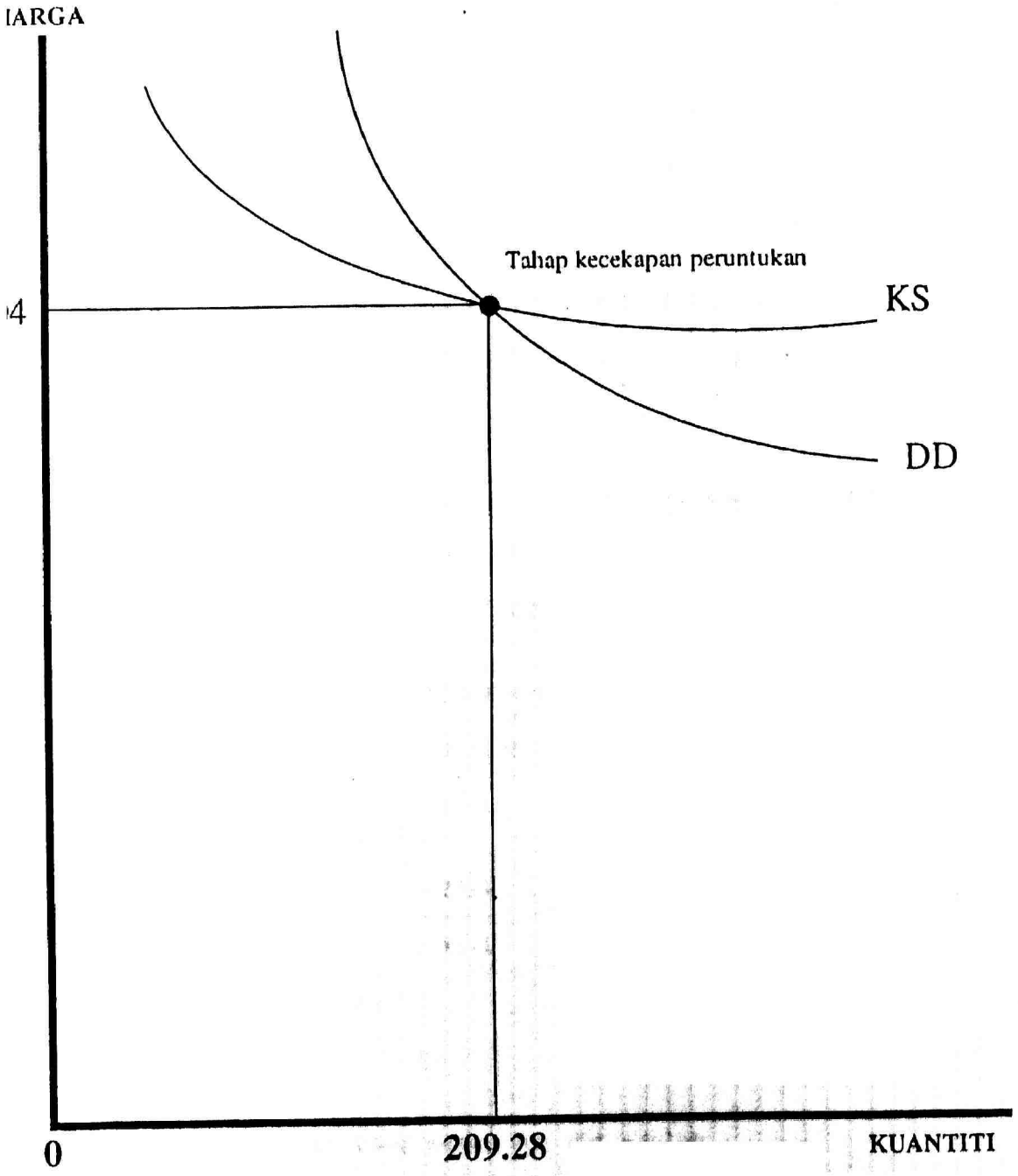
$$= 0.4825$$

Antilogkan Ht

$$H_t = 3.04$$

Tahap kecekapan peruntukkan dapat diterangkan dengan menggunakan Rajah 5.2 dimana harga dan kuantiti keseimbangan dicapai pada 3.04 dan 209.28:-

Rajah 5.2 : Menunjukan tahap kecekapan peruntukkan untuk tahun 1975



SUMBER : Pengiraan pada tahun 1986

Lampiran ini menjelaskan perhubungan antara keluk permintaan dan keluk kos sut untuk tahun 1975. data untuk tahun ini di ambil daripada jadual 5.3.3. 2 andaian berkenaan dengan kuantiti di minta dilakukan untuk menjelaskan perhubungan antara keluk-keluk tersebut:

A) Andaian pertama.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 200.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \text{ Log } H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$0.4171 \text{ Log } H_t = \text{Log } 2.0388 + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} - \text{Log } QD_t + 0.5695 \text{ Log } HP_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (271.0) + 0.0542 \text{ Log } (10.03) + 0.5082 \text{ Log } (210.732) - \text{Log } (200.00) + 0.5695 \text{ Log } (3.5)$$

$$= 0.3094 + 0.6574 + 0.0543 + 1.1912 - 2.301 + 0.3098$$

$$0.4171 \text{ Log } H_t = 0.2211$$

$$\text{Log } H_t = \frac{0.2211}{0.4171} = 0.5300$$

Antilogkan Log H_t

$$H_t = 3.39$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t$$

$$+ 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439$$

$$\text{Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (200.00) + 0.0968 \text{ Log } (14.545) + 0.0782 \text{ Log } (6.978) + 0.3037 \text{ Log } (101.472) + 0.5439 \text{ Log } (103.44) + 0.3734 \text{ Log } (10.0874)$$

$$\text{Log } KS_t = 0.0784 - 1.8367 + 0.1126 + 0.0659 + 1.0913 + 0.6119 + 0.3748$$

$$\text{Log } KS_t = 0.4982$$

Antilogkan Log KSt

$$KS_t = 3.15$$

B) Andaian Kedua.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 215.00 . Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \text{ Log } H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$0.4171 \text{ Log } H_t = \text{Log } 2.0388 + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} - \text{Log } QD_t + 0.5695 \text{ Log } HP_t$$

$$\text{Log } 2.0388 + 0.2702 \text{ Log } (271.0) + 0.0542 \text{ Log } (10.03) + 0.5082 \text{ Log } (210.732) \text{ Log } (215.00) + 0.5695 \text{ Log } (3.5)$$

$$= 0.3094 + 0.6574 + 0.0543 + 1.1912 - 2.3324 + 0.3098$$

$$0.4171 \text{ Log } H_t = 0.1896$$

$$\text{Log } H_t = \frac{0.1896}{0.4171} = 0.4546$$

Antilogkan Log H_t

$$H_t = 2.848$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } F_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (215.00) + 0.0968 \text{ Log } (14.545) + 0.0782 \text{ Log } (6.978) + 0.3037 \text{ Log } (101.472) + 0.5439 \text{ Log } (103.44) + 0.3734 \text{ Log } (10.0874)$$

$$\text{Log } KS_t = 0.0784 - 1.8618 + 0.1126 + 0.0659 + 1.0913 + 0.6119 + 0.3749$$

$$\text{Log } KS_t = 0.4731$$

Antilogkan Log KS_t

$$KS_t = 2.97$$

Rajah berikut menunjukkan keluk kos sut terletak di bawah keluk permintaan sebelum titik keseimbangan dan selepas titik keseimbangan keluk kos sut terletak di atas keluk permintaan.

$$= 0.3094 + 0.6574 + 0.0543 + 1.1912 - 2.3324 + 0.3098$$

$$0.4171 \text{ Log } H_t = 0.1896$$

$$\text{Log } H_t = \frac{0.1896}{0.4171} = 0.4546$$

Antilogkan Log Ht

$$H_t = 2.848$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } F_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (215.00) + 0.0968 \text{ Log } (14.545) + 0.0782 \text{ Log } (6.978) + 0.3037 \text{ Log } (101.472) + 0.5439 \text{ Log } (103.44) + 0.3734 \text{ Log } (10.0874)$$

$$\text{Log } KS_t = 0.0784 - 1.8618 + 0.1126 + 0.0659 + 1.0913 + 0.6119 + 0.3749$$

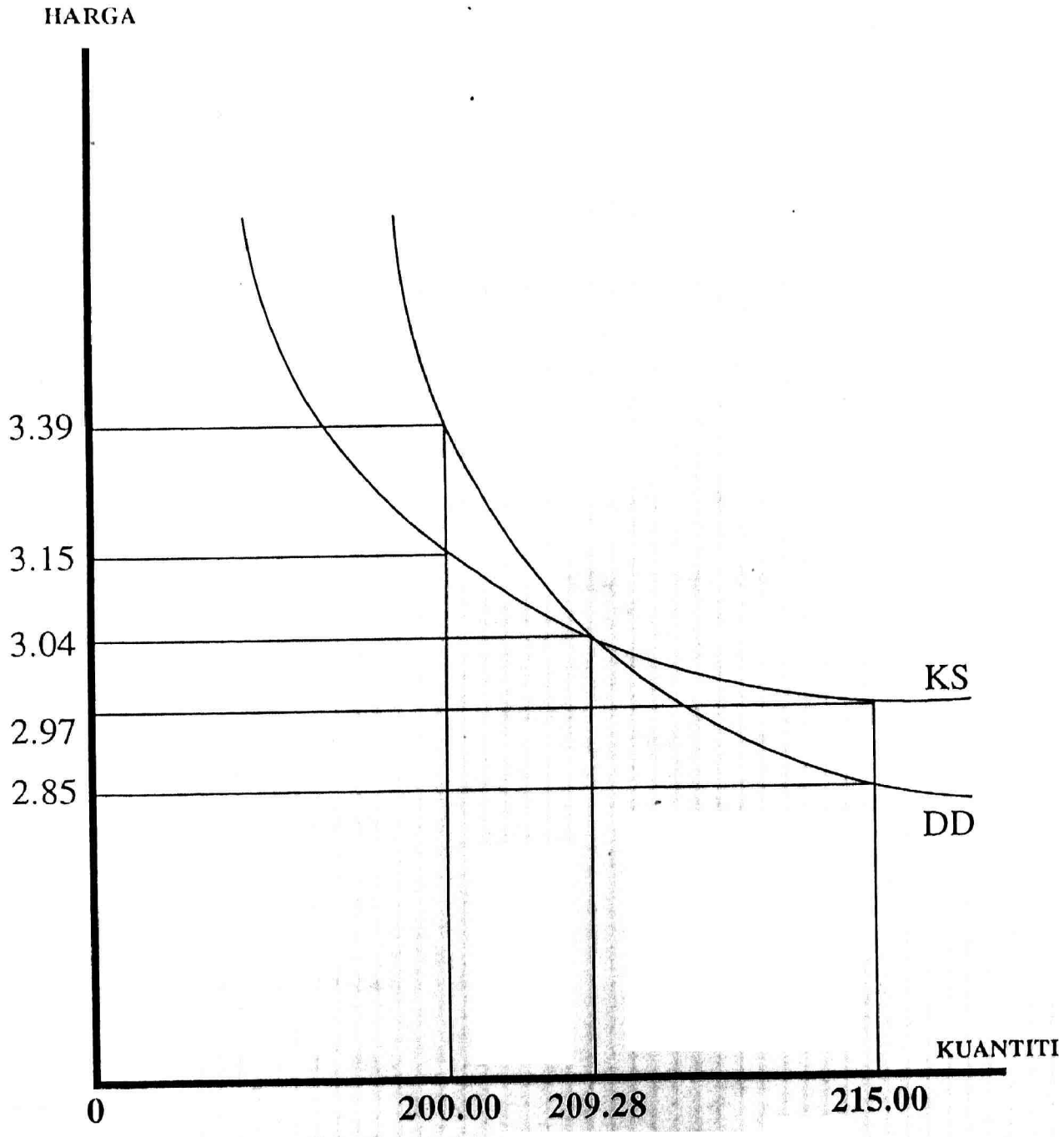
$$\text{Log } KS_t = 0.4731$$

Antilogkan Log KSt

$$KS_t = 2.97$$

Rajah berikut menunjukkan keluk kos sut terletak di bawah keluk permintaan sebelum titik keseimbangan dan selepas titik keseimbangan keluk kos sut terletak di atas keluk permintaan.

Rajah 5.2 : **Menunjukan perhubungan antara keluk kos sut dan permintaan untuk tahun 1975**



SUMBER : Pengiraan pada tahun 1975

Pengiraan berikut menunjukkan tahap kecekapan peruntukkan untuk tahun 1980. Pengiraan tersebut berdasarkan kepada fungsi permintaan dan kos sut yang dianggarkan, permintaan dan harga keseimbangan pada tahap kecekapan peruntukkan adalah :-

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171\ H_t + 0.2702\ \text{Log } M_t + 0.0542\ \text{Log } Z_t + 0.5082\ \text{Log } QD_{t-1} + 0.5695\ \text{Log } HP_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982\ \text{Log } QD_t + 0.0968\ \text{Log } QB_t + 0.0782\ \text{Log } PBD_t + 0.3037\ \text{Log } F_t + 0.5439\ \text{Log } W_t + 0.3734\ \text{Log } CB_t$$

Daripada nilai penganggaran :

i) $KS_t = H_t$ dan gantikan H_t dengan KS_t

ii) $M_t = 402.0$

iii) $Z_t = 11.30$

Xi) $H_t = 3.29$

iv) $W_t = 100.38$

v) $QB_t = 15.221$

vi) $QD_{t-1} = 219.747$

vii) $CB_t = 10.9513$

viii) $F_t = 113.73$

X) $QD_t = 221.527$

Xi) $HP_t = 3.6$

Xii) $PBD_t = 7.4473$

Data diambil dari jadual 5.3.3.

$$\log QD_t = \text{Log } 2.0388 - 0.4171 \; [\text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t] + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 [\text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } (15.221) + 0.0782 \text{ Log } (7.4473) + 0.5439 \text{ Log } (100.38) + 0.3037 \text{ Log } (113.73) + 0.3734 \text{ Log } (10.9513)] + 0.2702 \text{ Log } (402.0) + 0.0542 \text{ Log } (11.30) + 0.5082 \text{ Log } (219.747) + 0.569 \text{ Log } (3.6).$$

$$\text{Log } QD_t = 0.3094 - 0.4171 [0.0784 - 0.7982 \text{ Log } QD_t + 0.1145 + 0.0682 + 1.0887 + 0.6245 + 0.3881] + 0.7037 + 0.0571 + 1.1902 + 0.3168.$$

$$= 0.3094 - 0.4171 [-0.7982 \text{ Log } QD_t + 2.3624] + 0.7037 + 0.0571 + 1.1902 + 0.3168$$

$$= 0.3329 \text{ Log } QD_t + 0.3094 - 0.9854 + 0.7037 + 0.0571 + 1.1902 + 0.3168.$$

$$\text{Log } QD_t - 0.3329 \text{ Log } QD_t = 1.5934$$

$$\text{Log } QD_t = \frac{1.5934}{0.6671} = 2.389$$

Antilogkan QDt

$$QD_t = 245.03$$

Oleh kerana Ht = KSt , maka Ht sama dengan persamaan KSt dapat digunakan sebagai harga, pada kuantiti 245.03 dan harga :-

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.5439 \text{ Log } F_t + 0.3037 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (245.03) + 0.0968 \text{ Log } (15.221) + 0.0782 \text{ Log } (7.4473) + 0.5439 \text{ Log } (100.38) + 0.3037 \text{ Log } (113.73) + 0.3734 \text{ Log } (10.9513).$$

$$\text{Log } H_t = 0.0784 - 1.9071 + 0.1145 + 0.0682 + 1.0887 + 0.6245 + 0.3881 .$$

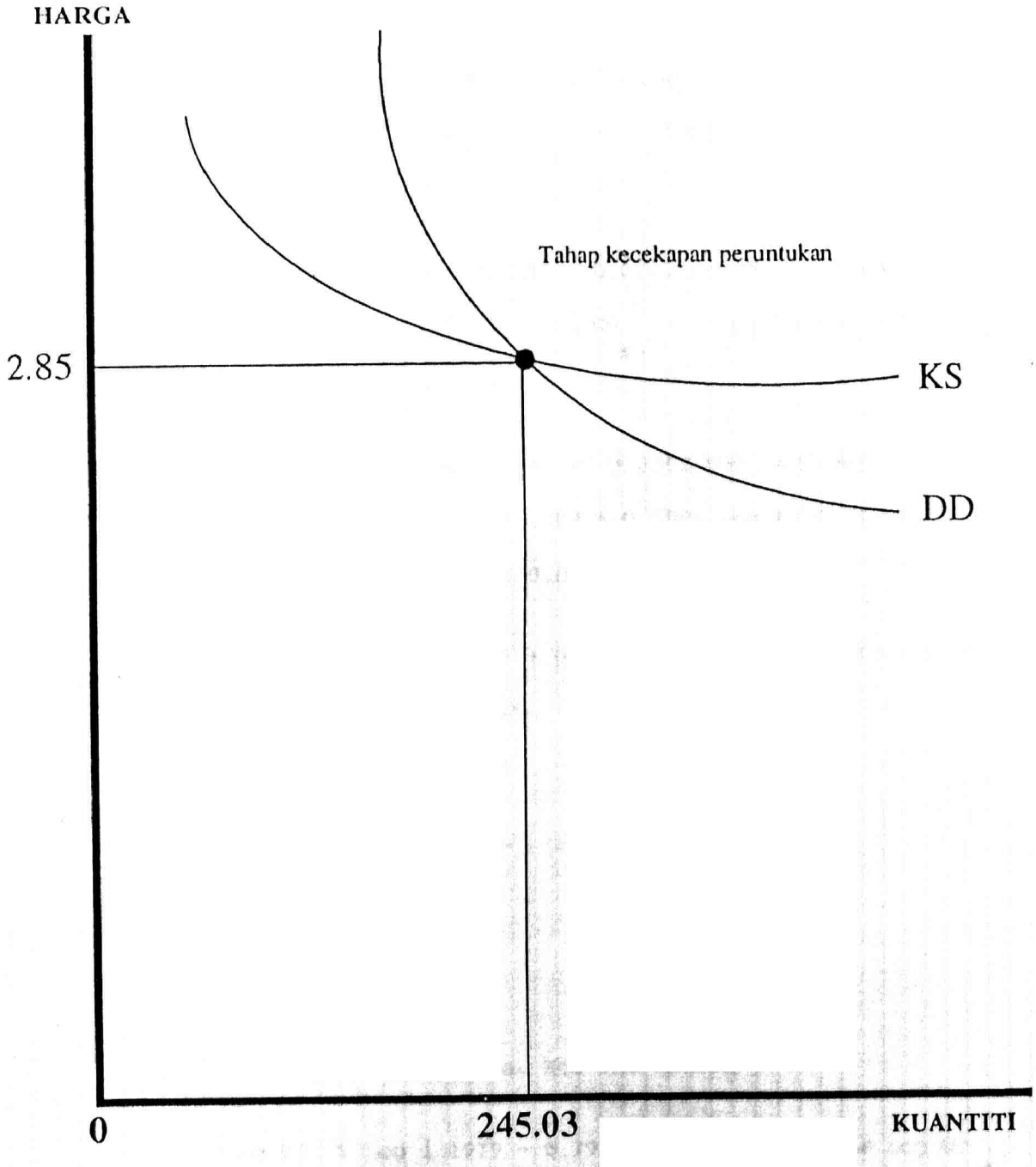
$$= 0.4553$$

Antilogkan Ht

$$H_t = 2.85$$

Tahap kecekapan peruntukkan dapat diterangkan dengan menggunakan Rajah 5.3 dimana harga dan kuantiti keseimbangan dicapai pada 2.85 dan 245.03:-

Rajah 5.3 : Menunjukan tahap kecekapan peruntukkan untuk tahun 1980



SUMBER : Pengiraan pada tahun 1986

Lampiran ini menjelaskan perhubungan antara keluk permintaan dan keluk kos sut untuk tahun 1980. data untuk tahun ini di ambil daripada Jadual 5.3.3. 2 andaian berkenaan dengan kuantiti di minta di lakukan untuk menjelaskan perhubungan antara keluk-keluk tersebut:

A) Andaian pertama.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 230.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \text{ Log } H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$0.4171 \text{ Log } H_t = \text{Log } 2.0388 + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} - \text{Log } QD_t + 0.5695 \text{ Log } HP_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (402.00) + 0.0542 \text{ Log } (11.30) + 0.5082 \text{ Log } (219.747) - \text{Log } (230.00) + 0.5695 \text{ Log } (3.6)$$

$$= 0.3094 + 0.7037 + 0.0571 + 1.1902 - 2.3617 + 0.3168$$

$$0.4171 \text{ Log } H_t = 0.2154$$

$$\text{Log } H_t = \frac{0.2154}{0.4171} = 0.5166$$

Antilogkan Log Ht

$$H_t = 3.29$$

Pada kuantiti yang sama, kos sut adalah

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t$$

$$+ 0.0782 \text{ Log PBD}_t + 0.3037 \text{ Log F}_t + 0.5439 \text{ Log W}_t + 0.3734 \text{ Log CB}_t$$

$$\text{Log KS}_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (230.00) + 0.0968 \text{ Log } (15.221) + 0.0782 \text{ Log } (7.4473) + 0.3037 \text{ Log } (100.38) + 0.5439 \text{ Log } (113.73) + 0.3734 \text{ Log } (10.9413)$$

$$\text{Log KS}_t = 0.0784 - 1.8851 + 0.1145 + 0.0682 + 1.0887 + 0.6245 + 0.3881$$

$$\text{Log KS}_t = 0.447$$

Antilogkan Log KSt

$$KS_t = 3.00$$

B) Andaian Kedua.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 250.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log QD}_t = \text{Log } 2.0388 - 0.4171 \text{ Log H}_t + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} + 0.5695 \text{ Log HP}_t$$

$$0.4171 \text{ Log H}_t = \text{Log } 2.0388 + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} - \text{Log QD}_t + 0.5695 \text{ Log HP}_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (402.00) + 0.0542 \text{ Log } (11.30) + 0.5082 \text{ Log } (219.747) - \text{Log } (250.00) + 0.5695 \text{ Log } (3.6)$$

$$= 0.3094 + 0.7037 + 0.0571 + 1.1902 - 2.3979 + 0.3168$$

$$0.4171 \text{ Log } H_t = 0.1793$$

$$\text{Log } H_t = \frac{0.1793}{0.4171} = 0.4298$$

Antilogkan Log Ht

$$H_t = 2.69$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } F_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (250.00) + 0.0968 \text{ Log } (15.221) + 0.0782 \text{ Log } (7.4473) + 0.3037 \text{ Log } (100.38) + 0.5439 \text{ Log } (113.73) + 0.3734 \text{ Log } (10.9513)$$

$$\text{Log } KS_t = 0.0784 - 1.9140 + 0.1145 + 0.0682 + 1.0887 + 0.6245 + 0.3881$$

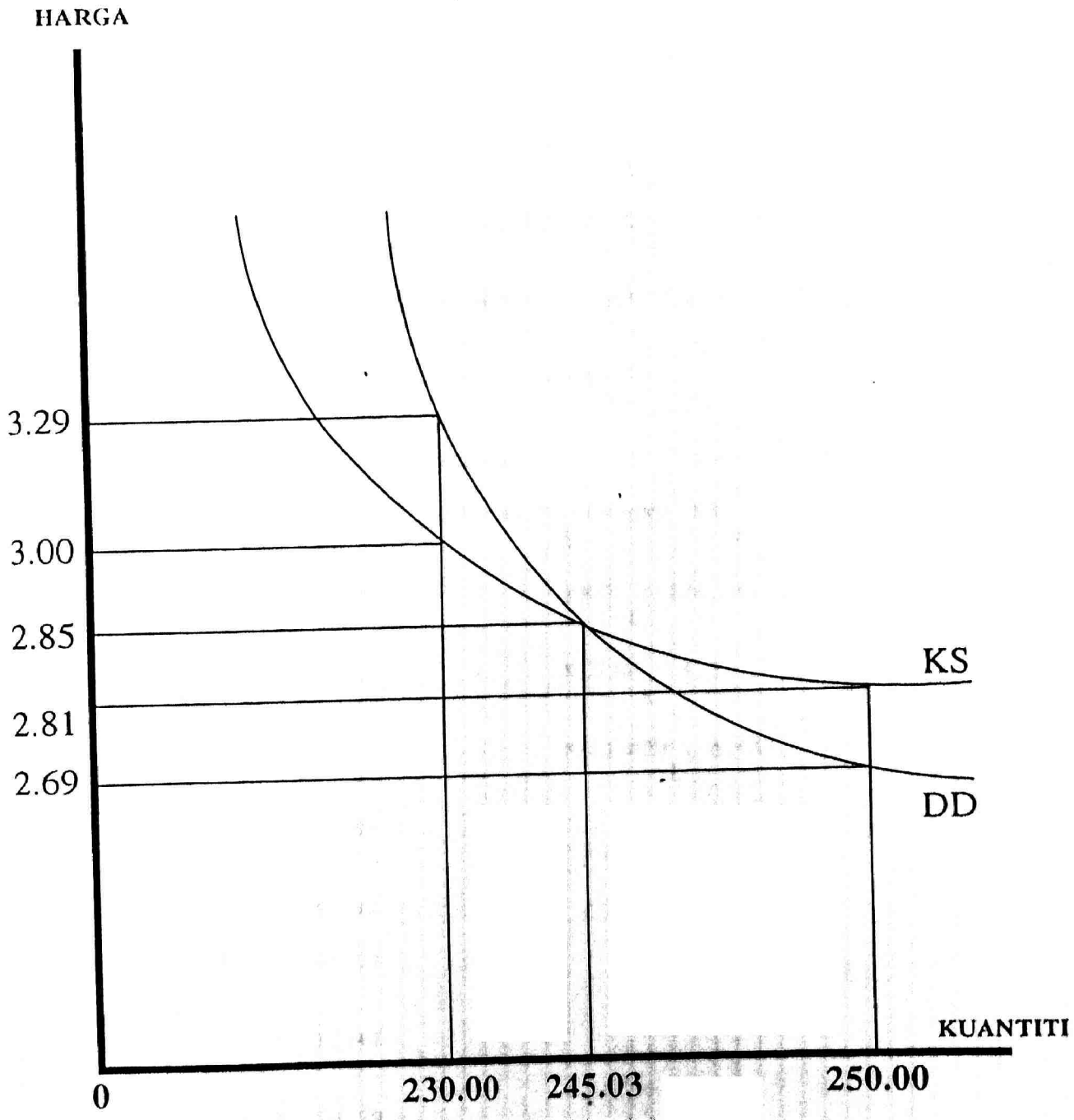
$$\text{Log } KS_t = 0.4484$$

Antilogkan Log KSt

$$KS_t = 2.81$$

Rajah berikut menunjukkan keluk kos sut terletak di bawah keluk permintaan sebelum titik keseimbangan dan selepas titik keseimbangan keluk kos sut terletak di atas keluk permintaan.

Rajah 5.3 : **Menunjukan perhubungan antara keluk kos sut dan permintaan untuk tahun 1980**



SUMBER : Pengiraan pada tahun 1980

Pengiraan berikut menunjukkan tahap kecekapan peruntukkan untuk tahun 1985. Pengiraan tersebut berdasarkan kepada fungsi permintaan dan kos sut yang dianggarkan, permintaan dan harga keseimbangan pada tahap kecekapan peruntukkan adalah :-

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

Daripada nilai penganggaran :

i) $KS_t = H_t$ dan gantikan H_t dengan KS_t

ii) $M_t = 558.8$

iii) $Z_t = 12.625$

Xi) $H_t = 3.09$

iv) $W_t = 106.94$

v) $QB_t = 16.171$

vi) $QD_{t-1} = 207.97$

vii) $CB_t = 11.947$

viii) $F_t = 130.29$

X) $QD_t = 224.641$

Xi) $HP_t = 4.5$

Xii) $PBD_t = 8.437$

Data diambil dari jadual 5.3.3.

$$\log QD_t = \text{Log } 2.0388 - 0.4171 \,[\, \text{Log } 1.1979 - 0.7982 \log QD_t + 0.0968 \log QB_t + 0.0782 \log PBD_t + 0.3037 \log F_t + 0.5439 \log W_t + 0.3734 \log CB_t \,] + 0.2702 \log M_t + 0.0542 \log Z_t + 0.5082 \log QD_{t-1} + 0.5695 \log HP_t$$

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \,[\text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } (16.171) + 0.0782 \text{ Log } (8.437) + 0.5439 \text{ Log } (106.94) + 0.3037 \text{ Log } (130.29) + 0.3734 \text{ Log } (11.947)] + 0.2702 \text{ Log } (558.8) + 0.0542 \text{ Log } (12.625) + 0.5082 \text{ Log } (207.97) + 0.5695 \text{ Log } (4.5).$$

$$\text{Log } QD_t = 0.3094 - 0.4171 \,[\, 0.0784 - 0.7982 \text{ Log } QD_t + 0.1120 + 0.0724 + 1.1036 + 0.6423 + 0.4022 \,] + 0.7423 + 0.0597 + 1.1780 + 0.3720.$$

$$= 0.3094 - 0.4171 \,[\, - 0.7982 \text{ Log } QD_t + 2.4159] + 0.7423 + 0.0597 + 1.1780 + 0.3720$$

$$= 0.3329 \text{ Log } QD_t + 0.3094 - 1.0077 + 0.7423 + 0.0597 + 1.1780 + 0.3720.$$

$$\text{Log } QD_t - 0.3329 \text{ Log } QD_t = 1.6537$$

$$\text{Log } QD_t = \frac{1.6537}{0.6671} = 2.474$$

Antilogkan QDt

$$QO_t = 301.27$$

Oleh kerana Ht = KSt , maka Ht sama dengan persamaan KSt dapat digunakan sebagai harga, pada kuantiti 301.27 dan harga :-

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.5439 \text{ Log } F_t + 0.3037 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (301.27) + 0.0968 \text{ Log } (16.171) + 0.0782 \text{ Log } (8.437) + 0.5439 \text{ Log } (106.94) + 0.3037 \text{ Log } (130.29) + 0.3734 \text{ Log } (11.947).$$

$$\text{Log } H_t = 0.0784 - 1.9787 + 0.1170 + 0.0724 + 1.1036 + 0.6423 + 0.4022 .$$

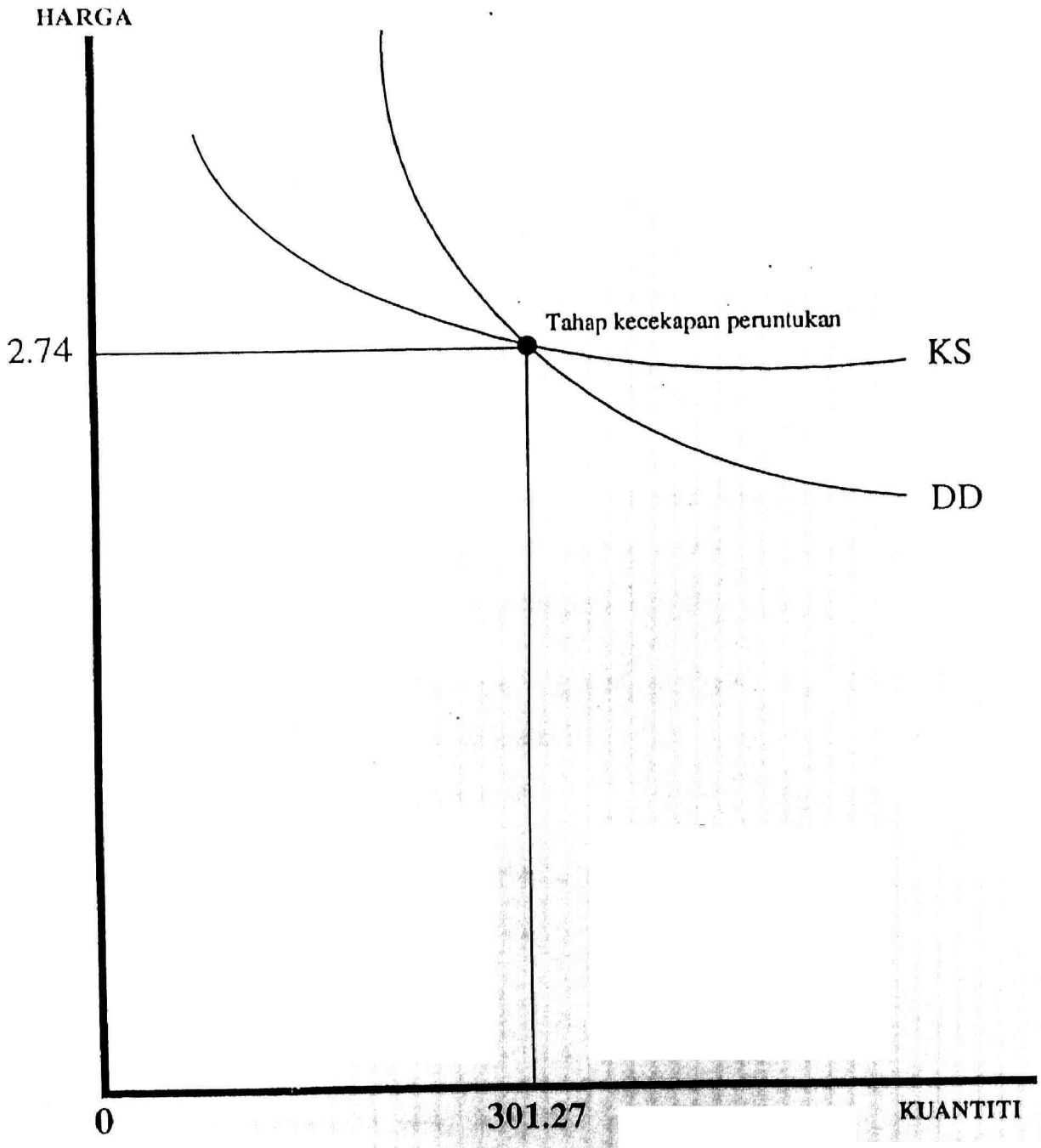
$$= 0.4372$$

Antilogkan Ht

$$H_t = 2.74$$

Tahap kecekapan peruntukkan dapat diterangkan dengan menggunakan Rajah 5.4 dimana harga dan kuantiti keseimbangan dicapai pada 2.74 dan 301.27:-

Rajah 5.4 : Menunjukan tahap kecekapan peruntukkan untuk tahun 1985



SUMBER : Pengiraan pada tahun 1985

Lampiran ini menjelaskan perhubungan antara keluk permintaan dan keluk kos sut untuk tahun 1985. data untuk tahun ini di ambil daripada Jadual 5.3.3. 2 andaian berkenaan dengan kuantiti di minta dilakukan untuk menjelaskan perhubungan antara keluk-keluk tersebut:

A) Andaian pertama.
Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 290.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \text{ Log } H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$0.4171 \text{ Log } H_t = \text{Log } 2.0388 + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} - \text{Log } QD_t + 0.5695 \text{ Log } HP_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (558.8) + 0.0542 \text{ Log } (12.625) + 0.5082 \text{ Log } (207.97) - \text{Log } (290.00) + 0.5695 \text{ Log } (4.5)$$

$$= 0.3094 + 0.7423 + 0.0597 + 1.1780 - 2.4623 + 0.3720$$

$$0.4171 \text{ Log } H_t = 0.1990$$

$$\text{Log } H_t = \frac{0.1990}{0.4171} = 0.4771$$

Antilogkan Log Ht

$$H_t = 2.999$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t$$

$$+ 0.0782 \text{ Log PBD}_t + 0.3037 \text{ Log F}_t + 0.5439 \text{ Log W}_t + 0.3734 \text{ Log CB}_t .$$

$$\text{Log KS}_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (290.00) + 0.0968 \text{ Log } (16.171) + 0.0782 \text{ Log } (8.437) + 0.3037 \text{ Log } (106.94) + 0.5439 \text{ Log } (130.29) + 0.3734 \text{ Log } (11.947)$$

$$\text{Log KS}_t = 0.0784 - 1.9655 + 0.1170 + 0.0724 + 1.1036 + 0.6423 + 0.4022$$

$$\text{Log KS}_t = 0.4504$$

Antilogkan Log KSt

$$KS_t = 2.82$$

B) Andaian Kedua.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 310.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log QD}_t = \text{Log } 2.0388 - 0.4171 \text{ Log H}_t + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} + 0.5695 \text{ Log HP}_t .$$

$$0.4171 \text{ Log H}_t = \text{Log } 2.0388 + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} - \text{Log QD}_t + 0.5695 \text{ Log HP}_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (558.8) + 0.0542 \text{ Log } (12.625) + 0.5082 \text{ Log } (207.97) - \text{Log } (310.00) + 0.5695 \text{ Log } (4.5)$$

$$= 0.3094 + 0.7423 + 0.0597 + 1.1780 - 2.4914 + 0.3720$$

$$0.4171 \text{ Log } H_t = 0.1700$$

$$\text{Log } H_t = \frac{0.1700}{0.4171} = 0.4077$$

Antilogkan Log Ht

$$H_t = 2.56$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (310.00) + 0.0968 \text{ Log } (16.171) + 0.0782 \text{ Log } (8.437) + 0.3037 \text{ Log } (106.94) + 0.5439 \text{ Log } (130.29) + 0.3734 \text{ Log } (11.947)$$

$$\text{Log } KS_t = 0.0784 - 1.9886 + 0.1170 + 0.0724 + 1.1036 + 0.6423 + 0.4022$$

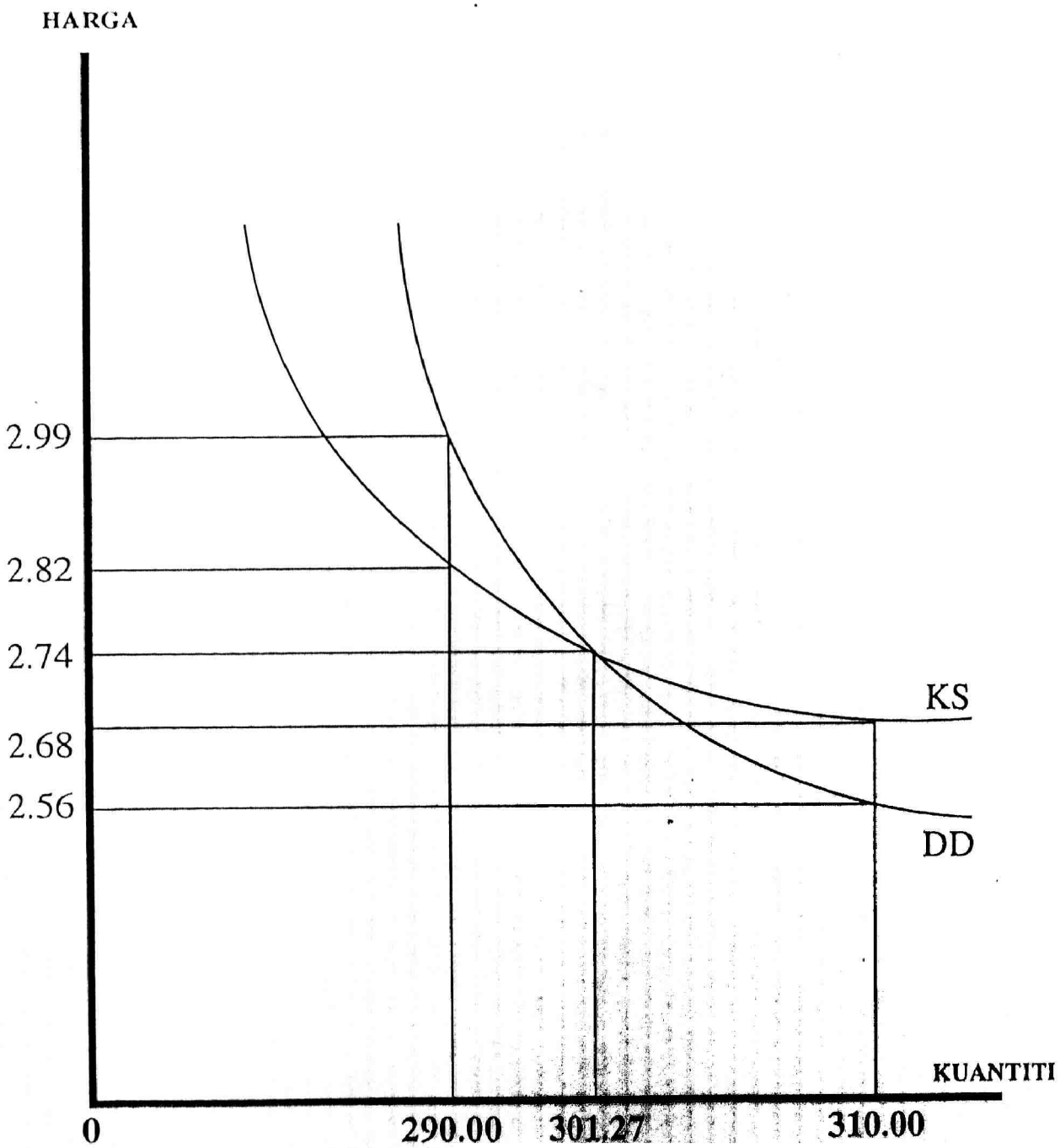
$$\text{Log } KS_t = 0.4273$$

Antilogkan Log KSt

$$KS_t = 2.675$$

Rajah berikut menunjukkan keluk kos sut terletak di bawah keluk permintaan sebelum titik keseimbangan dan selepas titik keseimbangan keluk kos sut terletak di atas keluk permintaan.

Rajah 5.4 : **Menunjukan perhubungan antara keluk kos sut dan permintaan untuk tahun 1985**



SUMBER : Pengiraan pada tahun 1985

Pengiraan berikut menunjukkan tahap kecekapan peruntukkan untuk tahun 1990. Pengiraan tersebut berdasarkan kepada fungsi permintaan dan kos sut yang dianggarkan, permintaan dan harga keseimbangan pada tahap kecekapan peruntukkan adalah :-

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171\ H_t + 0.2702\ \text{Log } M_t + 0.0542$$

$$\text{Log } Z_t + 0.5082\ \text{Log } QD_{t-1} + 0.5695\ \text{Log } HP_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982\ \text{Log } QD_t + 0.0968\ \text{Log } QB_t$$

$$+ 0.0782\ \text{Log } PBD_t + 0.3037\ \text{Log } F_t + 0.5439$$

$$\text{Log } W_t + 0.3734\ \text{Log } CB_t$$

Daripada nilai penganggaran :

i) $KS_t = H_t$ dan gantikan H_t dengan KS_t

ii) $M_t = 668.7$

iii) $Z_t = 14.297$

Xi) $H_t = 2.97$

iv) $W_t = 109.790$

v) $QB_t = 16.889$

vi) $QD_{t-1} = 229.43$

vii) $CB_t = 11.474$

viii) $F_t = 151.45$

X) $QD_t = 279.434$

Xi) $HP_t = 4.1$

Xii) PBD = 10.304

Data diambil dari jadual 5.3.3.

$$\log QD_t = \text{Log } 2.0388 - 0.4171 [\text{Log } 1.1979 - .0.7982 \log QD_t + 0.0968 \log QB_t + 0.0782 \log PBD_t + 0.3037 \log F_t + 0.5439 \log W_t + 0.3734 \log CB_t] + 0.2702 \log M_t + 0.0542 \log Z_t + 0.5082 \log QD_{t-1} + 0.5695 \log HP_t$$

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 [\text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } (16.889) + 0.0782 \text{ Log } (10.304) + 0.5439 \text{ Log } (109.79) + 0.3037 \text{ Log } (151.45) + 0.3734 \text{ Log } (11.474)] + 0.2702 \text{ Log } (668.7) + 0.0542 \text{ Log } (14.297) + 0.5082 \text{ Log } (229.43) + 0.5695 \text{ Log } (4.1).$$

$$\text{Log } QD_t = 0.3094 - 0.4171 [0.0784 - 0.7982 \text{ Log } QD_t + 0.1188 + 0.0792 + 1.1098 + 0.6621 + 0.3957] + 0.7651 + 0.0626 + 1.2268 + 0.3489.$$

$$= 0.3094 - 0.4171 [-0.7982 \text{ Log } QD_t + 2.4440] + 0.7651 + 0.0626 + 1.2268 + 0.3489$$

$$= 0.3329 \text{ Log } QD_t + 0.3094 - 1.1094 + 0.7651 + 0.0626 + 1.2268 + 0.3489.$$

$$\text{Log } QD_t - 0.3329 \text{ Log } QD_t = 1.6934$$

$$\text{Log } QD_t = \frac{1.6934}{0.6671} = 2.538$$

Antilogkan QDt

$$QD_t = 345.51$$

Oleh kerana Ht = KSt , maka Ht sama dengan persamaan KSt dapat digunakan sebagai harga, pada kuantiti 345.51 dan harga :-

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.5439 \text{ Log } F_t + 0.3037 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } H_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (345.51) + 0.0968 \text{ Log } (16.889) + 0.0782 \text{ Log } (10.304) + 0.5439 \text{ Log } (109.79) + 0.3037 \text{ Log } (151.45) + 0.3734 \text{ Log } (11.474).$$

$$\text{Log } H_t = 0.0784 - 2.0262 + 0.1188 + 0.0792 + 1.1098 + 0.6621 + 0.3957 .$$

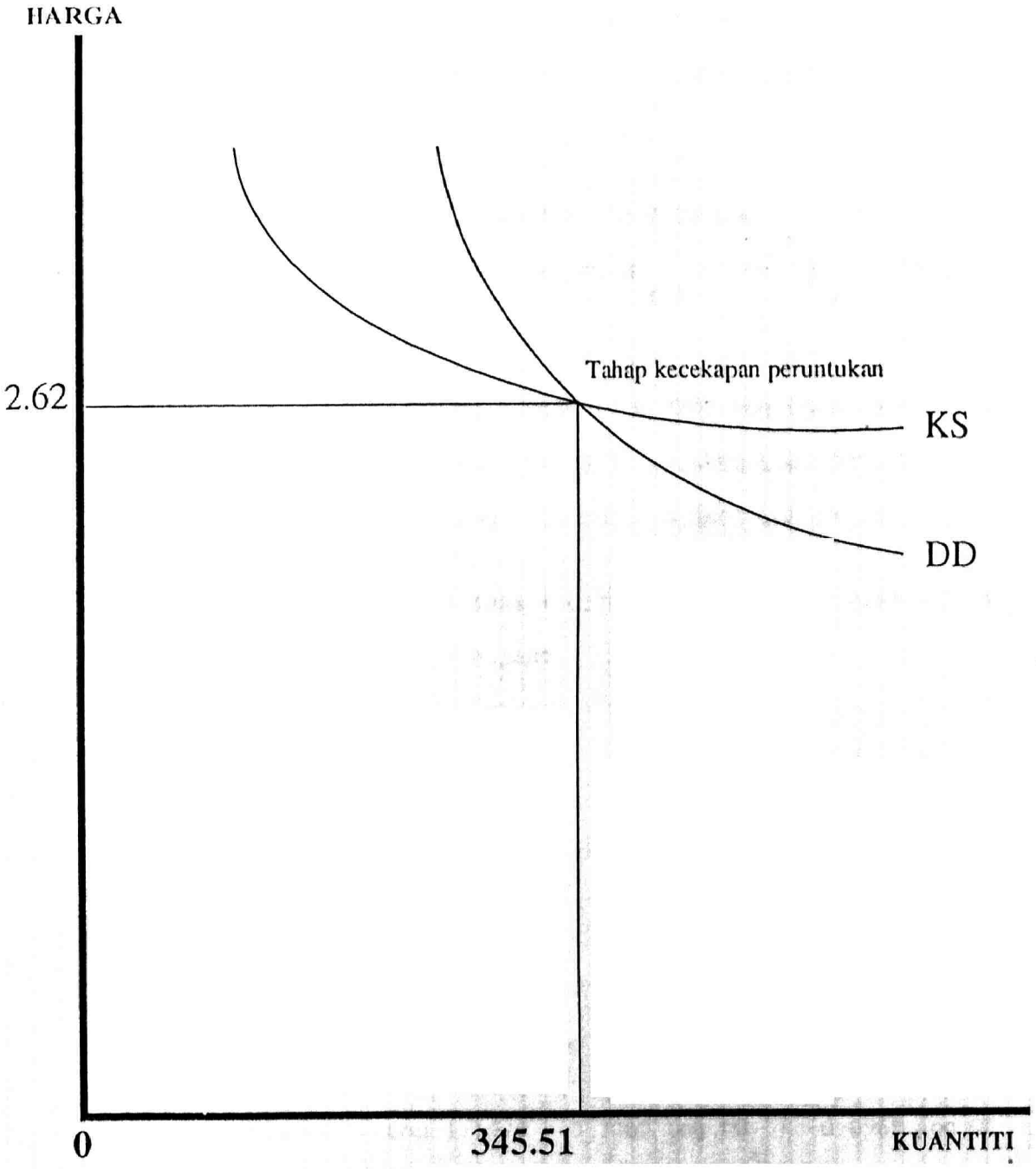
$$= 0.4178$$

Antilogkan Ht

$$H_t = 2.62$$

Tahap kecekapan peruntukkan dapat diterangkan dengan menggunakan Rajah 5.5 dimana harga dan kuantiti keseimbangan dicapai pada 2.62 dan 345.51:-

Rajah 5.5 : Menunjukan tahap kecekapan peruntukkan untuk tahun 1990



SUMBER : Pengiraan pada tahun 1990

Lampiran ini menjelaskan perhubungan antara keluk permintaan ambil daripada jadual 5.3.3.2 andaian berkenaan dengan kuanti ti di minta dilakukan untuk menjelaskan perhubungan antara keluk-keluk tersebut:

A) Andaian pertama.
Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 320.00 . Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log } QD_t = \text{Log } 2.0388 - 0.4171 \text{ Log } H_t + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} + 0.5695 \text{ Log } HP_t$$

$$0.4171 \text{ Log } H_t = \text{Log } 2.0388 + 0.2702 \text{ Log } M_t + 0.0542 \text{ Log } Z_t + 0.5082 \text{ Log } QD_{t-1} - \text{Log } QD_t + 0.5695 \text{ Log } HP_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (668.7) + 0.0542 \text{ Log } (14.297) + 0.5082 \text{ Log } (229.43) - \text{Log } (320.00) + 0.5695 \text{ Log } (4.1)$$

$$= 0.3094 + 0.7651 + 0.0626 + 1.2268 - 2.505 + 0.3489$$

$$0.4171 \text{ Log } H_t = 0.2077$$

$$\text{Log } H_t = \frac{0.2077}{0.4171} = 0.4978$$

Antilogkan Log Ht

$$H_t = 3.15$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t$$

$$+ 0.0782 \text{ Log PBD}_t + 0.3037 \text{ Log F}_t + 0.5439$$

$$\text{Log W}_t + 0.3734 \text{ Log CB}_t .$$

$$\text{Log KS}_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (320.00) + 0.0968 \text{ Log } (16.889) + 0.0782 \text{ Log } (10.304) + 0.3037 \text{ Log } (109.790) + 0.5439 \text{ Log } (151.45) + 0.3734 \text{ Log } (11.474)$$

$$\text{Log KS}_t = 0.0784 - 1.9996 + 0.1188 + 0.0792 + 1.1098 + 0.6621 + 0.3957$$

$$\text{Log KS}_t = 0.4444$$

Antilogkan Log KSt

$$KS_t = 2.78$$

B) Andaian Kedua.

Kuantiti perkhidmatan keretapi diminta oleh penumpang KTM adalah 360.00. Pada kuantiti ini harga purata yang dikenakan ialah :

$$\text{Log QD}_t = \text{Log } 2.0388 - 0.4171 \text{ Log H}_t + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} + 0.5695 \text{ Log HP}_t$$

$$0.4171 \text{ Log H}_t = \text{Log } 2.0388 + 0.2702 \text{ Log M}_t + 0.0542 \text{ Log Z}_t + 0.5082 \text{ Log QD}_{t-1} - \text{Log QD}_t + 0.5695 \text{ Log HP}_t$$

$$= \text{Log } 2.0388 + 0.2702 \text{ Log } (668.7) + 0.0542 \text{ Log } (14.297) + 0.5082 \text{ Log } (229.43) - \text{Log } (360.00) + 0.5695 \text{ Log } (4.1)$$

$$= 0.3094 + 0.7651 + 0.0626 + 1.2268 - 2.556 + 0.3489$$

$$0.4171 \text{ Log } H_t = 0.1565$$

$$\text{Log } H_t = \frac{0.1565}{0.4171} = 0.375$$

Antilogkan Log Ht

$$H_t = 2.37$$

Pada kuantiti yang sama, kos sut adalah :

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } QD_t + 0.0968 \text{ Log } QB_t + 0.0782 \text{ Log } PBD_t + 0.3037 \text{ Log } F_t + 0.5439 \text{ Log } W_t + 0.3734 \text{ Log } CB_t$$

$$\text{Log } KS_t = \text{Log } 1.1979 - 0.7982 \text{ Log } (360.00) + 0.0968 \text{ Log } (16.889) + 0.0782 \text{ Log } (10.304) + 0.3037 \text{ Log } (109.79) + 0.5439 \text{ Log } (151.45) + 0.3734 \text{ Log } (11.474)$$

$$\text{Log } KS_t = 0.0784 - 2.0404 + 0.1188 + 0.0792 + 1.1098 + 0.6671 + 0.3957$$

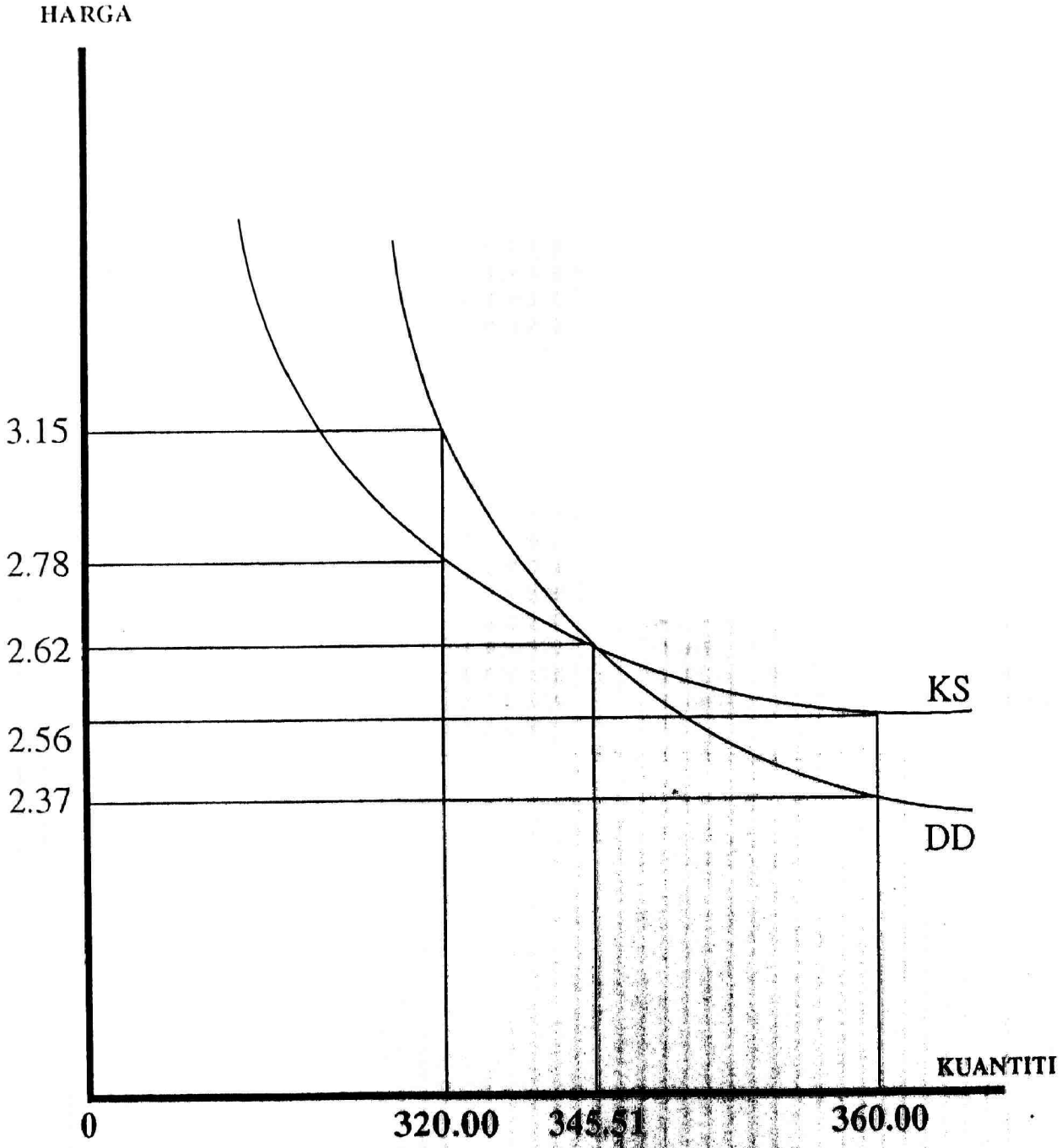
$$\text{Log } KS_t = 0.4086$$

Antilogkan Log KSt

$$KS_t = 2.562$$

Rajah berikut menunjukkan keluk kos sut terletak di bawah keluk permintaan sebelum titik keseimbangan dan selepas titik keseimbangan keluk kos sut terletak di atas keluk permintaan.

Rajah 5.5 : **Menunjukan perhubungan antara keluk kos sut dan permintaan untuk tahun 1990**



SUMBER : Pengiraan pada tahun 1990

LS// Dependent Variable is QDT
Date:10-26-1994 / Time: 8:30
SMPL range: 1971 - 1990
Number of observations: 20

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	2.0388148	0.9640154	2.1149145	0.050
HT	-0.4171547	0.1768542	-2.3601457	0.005
HPT	0.5695124	0.1457486	3.9088124	0.002
MT	0.2702123	0.1068754	2.5304332	0.032
ZT	0.0542123	0.0590343	0.9185432	0.383
QDT(-1)	0.5082334	0.1832432	2.7732442	0.015

R-squared	0.955321	Mean of dependent var	6.950331
Adjusted R-squared	0.954049	S.D. of dependent var	1.048834
S.E. of regression	0.224830	Sum of squared resid	0.707678
Durbin-Watson Stat	1.871202	F-statistic	82.23789
Log likelihood	5.036219		

Covariance Matrix

C,C	0.909042	C,HT	-0.020983
C,HPT	0.099576	C,MT	-0.051568
C,ZT	0.019241	C,QDT(-1)	-0.129315
HT,HT	0.035853	HT,HPT	-0.019977
HT,MT	-0.008094	HT,ZT	-0.007670
HT,QDT(-1)	-0.007090	HPT,HPT	0.022812
HPT,MT	0.001258	HPT,ZT	0.006483
HPT,QDT(-1)	-0.013527	MT,MT	0.012727
MT,ZT	0.001160	MT,QDT(-1)	0.001283
ZT,ZT	0.003629	ZT,QDT(-1)	-0.002469
QDT(-1),QDT(-1)	0.033359		

LS// Dependent Variable is CT
Date:10-26-1994 / Time: 8:30
SMPL range: 1971 - 1990
Number of observations: 21

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	5.9356008	2.3724512	2.5018853	0.025
QDT	0.2018119	0.0666913	3.0260595	0.009
QBT	0.0967586	0.0302982	3.1935466	0.007
PBDT	0.0781865	0.0240531	3.2505771	0.006
WT	0.5439396	0.2185531	2.4888216	0.026
FT	0.3036891	0.1588285	1.9120575	0.077
CBT	0.3734120	0.0776339	4.8099078	0.000

R-squared	0.955985	Mean of dependent var	15.27373
Adjusted R-squared	0.937121	S.D. of dependent var	0.770298
S.E. of regression	0.175604	Sum of squared resid	0.431715
Durbin-Watson Stat	2.569607	F-statistic	50.67888
Log likelihood	10.98967		

Covariance Matrix

C,C	5.628525	C,QDT	-0.153136
C,CBT	-0.042725	C,PBDT	0.028505
C,WT	-0.267915	C,FT	-0.316366
C,CBT	-0.153653	QDT,QDT	0.004448
QDT,QBT	0.001083	QDT,PBDT	-0.000713
QDT,WT	0.005331	QDT,FT	0.008360
QDT,CBT	0.004446	QBT,QBT	0.000918
QBT,PBDT	-0.000409	QBT,WT	0.005032
QBT,FT	0.000758	QBT,CBT	0.001593
PBDT,PBDT	0.000579	PBDT,WT	-0.002918
PBDT,FT	-0.001247	PBDT,CBT	-0.001144
WT,WT	0.047765	WT,FT	0.005341
WT,CBT	0.010253	FT,FT	0.025226
FT,CBT	0.005669	CBT,CBT	0.006027

LS// Dependent Variable is CT
Date:10-26-1994 / Time: 8:39
SMPL range: 1971 - 1990
Number of observations: 20
Convergence achieved after 5 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	10.232070	2.0199932	5.0653982	0.000
QDT	0.0880332	0.0550120	1.6002540	0.038
QBT	0.0709413	0.0221788	3.1986096	0.008
PBDT	0.1667258	0.1328699	1.2548055	0.023
WT	0.2927411	0.1653145	1.7708131	0.026
FT	0.0028610	0.1541538	0.0185591	0.986
CBT	0.2239612	0.0660465	3.3909635	0.006
AR(-1)	-0.0786096	0.0862203	-0.9117259	0.381
AR(-2)	0.0431983	0.0180819	2.3890345	0.360

R-squared	0.981902	Mean of dependent var	15.30017
Adjusted R-squared	0.968740	S.D. of dependent var	0.707654
S.E. of regression	0.125117	Sum of squared resid	0.172197
Durbin-Watson Stat	2.385035	F-statistic	74.60034
Log likelihood	19.16972		

Covariance Matrix

C,C	4.080372	C,QDT	-0.105094
C,CBT	-0.027876	C,PBDT	-0.026955
C,WT	-0.205343	C,FT	-0.194762
C,CBT	-0.108952	QDT,AR(-1)	0.016090
C,AR(-2)	0.019391	QDT,QDT	0.003026
QDT,QBT	0.000726	QDT,PBDT	-0.000868
QDT,WT	0.004226	QDT,FT	0.005988
QDT,CBT	0.003245	QBT,AR(-1)	0.000620
QBT,AR(-2)	-0.000340	QBT,QBT	0.000492
QBT,PBDT	-0.000173	QBT,WT	0.002825
QBT,FT	0.000658	QBT,CBT	0.001026
QBT,AR(-1)	-7.56D-06	QBT,AR(-2)	-5.95D-05
PBDT,PBDT	0.017654	PBDT,WT	0.001660
PBDT,FT	-0.011885	PBDT,CBT	-0.002292
PBDT,AR(-1)	-0.011303	PBDT,AR(-2)	-0.001682
WT,WT	0.027329	WT,FT	0.004320
WT,CBT	0.006761	WT,AR(-1)	-0.001903
WT,AR(-2)	-0.000906	FT,FT	0.023763
FT,CBT	0.005733	FT,AR(-1)	0.008115
FT,AR(-2)	0.000113	CBT,CBT	0.004362
CBT,AR(-1)	0.001380	CBT,AR(-2)	-0.000255
AR(-1),AR(-1)	0.007434	AR(-1),AR(-2)	0.000996
AR(-2),AR(-2)	0.000327		

SECTION 5

FARES, RATES AND CHARGES—PASSENGER

MALAYAN RAILWAY

TARIFF BOOK

No. 11

published

(a) in so far as the same apply within the Federation of Malaya, under sections 40 and 42 of the Railway Ordinance, 1948. (M.U. Ord. No. 8/1948);

and

(b) in so far as the same apply within the Colony of Singapore, under section 55 of the Railways Ordinance (S.S. Cap. ~~107~~ 110). Amend Slip No. 2

In force from 1st April, 1956.

C. G. HARRISON,
General Manager,
Malayan Railway.

Printed at The Economy Printers, Ltd.
Kuala Lumpur.
1956

CHAPTER III

CONVEYANCE OF PASSENGERS

45. ORDINARY FARES.

(*a*) Ordinary passenger tickets for travel by passenger trains are issued at the following rates:

First Class	....	14.7 cents per mile
Second Class	....	7.05 „ „ „
Third Class	....	4.7 „ „ „

First and Second Class fares are rounded off to the next higher 10 cents and Third Class fares are rounded off to the next higher 5 cents.

(*b*) Passengers travelling by railway ferry between Penang and Prai, and between Palekbang and Kota Bharu (Kelantan) are charged at the following rates:

Penang—Prai

First Class	....	90 cents per passenger
Second Class	....	45 „ „ „
Third Class	....	30 „ „ „

Palekbang—Kota Bharu (Kelantan)

15 cents per passenger

Note: Tickets are not issued solely for the purpose of travel between Palekbang and Kota Bharu (Kelantan), but the charge of 15 cents per passenger will be added to all passenger tickets issued to or from Kota Bharu (Kelantan).

(*c*) Children under three years of age are conveyed free. Children who have attained the age of 3 years and are under the age of 12 years are conveyed at half fare.

46. CONCESSION FARES FOR SERVICES' PERSONNEL.

(*a*) Officers and other ranks of Her Majesty's Forces, Commonwealth, Federation or Singapore Forces, and their wives, families and servants accompanying them (not exceeding five in number) when travelling on duty or on leave may, upon presentation to the booking clerk of a warrant signed by an authorised officer, be issued with single journey tickets, First, Second or Third Class as the case may be, at three quarters the ordinary single Tariff Book fare.

(*b*) The wives, families and servants (not exceeding five in number) of such Officers and other ranks may, upon presentation of a duly signed warrant, be granted the concessional fare prescribed in clause (*a*) of this Regulation on not more than two occasions yearly.

SEASON TICKETS.

Rates for monthly and quarterly season tickets are as follows:

(*a*) Monthly season tickets for travel by passenger train between any two specified stations not more than 50 miles apart:

1st Class	2nd Class	3rd Class	
$ 4.50	$ 2.20	$ 1.50	per mile per month

Minimum charge $4.50 per season ticket

(*b*) Monthly season tickets between Penang and Prai by railway ferry:

1st Class	2nd Class	3rd Class	
$27.00	$13.50	$ 9.00	per season ticket

(*c*) Monthly season tickets between Palekbang and Kota Bharu (Kelantan) by railway ferry:

$4.50 per season ticket *

(*d*) Quarterly (three-monthly) season tickets for travel by passenger train between any two specified stations not more than 50 miles apart:

1st Class	2nd Class	3rd Class	
$11.80	$ 5.70	$ 3.80	per mile for 3 months

(*e*) Quarterly (three-monthly) season tickets between Penang and Prai by railway ferry:

1st Class	2nd Class	3rd Class
$72.00	$36.00	$24.00

(*f*) Quarterly (three-monthly) season tickets between Palekbang and Kota Bharu (Kelantan) by railway ferry:

$12.00 per season ticket *

* *Note:* Season tickets are not issued solely for the purpose of travel ;ween Palekbang and Kota Bharu (Kelantan), but the charges specified in .uses (*c*) and (*f*) of this Regulation will be added to any season ticket issued or from Kota Bharu (Kelantan).

. CHILDREN'S SEASON TICKETS.

Season tickets for children under 12 years of age are charged half the rates prescribed in Regulation 47 rounded off to the next gher five cents subject to a minimum charge of $2.25 per season :ket.

). SCHOLARS' SEASON TICKETS.

(*a*) Scholars' season tickets are issued to students, irrespective age, attending any day school, for the purpose of travelling be- ween home and school stations, situated not more than 30 miles)art. Each application must be certified by the Principal, Head .aster or Head Mistress to the effect that the applicant is a *bona le* student of the school.

Appendix J.
TABLE OF PASSENGER FARES.
(Regulation 45)

Miles	Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
1	1.00	.50	.20	51	7.60	3.60	2.40
2	1.00	.50	.20	52	7.80	3.70	2.45
3	1.00	.50	.20	53	7.80	3.80	2.50
4	1.00	.50	.20	54	8.00	3.90	2.55
5	1.00	.50	.25	55	8.20	3.90	2.60
6	1.00	.50	.30	56	8.40	4.00	2.65
7	1.20	.50	.35	57	8.40	4.10	2.70
8	1.20	.60	.40	58	8.60	4.10	2.75
9	1.40	.70	.45	59	8.80	4.20	2.80
10	1.60	.80	.50	60	9.00	4.30	2.85
11	1.80	.80	.55	61	9.00	4.40	2.90
12	1.80	.90	.60	62	9.20	4.40	2.95
13	2.00	1.00	.65	63	9.40	4.50	3.00
14	2.20	1.00	.70	64	9.60	4.60	3.05
15	2.40	1.10	.75	65	9.60	4.60	3.10
16	2.40	1.20	.80	66	9.80	4.70	3.15
17	2.60	1.20	.80	67	10.00	4.80	3.15
18	2.80	1.30	.85	68	10.00	4.80	3.20
19	2.80	1.40	.90	69	10.20	4.90	3.25
20	3.00	1.50	.95	70	10.40	5.00	3.30
21	3.20	1.50	1.00	71	10.60	5.10	3.35
22	3.40	1.60	1.05	72	10.60	5.10	3.40
23	3.40	1.70	1.10	73	10.80	5.20	3.45
24	3.60	1.70	1.15	74	11.00	5.30	3.50
25	3.80	1.80	1.20	75	11.20	5.30	3.55
26	4.00	1.90	1.25	76	11.20	5.40	3.60
27	4.00	2.00	1.30	77	11.40	5.50	3.65
28	4.20	2.00	1.35	78	11.60	5.50	3.70
29	4.40	2.10	1.40	79	11.80	5.60	3.75
30	4.60	2.20	1.45	80	11.80	5.70	3.80
31	4.60	2.20	1.50	81	12.00	5.80	3.85
32	4.80	2.30	1.55	82	12.20	5.80	3.90
33	5.00	2.40	1.60	83	12.40	5.90	3.95
34	5.00	2.40	1.60	84	12.40	6.00	3.95
35	5.20	2.50	1.65	85	12.60	6.00	4.00
36	5.40	2.60	1.70	86	12.80	6.10	4.05
37	5.60	2.70	1.75	87	12.80	6.20	4.10
38	5.60	2.70	1.80	88	13.00	6.30	4.15
39	5.80	2.80	1.85	89	13.20	6.30	4.20
40	6.00	2.90	1.90	90	13.40	6.40	4.25
41	6.20	2.90	1.95	91	13.40	6.50	4.30
42	6.20	3.00	2.00	92	13.60	6.50	4.35
43	6.40	3.10	2.05	93	13.80	6.60	4.40
44	6.60	3.20	2.10	94	14.00	6.70	4.45
45	6.80	3.20	2.15	95	14.00	6.70	4.50
46	6.80	3.30	2.20	96	14.20	6.80	4.55
47	7.00	3.40	2.25	97	14.40	6.90	4.60
48	7.20	3.40	2.30	98	14.60	7.00	4.65
49	7.40	3.50	2.35	99	14.60	7.00	4.70
50	7.40	3.60	2.35	100	14.80	7.10	4.70

TABLE OF PASSENGER FARES.—*(contd.)*

Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
15.00	7.20	4.75	151	22.20	10.70	7.10
15.00	7.20	4.80	152	22.40	10.80	7.15
15.20	7.30	4.85	153	22.60	10.80	7.20
15.40	7.40	4.90	154	22.80	10.90	7.25
15.60	7.50	4.95	155	22.80	11.00	7.30
15.60	7.50	5.00	156	23.00	11.00	7.35
15.80	7.60	5.05	157	23.20	11.10	7.40
16.00	7.70	5.10	158	23.40	11.20	7.45
16.20	7.70	5.15	159	23.40	11.30	7.50
16.20	7.80	5.20	160	23.60	11.30	7.55
16.40	7.90	5.25	161	23.00	11.40	7.60
16.60	7.90	5.30	162	24.00	11.50	7.65
16.80	8.00	5.35	163	24.00	11.50	7.70
16.80	8.10	5.40	164	24.20	11.60	7.75
17.00	8.20	5.45	165	24.40	11.70	7.80
17.20	8.20	5.50	166	24.60	11.80	7.85
17.20	8.30	5.50	167	24.60	11.80	7.85
17.40	8.40	5.55	168	24.80	11.90	7.90
17.60	8.40	5.60	169	25.00	12.00	7.95
17.80	8.50	5.65	170	25.00	12.00	8.00
17.80	8.60	5.70	171	25.20	12.10	8.05
18.00	8.70	5.75	172	25.40	12.20	8.10
18.20	8.70	5.80	173	25.60	12.20	8.15
18.40	8.80	5.85	174	25.60	12.30	8.20
18.40	8.90	5.90	175	25.80	12.40	8.25
18.60	8.90	5.95	176	26.00	12.50	8.30
18.80	9.00	6.00	177	26.20	12.50	8.35
19.00	9.10	6.05	178	26.20	12.60	8.40
19.00	9.10	6.10	179	26.40	12.70	8.45
19.20	9.20	6.15	180	26.60	12.70	8.50
19.40	9.30	6.20	181	26.80	12.80	8.55
19.60	9.40	6.25	182	26.80	12.90	8.60
19.60	9.40	6.30	183	27.00	13.00	8.65
19.80	9.50	6.30	184	27.20	13.00	8.65
20.00	9.60	6.35	185	27.20	13.10	8.70
20.00	9.60	6.40	186	27.40	13.20	8.75
20.20	9.70	6.45	187	27.60	13.20	8.80
20.40	9.80	6.50	188	27.80	13.30	8.85
20.60	9.80	6.55	189	27.80	13.40	8.90
20.60	9.90	6.60	190	28.00	13.40	8.95
20.80	10.00	6.65	191	28.20	13.50	9.00
21.00	10.10	6.70	192	28.40	13.60	9.05
21.20	10.10	6.75	193	28.40	13.70	9.10
21.20	10.20	6.80	194	28.60	13.70	9.15
21.40	10.30	6.85	195	28.80	13.80	9.20
21.60	10.30	6.90	196	29.00	13.90	9.25
21.80	10.40	6.95	197	29.00	13.90	9.30
21.80	10.50	7.00	198	29.20	14.00	9.35
22.00	10.60	7.05	199	29.40	14.10	9.40
22.20	10.60	7.05	200	29.40	14.10	9.40

TABLE OF PASSENGER FARES.—*(contd.)*

les	Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
1	29.60	14.20	9.45	251	37.00	17.70	11.80
2	29.80	14.30	9.50	252	37.20	17.80	11.85
3	30.00	14.40	9.55	253	37.20	17.90	11.90
4	30.00	14.40	9.60	254	37.40	18.00	11.95
5	30.20	14.50	9.65	255	37.60	18.00	12.00
6	30.40	14.60	9.70	256	37.80	18.10	12.05
7	30.60	14.60	9.75	257	37.80	18.20	12.10
8	30.60	14.70	9.80	258	38.00	18.20	12.15
9	30.80	14.80	9.85	259	38.20	18.30	12.20
.0	31.00	14.90	9.90	260	38.40	18.40	12.25
1	31.20	14.90	9.95	261	38.40	18.50	12.30
2	31.20	15.00	10.00	262	38.60	18.50	12.35
3	31.40	15.10	10.05	263	38.80	18.60	12.40
4	31.60	15.10	10.10	264	39.00	18.70	12.45
5	31.80	15.20	10.15	265	39.00	18.70	12.50
6	31.80	15.30	10.20	266	39.20	18.80	12.55
17	32.00	15.30	10.20	267	39.40	18.90	12.55
18	32.20	15.40	10.25	268	39.40	18.90	12.60
19	32.20	15.50	10.30	269	39.60	19.00	12.65
20	32.40	15.60	10.35	270	39.80	19.10	12.70
21	32.60	15.60	10.40	271	40.00	19.20	12.75
22	32.80	15.70	10.45	272	40.00	19.20	12.80
23	32.80	15.80	10.50	273	40.20	19.30	12.85
24	33.00	15.80	10.55	274	40.40	19.40	12.90
25	33.20	15.90	10.60	275	40.60	19.40	12.95
26	33.40	16.00	10.65	276	40.60	19.50	13.00
27	33.40	16.10	10.70	277	40.80	19.60	13.05
28	33.60	16.10	10.75	278	41.00	19.60	13.10
29	33.80	16.20	10.80	279	41.20	19.70	13.15
30	34.00	16.30	10.85	280	41.20	19.80	13.20
31	34.00	16.30	10.90	281	41.40	19.90	13.25
32	34.20	16.40	10.95	282	41.60	19.90	13.30
33	34.40	16.50	11.00	283	41.80	20.00	13.35
34	34.40	16.50	11.00	284	41.80	20.10	13.35
35	34.60	16.60	11.05	285	42.00	20.10	13.40
36	34.80	16.70	11.10	286	42.20	20.20	13.45
37	35.00	16.80	11.15	287	42.20	20.30	13.50
38	35.00	16.80	11.20	288	42.40	20.40	13.55
39	35.20	16.90	11.25	289	42.60	20.40	13.60
240	35.40	17.00	11.30	290	42.80	20.50	13.65
241	35.60	17.00	11.35	291	42.80	20.60	13.70
242	35.60	17.10	11.40	292	43.00	20.60	13.75
243	35.80	17.20	11.45	293	43.20	20.70	13.80
244	36.00	17.30	11.50	294	43.40	20.80	13.85
245	36.20	17.30	11.55	295	43.40	20.80	13.90
246	36.20	17.40	11.60	296	43.60	20.90	13.95
247	36.40	17.50	11.65	297	43.80	21.00	14.00
248	36.60	17.50	11.70	298	44.00	21.10	14.05
249	36.80	17.60	11.75	299	44.00	21.10	14.10
250	36.80	17.70	11.75	300	44.20	21.20	14.10

TABLE OF PASSENGER FARES.—*(contd.)*

Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
44.40	21.30	14.15	351	51.60	24.80	16.50
44.40	21.30	14.20	352	51.80	24.90	16.55
44.60	21.40	14.25	353	52.00	24.90	16.60
44.80	21.50	14.30	354	52.20	25.00	16.65
45.00	21.60	14.35	355	52.20	25.10	16.70
45.00	21.60	14.40	356	52.40	25.10	16.75
45.20	21.70	14.45	357	52.60	25.20	16.80
45.40	21.80	14.50	358	52.80	25.30	16.85
45.60	21.80	14.55	359	52.80	25.40	16.90
45.60	21.90	14.60	360	53.00	25.40	16.95
45.80	22.00	14.65	361	53.20	25.50	17.00
46.00	22.00	14.70	362	53.40	25.60	17.05
46.20	22.10	14.75	363	53.40	25.60	17.10
46.20	22.20	14.80	364	53.60	25.70	17.15
46.40	22.30	14.85	365	53.80	25.80	17.20
46.60	22.30	14.90	366	54.00	25.90	17.25
46.60	22.40	14.90	367	54.00	25.90	17.25
46.80	22.50	14.95	368	54.20	26.00	17.30
47.00	22.50	15.00	369	54.40	26.10	17.35
47.20	22.60	15.05	370	54.40	26.10	17.40
47.20	22.70	15.10	371	54.60	26.20	17.45
47.40	22.80	15.15	372	54.80	26.30	17.50
47.60	22.80	15.20	373	55.00	26.30	17.55
47.80	22.90	15.25	374	55.00	26.40	17.60
47.80	23.00	15.30	375	55.20	26.50	17.65
48.00	23.00	15.35	376	55.40	26.60	17.70
48.20	23.10	15.40	377	55.60	26.60	17.75
48.40	23.20	15.45	378	55.60	26.70	17.80
48.40	23.20	15.50	379	55.80	26.80	17.85
48.60	23.30	15.55	380	56.00	26.80	17.90
48.80	23.40	15.60	381	56.20	26.90	17.95
49.00	23.50	15.65	382	56.20	27.00	18.00
49.00	23.50	15.70	383	56.40	27.10	18.05
49.20	23.60	15.70	384	56.60	27.10	18.05
49.40	23.70	15.75	385	56.60	27.20	18.10
49.40	23.70	15.80	386	56.80	27.30	18.15
49.60	23.80	15.85	387	57.00	27.30	18.20
49.80	23.90	15.90	388	57.20	27.40	18.25
50.00	23.90	15.95	389	57.20	27.50	18.30
50.00	24.00	16.00	390	57.40	27.50	18.35
50.20	24.10	16.05	391	57.60	27.60	18.40
50.40	24.20	16.10	392	57.80	27.70	18.45
50.60	24.20	16.15	393	57.80	27.80	18.50
50.60	24.30	16.20	394	58.00	27.80	18.55
50.80	24.40	16.25	395	58.20	27.90	18.60
51.00	24.40	16.30	396	58.40	28.00	18.65
51.20	24.50	16.35	397	58.40	28.00	18.70
51.20	24.60	16.40	398	58.60	28.10	18.75
51.40	24.70	16.45	399	58.80	28.20	18.80
51.60	24.70	16.45	400	58.80	28.20	18.80

TABLE OF PASSENGER FARES.—*(contd.)*

les	Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
1	59.00	28.30	18.85	451	66.40	31.80	21.20
2	59.20	28.40	18.90	452	66.60	31.90	21.25
3	59.40	28.50	18.95	453	66.60	32.00	21.30
4	59.40	28.50	19.00	454	66.80	32.10	21.35
5	59.60	28.60	19.05	455	67.00	32.10	21.40
6	59.80	28.70	19.10	456	67.20	32.20	21.45
7	60.00	28.70	19.15	457	67.20	32.30	21.50
8	60.00	28.80	19.20	458	67.40	32.30	21.55
9	60.20	28.90	19.25	459	67.60	32.40	21.60
0	60.40	29.00	19.30	460	67.80	32.50	21.65
1	60.60	29.00	19.35	461	67.80	32.60	21.70
2	60.60	29.10	19.40	462	68.00	32.60	21.75
3	60.80	29.20	19.45	463	68.20	32.70	21.80
4	61.00	29.20	19.50	464	68.40	32.80	21.85
5	61.20	29.30	19.55	465	68.40	32.80	21.90
6	61.20	29.40	19.60	466	68.60	32.90	21.95
7	61.40	29.40	19.60	467	68.80	33.00	21.95
8	61.60	29.50	19.65	468	68.80	33.00	22.00
9	61.60	29.60	19.70	469	69.00	33.10	22.05
20	61.80	29.70	19.75	470	69.20	33.20	22.10
21	62.00	29.70	19.80	471	69.40	33.30	22.15
22	62.20	29.80	19.85	472	69.40	33.30	22.20
23	62.20	29.90	19.90	473	69.60	33.40	22.25
24	62.40	29.90	19.95	474	69.80	33.50	22.30
25	62.60	30.00	20.00	475	70.00	33.50	22.35
26	62.80	30.10	20.05	476	70.00	33.60	22.40
27	62.80	30.20	20.10	477	70.20	33.70	22.45
28	63.00	30.20	20.15	478	70.40	33.70	22.50
29	63.20	30.30	20.20	479	70.60	33.80	22.55
30	63.40	30.40	20.25	480	70.60	33.90	22.60
31	63.40	30.40	20.30	481	70.80	34.00	22.65
32	63.60	30.50	20.35	482	71.00	34.00	22.70
33	63.80	30.60	20.40	483	71.20	34.10	22.75
34	63.80	30.60	20.40	484	71.20	34.20	22.75
35	64.00	30.70	20.45	485	71.40	34.20	22.80
36	64.20	30.80	20.50	486	71.60	34.30	22.85
37	64.40	30.90	20.55	487	71.60	34.40	22.90
38	64.40	30.90	20.60	488	71.80	34.50	22.95
39	64.60	31.00	20.65	489	72.00	34.50	23.00
40	64.80	31.10	20.70	490	72.20	34.60	23.05
41	65.00	31.10	20.75	491	72.20	34.70	23.10
42	65.00	31.20	20.80	492	72.40	34.70	23.15
43	65.20	31.30	20.85	493	72.60	34.80	23.20
44	65.40	31.40	20.90	494	72.80	34.90	23.25
45	65.60	31.40	20.95	495	72.80	34.90	23.30
46	65.60	31.50	21.00	496	73.00	35.00	23.35
47	65.80	31.60	21.05	497	73.20	35.10	23.40
48	66.00	31.60	21.10	498	73.40	35.20	23.45
49	66.20	31.70	21.15	499	73.40	35.20	23.50
50	66.20	31.80	21.15	500	73.60	35.30	23.50

TABLE OF PASSENGER FARES.—*(contd.)*

Miles	Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
5	73.80	35.40	23.55	551	81.00	38.90	25.90
5	73.80	35.40	23.60	552	81.20	39.00	25.95
5	74.00	35.50	23.65	553	81.40	39.00	26.00
5	74.20	35.60	23.70	554	81.60	39.10	26.05
5	74.40	35.70	23.75	555	81.60	39.20	26.10
5	74.40	35.70	23.80	556	81.80	39.20	26.15
5	74.60	35.80	23.85	557	82.00	39.30	26.20
5	74.80	35.90	23.90	558	82.20	39.40	26.25
5	75.00	35.90	23.95	559	82.20	39.50	26.30
5	75.00	36.00	24.00	560	82.40	39.50	26.35
5	75.20	36.10	24.05	561	82.60	39.60	26.40
5	75.40	36.10	24.10	562	82.80	39.70	26.45
5	75.60	36.20	24.15	563	82.80	39.70	26.50
5	75.60	36.30	24.20	564	83.00	39.80	26.55
5	75.80	36.40	24.25	565	83.20	39.90	26.60
5	76.00	36.40	24.30	566	83.40	40.00	26.65
5	76.00	36.50	24.30	567	83.40	40.00	26.65
5	76.20	36.60	24.35	568	83.60	40.10	26.70
5	76.40	36.60	24.40	569	83.80	40.20	26.75
5	76.60	36.70	24.45	570	83.80	40.20	26.80
5	76.60	36.80	24.50	571	84.00	40.30	26.85
5	76.80	36.90	24.55	572	84.20	40.40	26.90
5	77.00	36.90	24.60	573	84.40	40.40	26.95
5	77.20	37.00	24.65	574	84.40	40.50	27.00
5	77.20	37.10	24.70	575	84.60	40.60	27.05
5	77.40	37.10	24.75	576	84.80	40.70	27.10
5	77.60	37.20	24.80	577	85.00	40.70	27.15
5	77.80	37.30	24.85	578	85.00	40.80	27.20
5	77.80	37.30	24.90	579	85.20	40.90	27.25
5	78.00	37.40	24.95	580	85.40	40.90	27.30
5	78.20	37.50	25.00	581	85.60	41.00	27.35
5	78.40	37.60	25.05	582	85.60	41.10	27.40
5	78.40	37.60	25.10	583	85.80	41.20	27.45
5	78.60	37.70	25.10	584	86.00	41.20	27.45
5	78.80	37.80	25.15	585	86.00	41.30	27.50
5	78.80	37.80	25.20	586	86.20	41.40	27.55
5	79.00	37.90	25.25	587	86.40	41.40	27.60
5	79.20	38.00	25.30	588	86.60	41.50	27.65
5	79.40	38.00	25.35	589	86.60	41.60	27.70
5	79.40	38.10	25.40	590	86.80	41.60	27.75
5	79.60	38.20	25.45	591	87.00	41.70	27.80
5	79.80	38.30	25.50	592	87.20	41.80	27.85
5	80.00	38.30	25.55	593	87.20	41.90	27.90
5	80.00	38.40	25.60	594	87.40	41.90	27.95
5	80.20	38.50	25.65	595	87.60	42.00	28.00
5	80.40	38.50	25.70	596	87.80	42.10	28.05
5	80.60	38.60	25.75	597	87.80	42.10	28.10
5	80.60	38.70	25.80	598	88.00	42.20	28.15
5	80.80	38.80	25.85	599	88.20	42.30	28.20
5	81.00	38.80	25.85	600	88.20	42.30	28.20

TABLE OF PASSENGER FARES.—*(comtd.)*

es	Class I $ c.	Class II $ c.	Class III $ c.	Miles	Class I. $ c.	Class II $ c.	Class III $ c.
	88.40	42.40	28.25	651	95.80	45.90	30.60
	88.60	42.50	28.30	652	96.00	46.00	30.65
	88.80	42.60	28.35	653	96.00	46.10	30.70
	88.80	42.60	28.40	654	96.20	46.20	30.75
	89.00	42.70	28.45	655	96.40	46.20	30.80
	89.20	42.80	28.50	656	96.60	46.30	30.85
	89.40	42.80	28.55	657	96.60	46.40	30.90
	89.40	42.90	28.60	658	96.80	46.40	30.95
	89.60	43.00	28.65	659	97.00	46.50	31.00
	89.80	43.10	28.70	660	97.20	46.60	31.05
	90.00	43.10	28.75	661	97.20	46.70	31.10
	90.00	43.20	28.80	662	97.40	46.70	31.15
	90.20	43.30	28.85	663	97.60	46.80	31.20
	90.40	43.30	28.90	664	97.80	46.90	31.25
	90.60	43.40	28.95	665	97.80	46.90	31.30
	90.60	43.50	29.00	666	98.00	47.00	31.35
	90.80	43.50	29.00	667	98.20	47.10	31.35
	91.00	43.60	29.05	668	98.20	47.10	31.40
	91.00	43.70	29.10	669	98.40	47.20	31.45
	91.20	43.80	29.15	670	98.60	47.30	31.50
	91.40	43.80	29.20	671	98.80	47.40	31.55
	91.60	43.90	29.25	672	98.80	47.40	31.60
	91.60	44.00	29.30	673	99.00	47.50	31.65
	91.80	44.00	29.35	674	99.20	47.60	31.70
	92.00	44.10	29.40	675	99.40	47.60	31.75
	92.20	44.20	29.45	676	99.40	47.70	31.80
	92.20	44.30	29.50	677	99.60	47.80	31.85
	92.40	44.30	29.55	678	99.80	47.80	31.90
	92.60	44.40	29.60	679	100.00	47.90	31.95
	92.80	44.50	29.65	680	100.00	48.00	32.00
	92.80	44.50	29.70	681	100.20	48.10	32.05
	93.00	44.60	29.75	682	100.40	48.10	32.10
	93.20	44.70	29.80	683	100.60	48.20	32.15
	93.20	44.70	29.80	684	100.60	48.30	32.15
	93.40	44.80	29.85	685	100.80	48.30	32.20
	93.60	44.90	29.90	686	101.00	48.40	32.25
	93.80	45.00	29.95	687	101.00	48.50	32.30
	93.80	45.00	30.00	688	101.20	48.60	32.35
	94.00	45.10	30.05	689	101.40	48.60	32.40
	94.20	45.20	30.10	690	101.60	48.70	32.45
	94.40	45.20	30.15	691	101.60	48.80	32.50
	94.40	45.30	30.20	692	101.80	48.80	32.55
	94.60	45.40	30.25	693	102.00	48.90	32.60
	94.80	45.50	30.30	694	102.20	49.00	32.65
	95.00	45.50	30.35	695	102.20	49.00	32.70
	95.00	45.60	30.40	696	102.40	49.10	32.75
	95.20	45.70	30.45	697	102.60	49.20	32.80
	95.40	45.70	30.50	698	102.80	49.30	32.85
	95.60	45.80	30.55	699	102.80	49.30	32.90
	95.60	45.90	30.55	700	103.00	49.40	32.90

TABLE OF PASSENGER FARES.—*(contd.)*

Mile	ass I c.	Class II $ c.	Class III $ c.	Miles	Class I $ c.	Class II $ c.	Class III $ c.
701	3.20	49.50	32.95	751	110.40	53.00	35.30
702	3.20	49.50	33.00	752	110.60	53.10	35.35
703	3.40	49.60	33.05	753	110.80	53.10	35.40
704	3.60	49.70	33.10	754	111.00	53.20	35.45
705	3.80	49.80	33.15	755	111.00	53.30	35.50
706	3.80	49.80	33.20	756	111.20	53.30	35.55
707	4.00	49.90	33.25	757	111.40	53.40	35.60
708	4.20	50.00	33.30	758	111.60	53.50	35.65
709	4.40	50.00	33.35	759	111.60	53.60	35.70
710	4.40	50.10	33.40	760	111.80	53.60	35.75
711	4.60	50.20	33.45	761	112.00	53.70	35.80
712	4.80	50.20	33.50	762	112.20	53.80	35.85
713	5.00	50.30	33.55	763	112.20	53.80	35.90
714	5.00	50.40	33.60	764	112.40	53.90	35.95
715	5.20	50.50	33.65	675	112.60	54.00	36.00
716	5.40	50.50	33.70	766	112.80	54.10	36.05
717	5.40	50.60	33.70	767	112.80	54.10	36.05
718	5.60	50.70	33.75	768	113.00	54.20	36.10
719	5.80	50.70	33.80	769	113.20	54.30	36.15
720	6.00	50.80	33.85	770	113.20	54.30	36.20
721	6.00	50.90	33.90	771	113.40	54.40	36.25
722	6.20	51.00	33.95	772	113.60	54.50	36.30
723	6.40	51.00	34.00	773	113.80	54.50	36.35
724	6.60	51.10	34.05	774	113.80	54.60	36.40
725	6.60	51.20	34.10	775	114.00	54.70	36.45
726	6.80	51.20	34.15	776	114.20	54.80	36.50
727	7.00	51.30	34.20	777	114.40	54.80	36.55
728	7.20	51.40	34.25	778	114.40	54.90	36.60
729	7.20	51.40	34.30	779	114.60	55.00	36.65
730	7.40	51.50	34.35	780	114.80	55.00	36.70
731	7.60	51.60	34.40				
732	7.80	51.70	34.45				
733	7.80	51.70	34.50				
734	8.00	51.80	34.50				
735	8.20	51.90	34.55				
736	8.20	51.90	34.60				
737	8.40	52.00	34.65				
738	8.60	52.10	34.70				
739	8.80	52.10	34.75				
740	8.80	52.20	34.80				
741	9.00	52.30	34.85				
742	9.20	52.40	34.90				
743	9.40	52.40	34.95				
744	9.40	52.50	35.00				
745	9.60	52.60	35.05				
746	9.80	52.60	35.10				
747	10.00	52.70	35.15				
748	10.00	52.80	35.20				
749	10.20	52.90	35.25				
750	10.40	52.90	35.25				

KERETAPI TANAH MELAYU

TARIFF BOOK No. 12

REGULATIONS AND CONDITIONS OF CARRIAGE
RATES, FARES AND CHARGES
FACILITIES AND SERVICES

Published under authority of:

The Railway Ordinance, 1948—Malaysia
The Railways Act (Cap. 91)—Singapore

by

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DICETAK OLEH
IBRAHIM BIN JOHARI, P.I.S., PEMANGKU KETUA PENGARAH PERCETAKAN
SEMENANJUNG MALAYSIA, KUALA LUMPUR
1976

FAR TES AND CHARGES—PASSENGER

ORDI RES

Item No. 5.01

(a) twelve years of age or over are subject to the charges specified hereunder.

(b) n three years of age or over but less than twelve years of age are subject to one half of th s specified hereunder.

(c) or deaf persons twelve years of age or over will be charged half of the charges speci under. (Regulation No. 4.28 of this Tariff).

(d) or deaf persons three years of age or over but less than twelve years of age will be charg quarter of the charges specified hereunder. (Regulation No. 4.28 of this Tariff).

(e) ible for travel on ordinary trains from any station to any other station. For fares appli r travel on other trains, *see* respective Items in this Tariff.

(f) ers on commuter trains may be charged an additional 30 sen per journey in addition to th s specified hereunder.

es	*Transportation charge in ringgit per passenger*			*Distance in kilometres*	*Transportation charge in ringgit per passenger*		
	First Class	*Second Class*	*Third Class*		*First Class*	*Second Class*	*Third Class*
	1.00	0.50	0.10	60	6.40	3.00	1.90
	1.00	0.50	0.15	62	6.60	3.10	1.95
	1.00	0.50	0.20	64	6.80	3.20	2.00
	1.00	0.50	0.25	66	7.00	3.30	2.10
	1.10	0.50	0.35	68	7.20	3.40	2.15
	1.30	0.60	0.40	70	7.40	3.50	2.20
	1.50	0.70	0.45	72	7.70	3.60	2.25
	1.70	0.80	0.50	74	7.90	3.70	2.35
	2.00	0.90	0.60	76	8.10	3.80	2.40
	2.20	1.00	0.65	78	8.30	3.90	2.45
	2.40	1.10	0.70	80	8.50	4.00	2.50
	2.60	1.20	0.75	82	8.70	4.10	2.60
	2.80	1.30	0.85	84	8.90	4.20	2.65
	3.00	1.40	0.90	86	9.10	4.30	2.70
	3.20	1.50	0.95	88	9.30	4.40	2.75
	3.40	1.60	1.00	90	9.60	4.50	2.80
	3.60	1.70	1.10	92	9.80	4.60	2.90
	3.90	1.80	1.15	94	10.00	4.70	2.95
	4.10	1.90	1.20	96	10.20	4.80	3.00
	4.30	2.00	1.25	98	10.40	4.90	3.05
	4.50	2.10	1.35	100	10.60	5.00	3.15
	4.70	2.20	1.40	102	10.80	5.10	3.20
	4.90	2.30	1.45	104	11.00	5.20	3.25
	5.10	2.40	1.50	106	11.20	5.30	3.30
	5.30	2.50	1.60	108	11.50	5.40	3.40
	5.50	2.60	1.65	110	11.70	5.50	3.45
	5.80	2.70	1.70	115	12.20	5.80	3.60
	6.00	2.80	1.75	120	12.70	6.00	3.75
	6.20	2.90	1.85				

(Continued on next page)

ARES, R/ ND CHARGES--PASSENGER Item No. 5.01 (Continued)

Distance in kilometres	Transportation charge in ringgit per passenger			Distance in kilometres	Transportation charge in ringgit per passenger		
	First Class	Second Class	Third Class		First Class	Second Class	Third Class
125	3.20	6.30	3.90	360	38.10	17.90	11.20
130	3.80	6.50	4.05	370	39.10	18.40	11.55
135	4.30	6.80	4.20	380	40.20	18.90	11.85
140	4.80	7.00	4.40	390	41.20	19.40	12.15
145	5.40	7.30	4.55	400	42.30	19.90	12.45
150	5.90	7.50	4.70	410	43.30	20.40	12.80
155	6.40	7.80	4.85	420	44.40	20.90	13.10
160	6.90	8.00	5.00	430	45.50	21.40	13.40
165	7.50	8.30	5.15	440	46.50	21.90	13.70
170	8.00	8.50	5.30	450	47.60	22.40	14.00
175	8.50	8.70	5.45	460	48.60	22.90	14.35
180	9.10	9.00	5.60	470	49.70	23.40	14.65
185	9.60	9.20	5.80	480	50.70	23.90	14.95
190	0.10	9.50	5.95	490	51.80	24.40	15.25
195	0.60	9.70	6.10	500	52.80	24.90	15.55
200	1.20	10.00	6.25	510	53.90	25.40	15.90
210	2.20	10.50	6.55	520	55.00	25.90	16.20
220	3.30	11.00	6.85	530	56.00	26.40	16.50
230	4.30	11.50	7.20	540	57.10	26.90	16.80
240	5.40	12.00	7.50	550	58.10	27.40	17.15
250	6.40	12.50	7.80	560	59.20	27.90	17.45
260	7.50	13.00	8.10	570	60.20	28.40	17.75
270	8.60	13.50	8.40	580	61.30	28.90	18.05
280	9.60	14.00	8.75	590	62.40	29.40	18.35
290	0.70	14.50	9.05	600	63.40	29.90	18.70
300	1.70	15.00	9.35	610	64.50	30.40	19.00
310	2.80	15.50	9.65	620	65.50	30.90	19.30
320	3.80	16.00	10.00	630	66.60	31.40	19.60
330	4.90	16.50	10.30	640	67.60	31.90	19.95
340	6.00	16.90	10.60	650	68.70	32.40	20.25
350	7.00	17.40	10.90				

(Continued on next page)

Item No. 5.13

Traffic vi

les of a li

ct to Reg

any stati

ulky nature as listed in Item No. 5.14 of this Tariff.

No. 2.11 of this Tariff.

ny other stations.

l weight of consignment in kilogrammes

Distance in kilometres	11 to 20	21 to 30	31 to 40	41 to 60
	rge in ringgit per consignment			
15	4.20	5.40	7.20	10.80
30	4.20	5.40	7.20	10.80
45	6.20	8.20	10.20	15.60
60	6.20	8.20	10.20	15.60
75	6.20	8.20	10.20	15.60
90	7.80	10.60	13.80	20.40
120	7.80	10.60	13.80	20.40
150	9.80	13.40	16.80	21.60
180	9.80	13.40	16.80	22.00
210	11.80	16.20	20.40	22.40
240	11.80	16.20	20.40	23.00
270	11.80	16.20	20.40	23.20
300	11.80	16.20	20.40	23.80
350	13.80	18.60	21.60	24.40
400	13.80	18.60	22.00	25.00
450	13.80	18.60	22.60	25.80
500	15.40	21.00	23.00	26.40
550	15.40	21.00	23.40	27.00
600	15.40	21.00	23.80	27.80
650	18.20	22.20	24.40	28.40
700	19.20	22.60	24.80	29.20
800	21.00	23.40	25.80	30.60
900	21.40	24.00	26.80	32.00
1,000	21.80	24.80	27.60	33.40
1,100	22.40	25.40	28.60	34.80
1,200	22.80	26.20	29.60	36.20
1,300	23.40	26.80	30.40	37.60

e: The charge
ent. Consignm
60 kilogramme

ll apply on the consignment as a whole regardless of the number of pieces or packages comprising the con
ing of more than one package will be subject to a piece charge of 50 sen for each package in excess of one
reof in excess of the first 60 kilogramme will be charged as a separate consignment.

SECTION 5

Pa affic viz: Item No. 5.12

ıll kinds, except as otherwise provided in Item No. 5.14.

to Regulation No. 2.11 of this Tariff.

ıy station to any other station.

nce etres	*Total weight of consignment in kilogrammes*				
	Up to 10	*11 to 20*	*21 to 30*	*31 to 40*	*41 to 60*
	Charge in ringgit per consignment				
15	1.20	2.10	2.70	3.60	5.40
30	1.20	2.10	2.70	3.60	5.40
45	1.70	3.10	4.10	5.10	7.80
60	1.70	3.10	4.10	5.10	7.80
75	1.70	3.10	4.10	5.10	7.80
90	2.30	3.90	5.30	6.90	10.20
120	2.30	3.90	5.30	6.90	10.20
150	2.90	4.90	6.70	8.40	10.80
180	2.90	4.90	6.70	8.40	11.00
210	3.50	5.90	8.10	10.20	11.20
240	3.50	5.90	8.10	10.20	11.50
270	3.50	5.90	8.10	10.20	11.60
300	3.50	5.90	8.10	10.20	11.90
350	4.10	6.90	9.30	10.80	12.20
400	4.10	6.90	9.30	11.00	12.50
450	4.10	6.90	9.30	11.30	12.90
500	4.50	7.70	10.50	11.50	13.20
550	4.50	7.70	10.50	11.70	13.50
600	4.50	7.70	10.50	11.90	13.90
650	5.40	9.10	11.10	12.20	14.20
700	5.60	9.60	11.30	12.40	14.60
800	6.20	10.50	11.70	12.90	15.30
900	6.80	10.70	12.00	13.40	16.00
,000	7.30	10.90	12.40	13.80	16.70
,100	7.90	11.20	12.70	14.30	17.40
,200	8.50	11.40	13.10	14.80	18.10
,300	9.10	11.70	13.40	15.20	18.80

he charges shown will apply on the consignment as a whole regardless of the number of pieces or packages comprising the consign-
isignments consisting of more than one package will be subject to a piece charge 50 sen for each package in excess of one. Each 60
ie or part thereof in excess of the first 60 kilogramme will be charged as a separate consignment.

SECTION 5

CLES, MOTORCYCLES, MOTOR SCOOTERS, PERAMBULATORS
WHEELCHAIRS

Item No. 5.11

Small vehicles for the personal use of passengers at the completion of the train journey that conveyed by the same train as the passenger are subject to the following charges (*See* Regulations Nos. 1.54 and 4.23 of this Tariff).

Distance in kilometres	*Charge in ringgit per item*		
	Bicycles	*Motorcycles Motor Scooters*	*Perambulators Wheelchairs*
15	0.40	1.20	No charge
30	0.70	2.30	"
45	1.10	3.40	"
60	1.40	4.50	"
75	1.70	5.60	"
90	2.10	6.80	"
120	2.70	9.00	"
150	3.40	11.20	"
180	4.10	13.50	"
210	4.70	15.70	"
240	5.40	17.90	"
270	6.10	20.20	"
300	6.80	22.40	"
350	7.90	26.10	"
400	9.00	29.90	"
450	10.10	33.60	"
500	11.20	37.30	"
550	12.30	41.10	"
600	13.50	44.80	"
650	14.60	48.50	"
700	15.70	52.20	"
800	17.90	59.70	"
900	20.20	67.10	"
1,000	22.40	74.60	"
1,100	24.60	82.10	"
1,200	26.90	89.50	"
1,300	29.10	97.00	"

SECTION 5

RAPID TRAIN FARES

Item No. 5.10

Passengers three years of age or over are subject to the fares hereunder for travel on rapid trains Nos. 14 and 15.

CHARGES IN RINGGIT FOR A ONE WAY JOURNEY

From / To		Kuala Lumpur	Seremban	Tampin	Gemas	Segamat	Kluang	Johore Bahru	Singapore
		Second Class Fares			Third Class Fares				
Kuala Lumpur ..	A		3.20	4.70	6.35	7.15	9.70	12.40	13.20
	B		2.05	2.80	3.65	4.05	5.30	6.65	7.05
Seremban	A	4.60		2.45	4.10	4.85	7.45	10.15	10.90
	B	2.80		1.70	2.50	2.90	4.20	5.55	5.90
Tampin	A	7.10	3.40		2.60	3.35	5.90	8.60	9.40
	B	4.10	2.20		1.75	2.15	3.40	4.75	5.15
Gemas	A	10.00	6.20	3.70		1.70	4.25	6.95	7.75
	B	5.60	3.60	2.30		1.30	2.60	3.95	4.35
Segamat	A	11.20	7.40	4.90	2.20		3.50	6.20	6.95
	B	6.20	4.20	2.90	1.60		2.20	3.55	3.95
Kluang	A	15.50	11.70	9.00	6.40	5.20		3.65	4.40
	B	8.50	6.50	5.00	3.70	3.10		2.30	2.65
Johore Bahru ..	A	20.00	16.20	13.80	10.90	9.70	5.40		1.70
	B	10.80	8.80	7.60	6.10	5.50	3.20		1.30
Singapore	A	21.30	17.40	15.00	12.20	10.90	6.60	2.20	
	B	11.50	9.40	8.20	6.70	6.10	3.80	1.60	

Line A—Applicable to passengers twelve years of age or over.

Line B—Applicable to passengers three years of age or over but less than twelve years of age.

ZONE FARES—KEDAH BRANCH

Item No. 5.02

(*a*) Applicable to passengers twelve years of age or over travelling from any station on the Kedah Branch to any other station on the Kedah Branch (Index number 006 and Index numbers 403 to 473 inclusive).

(*b*) Children three years of age or over but less than twelve years of age are subject to one half of the charge specified below.

Distance in kilometres	*Transportation charge in ringgit per passenger*		*Distance in kilometres*	*Transportation charge in ringgit per passenger*	
	Second Class	*Third Class*		*Second Class*	*Third Class*
5	0.50	0.20	65	2.70	1.50
10	0.50	0.25	70	3.00	1.65
15	0.60	0.35	75	3.20	1.75
20	0.80	0.45	80	3.40	1.85
25	1.10	0.60	85	3.60	2.00
30	1.30	0.70	90	3.80	2.10
35	1.50	0.80	95	4.00	2.20
40	1.70	0.95	100	4.20	2.35
45	1.90	1.05	110	4.60	2.55
50	2.10	1.20	120	5.10	2.80
55	2.30	1.30	130	5.50	3.05
60	2.50	1.40	140	5.90	3.25
			150	6.30	3.50

GROUP FARES

Item No. 5.03

(*a*) Applicable to passengers travelling under the terms of Regulation No. 4.32 of this Tariff from any station to any other station and return.

(*b*) For the purpose of calculating the total charge, two children three years of age or over but less than twelve years of age will be counted as one adult.

	Total round trip charge per adult passenger
(i) Ten to forty nine adults	Ordinary one-way fare plus one half
(ii) Fifty to ninety nine adults	Ordinary one-way fare plus one third
(iii) One hundred or more adults	Ordinary one-way fare

(*c*) The Ordinary one-way fares referred to above are the fares published in the table of charges in Item 5.01 of this Tariff and are not the reduced fares as provided for in the list of Exceptions therein.

SECTION 5

FARES, RATES AND CHARGES—PASSENGER

Item No. 5.01
(Concluded)

Distance in kilometres	*Transportation charge in ringgit per passenger*			*Distance in kilometres*	*Transportation charge in ringgit per passenger*		
	First Class	*Second Class*	*Third Class*		*First Class*	*Second Class*	*Third Class*
660	69.70	32.90	20.55	980	103.50	48.80	30.50
670	70.80	33.30	20.85	990	104.60	49.30	30.80
680	71.90	33.80	21.15	1,000	105.60	49.70	31.10
690	72.90	34.30	21.50	1,010	106.70	50.20	31.45
700	74.00	34.80	21.80	1,020	107.80	50.70	31.75
710	75.00	35.30	22.10	1,030	108.80	51.20	32.05
720	76.10	35.80	22.40	1,040	109.90	51.70	32.35
730	77.10	36.30	22.75	1,050	110.90	52.20	32.70
740	78.20	36.80	23.05	1,060	112.00	52.70	33.00
750	79.20	37.30	23.35	1,070	113.00	53.20	33.30
760	80.30	37.80	23.65	1,080	114.10	53.70	33.60
770	81.40	38.30	23.95	1,090	115.20	54.20	33.90
780	82.40	38.80	24.30	1,100	116.20	54.70	34.25
790	83.50	39.30	24.60	1,110	117.30	55.20	34.55
800	84.50	39.80	24.90	1,120	118.30	55.70	34.85
810	85.60	40.30	25.20	1,130	119.40	56.20	35.15
820	86.60	40.80	25.55	1,140	120.40	56.70	35.50
830	87.70	41.30	25.85	1,150	121.50	57.20	35.80
840	88.80	41.80	26.15	1,160	122.50	57.70	36.10
850	89.80	42.30	26.45	1,170	123.60	58.20	36.40
860	90.90	42.80	26.75	1,180	124.70	58.70	36.70
870	91.90	43.30	27.10	1,190	125.70	59.20	37.05
880	93.00	43.80	27.40	1,200	126.80	59.70	37.35
890	94.00	44.30	27.70	1,210	127.80	60.20	37.70
900	95.10	44.80	28.00	1,220	128.90	60.70	37.95
910	96.10	45.30	28.35	1,230	129.90	61.20	38.30
920	97.20	45.80	28.65	1,240	131.00	61.70	38.60
930	98.30	46.30	28.95	1,250	132.00	62.20	38.90
940	99.30	46.80	29.25	1,260	133.10	62.70	39.20
950	100.40	47.30	29.55	1,270	134.20	63.20	39.50
960	101.40	47.80	29.90	1,280	135.20	63.70	39.85
970	102.50	48.30	30.20	1,290	136.30	64.20	40.15
				1,300	137.30	64.70	40.45

MONTHLY FARES

Item No. 5.04

(*a*) Applicable from any station to any other station within a distance of 100 kilometres.

(*b*) Monthly tickets become valid at 0001 hours on the first day of each month and expire at 2400 hours on the last day of the month. They are good for an unlimited number of trips during the month between the stations specified thereon or between intermediate stations in the direct line of transit.

(*c*) Monthly tickets are issued for the use of the purchaser only and are not transferable.

Distance in kilometres	*Transportation charge in ringgit per passenger*		*Distance in Kilometres*	*Transportation charge in ringgit per passenger*	
	Second Class	*Third Class*		*Second Class*	*Third Class*
5	9.10	5.70	55	99.60	62.70
10	18.10	11.40	60	108.60	68.40
15	27.20	17.10	65	117.70	74.10
20	36.20	22.80	70	126.70	79.80
25	45.30	28.50	75	135.80	85.50
30	54.30	34.20	80	144.80	91.20
35	63.40	39.90	85	153.90	96.90
40	72.40	45.60	90	162.90	102.60
45	81.50	51.30	95	172.00	108.30
50	90.50	57.00	100	181.00	114.00

STUDENT FARES

Item No. 5.05

(*a*) Applicable from any station to any other station specified on the ticket within a distance of 50 kilometres.

(*b*) Student tickets are valid only during the period of a school term as defined in Regulation No. 4.30 of this Tariff.

Distance in kilometres	*Transportation charge in ringgit per passenger per term Third Class*	*Distance in kilometres*	*Transportation charge in ringgit per passenger per term Third Class*
5	8.90	30	53.30
10	17.80	35	62.20
15	26.70	40	71.10
20	35.60	45	80.00
25	44.50	50	88.90

READY RECKONER.—*(contd.)*

MALAYAN WEIGHT

				Avoirdupois
1 Tahil			=	1⅓ oz.
16 Tahils	=	1 Kati	=	1⅓ lb.
1600 Tahils	=	100 Katis		
100 Katis	=	1 Pikul	=	133⅓ lbs.
40 Pikuls	=	1 Koyan	=	5333⅓ lbs.
16 Pikuls 80 katis			=	1 ton
16 Pikuls 53 katis			=	1 *Metric* ton

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16 drachms	=	1 oz.	=	¾ tahil
16 ounces	=	1 lb.	=	¾ kati
28 lbs.	=	1 quarter	=	21 katis
4 qrs. (112 lbs.)	=	1 cwt.	=	84 katis
20 cwts. (2240 lbs.)	=	1 ton	=	1680 katis

To convert weight Avoirdupois into Malayan, multiply by 3 and divide by 4, e.g. 168 lbs. $\times 3 \div 4 =$ 1 Pikul 26 Katis.

To convert weight Malayan into Avoirdupois, multiply by 4 and divide by 3, e.g. Pikuls 2.50 $\times$ 4 $\div$ 3 = 333⅓ lbs. avoirdupois = 2 cwts. 3 qrs. 25⅓ lbs.

		Lbs.	Ozs.	Drachms.		
1 Kilogramme	=	2	3	4.383	=	1 Kati 9.704 tahils
1 Metric ton	=	2204 lbs.			=	16 Pikuls 53 katis.

Lineal Measure:

1 Mile (1,760 yards)	=	1.6093 Kilometres
1 Kilometre	=	0.62137 Mile (1093.6112 yards)

OY SCOUTS AND GIRL GUIDES

Item No. 5.06

(*a*) Applicable to Boy Scouts and Girl Guides travelling under the terms of Regulation No. 4.29 f this Tariff from any station to any other station and returning to the original starting station. he total round trip charge will be the Ordinary one-way fare plus one half.

(*b*) The Ordinary one-way fare referred to above is the fare published in the table of charges n Item 5.01 of this Tariff and is not the reduced fare as provided for in the list of exceptions erein.

PECIAL ROUND TRIP FARES

Item No. 5.07

Applicable to passengers travelling in third class coaches from Gua Musang to stations specified ereunder and returning to Gua Musang.

Index No.	*Station*	*Transportation charge for the round trip in ringgit per passenger*	
		Adults	*Children over three years of age but less than twelve years of age*
762	Kuala Neroh ..	0.30	0.15
763	Sungei Kemudu ..	0.40	0.20
764	Chegor Bongor ..	0.55	0.30

SECTION 5

PILGRIMS AND WELL WISHERS

Item No. 5.08

(*a*) Applicable to pilgrims and well wishers twelve years of age or over travelling under the terms of Regulation No. 4.31 of this Tariff.

(*b*) Children three years of age or over but less than twelve years of age are subject to one half of the charge specified below.

Between / *and*	*Kuala Lumpur*			*Singapore*			*Butterworth*		
	Transportation charge in ringgit per passenger for one round trip								
	First Class	*Second Class*	*Third Class*	*First Class*	*Second Class*	*Third Class*	*First Class*	*Second Class*	*Third Class*
Any Station in Kelantan (Index Nos. 751 to 880 inclusive.) ..	104.00	51.00	32.00	104.00	51.00	32.00	155.00	76.00	48.00
Any station in Pahang (Index Nos. 637 to 748 inclusive.) ..	55.00	26.00	16.50	55.00	26.00	16.50	—	—	—

SECTION 5

HARTERED COACHES

Item No. 5.09

Coaches chartered under the terms of Regulation No. 4.33 of this Tariff are subject to the lowing charges:

Distance in kilometres	TRANSPORTATION CHARGE IN RINGGIT PER COACH							
	Night (Note A)			Day (Note B)			Reserved Saloon (Note C)	Empty haulage (Note D)
	First Class	Second Class	Third Class	First Class	Second Class	Third Class		
15	122.00	146.00	186.00	27.00	31.00	24.00	150.00	23.00
30	139.00	164.00	203.00	53.00	61.00	47.00	150.00	46.00
45	155.00	182.00	221.00	79.00	92.00	70.00	150.00	68.00
60	172.00	200.00	238.00	105.00	122.00	93.00	150.00	91.00
75	189.00	218.00	256.00	131.00	153.00	116.00	150.00	113.00
90	205.00	236.00	273.00	157.00	183.00	139.00	168.00	136.00
120	240.00	272.00	308.00	210.00	244.00	185.00	224.00	181.00
150	275.00	307.00	343.00	262.00	305.00	231.00	280.00	226.00
180	309.00	343.00	377.00	314.00	366.00	277.00	335.00	271.00
210	344.00	379.00	412.00	366.00	427.00	323.00	391.00	317.00
240	379.00	415.00	447.00	419.00	488.00	369.00	447.00	362.00
270	413.00	451.00	482.00	471.00	549.00	415.00	503.00	407.00
300	448.00	486.00	517.00	523.00	610.00	461.00	559.00	452.00
350	506.00	546.00	575.00	610.00	712.00	538.00	651.00	527.00
400	564.00	606.00	633.00	697.00	814.00	614.00	744.00	602.00
450	621.00	665.00	691.00	785.00	915.00	691.00	837.00	678.00
500	679.00	725.00	749.00	872.00	1,017.00	768.00	930.00	753.00
550	737.00	785.00	807.00	959.00	1,118.00	844.00	1,023.00	828.00
600	795.00	844.00	865.00	1,046.00	1,220.00	921.00	1,116.00	903.00
650	853.00	904.00	933.00	1,133.00	1,322.00	998.00	1,209.00	979.00
700	910.00	973.00	981.00	1,220.00	1,423.00	1,075.00	1,302.00	1,054.00
800	1,026.00	1,083.00	1,097.00	1,394.00	1,627.00	1,228.00	1,488.00	1,204.00
900	1,141.00	1,202.00	1,213.00	1,569.00	1,830.00	1,381.00	1,674.00	1,355.00
1,000	1,257.00	1,321.00	1,330.00	1,743.00	2,033.00	1,535.00	1,860.00	1,505.00
1,100	1,373.00	1,441.00	1,446.00	1,917.00	2,236.00	1,688.00	2,046.00	1,656.00
1,200	1,488.00	1,560.00	1,562.00	2,091.00	2,440.00	1,842.00	2,232.00	1,806.00
1,300	1,604.00	1,679.00	1,678.00	2,266.00	2,643.00	1,995.00	2,418.00	1,957.00

NOTE A: Applicable to coaches with sleeping accommodation viz: those designated NF, NFS, DNS, NS or TC (Sleeperette).

NOTE B: Applicable to day coaches only viz: those designated FB, AFB, SC, ST or TC.

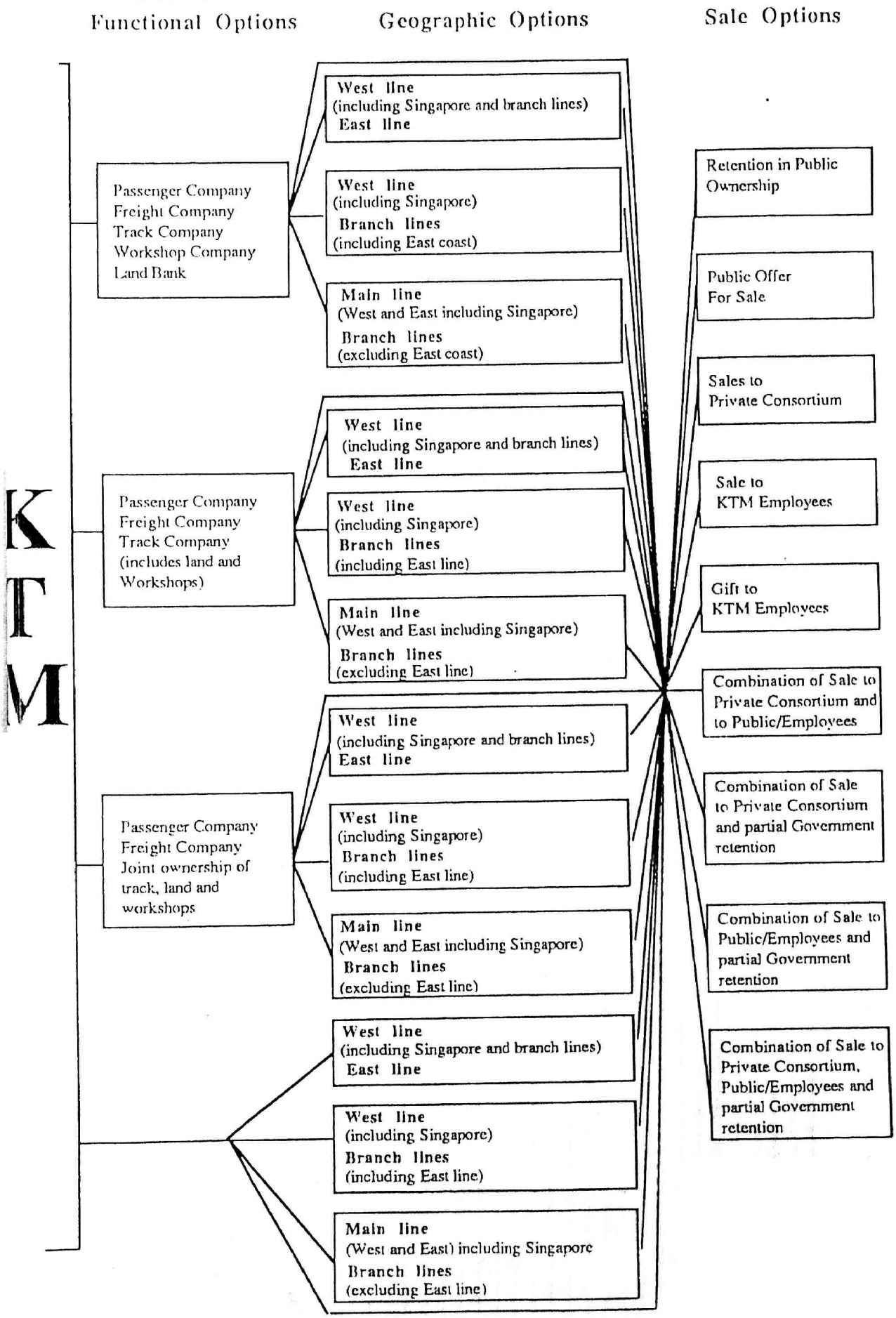
NOTE C: Applicable to Reserved Saloon coaches viz: those designated RS.

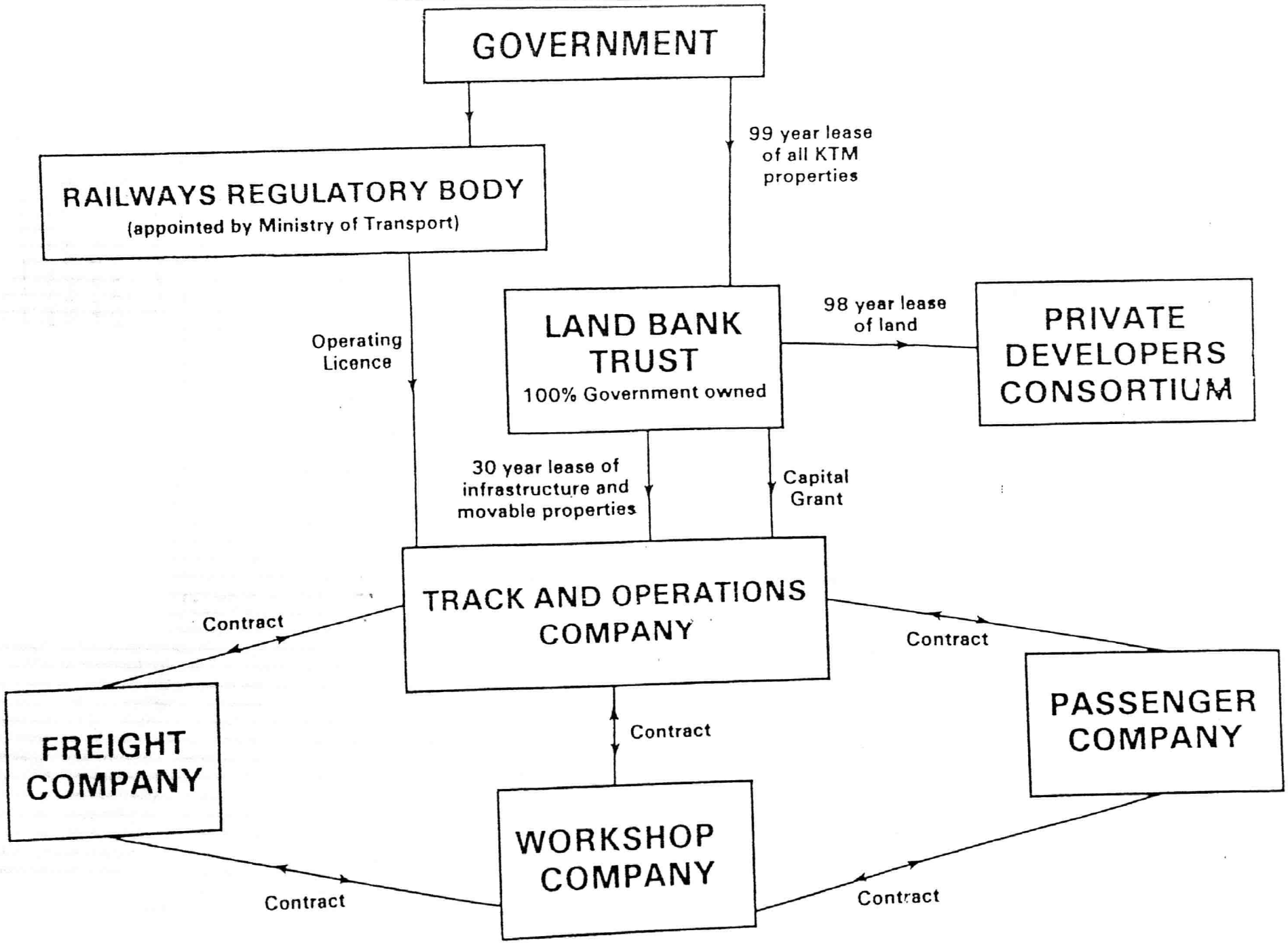
NOTE D: The charge shown in this column is only applicable when coaches are chartered to begin and/or end the loaded journey at any ation other than those designated as "Coach Supply Depots" as listed hereunder. The distance on which the empty haulage charge is based the distance from and/or to the Coach Supply Depot nearest the station at which the coach begins and/or ends the loaded journey.

Coach Supply Depots

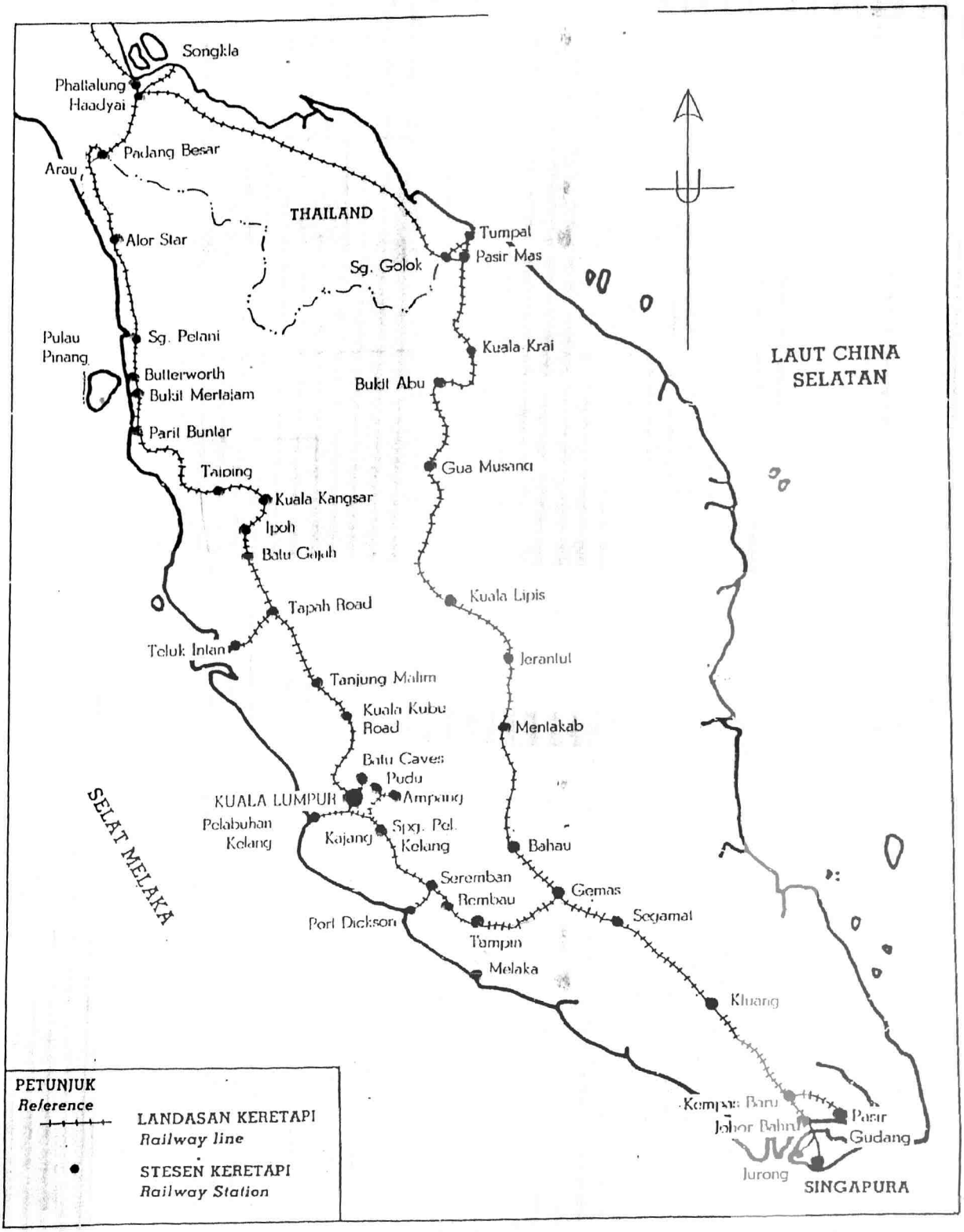
Butterworth — Kuala Lumpur — Tumpat
Gemas — Singapore

Privatisation Options

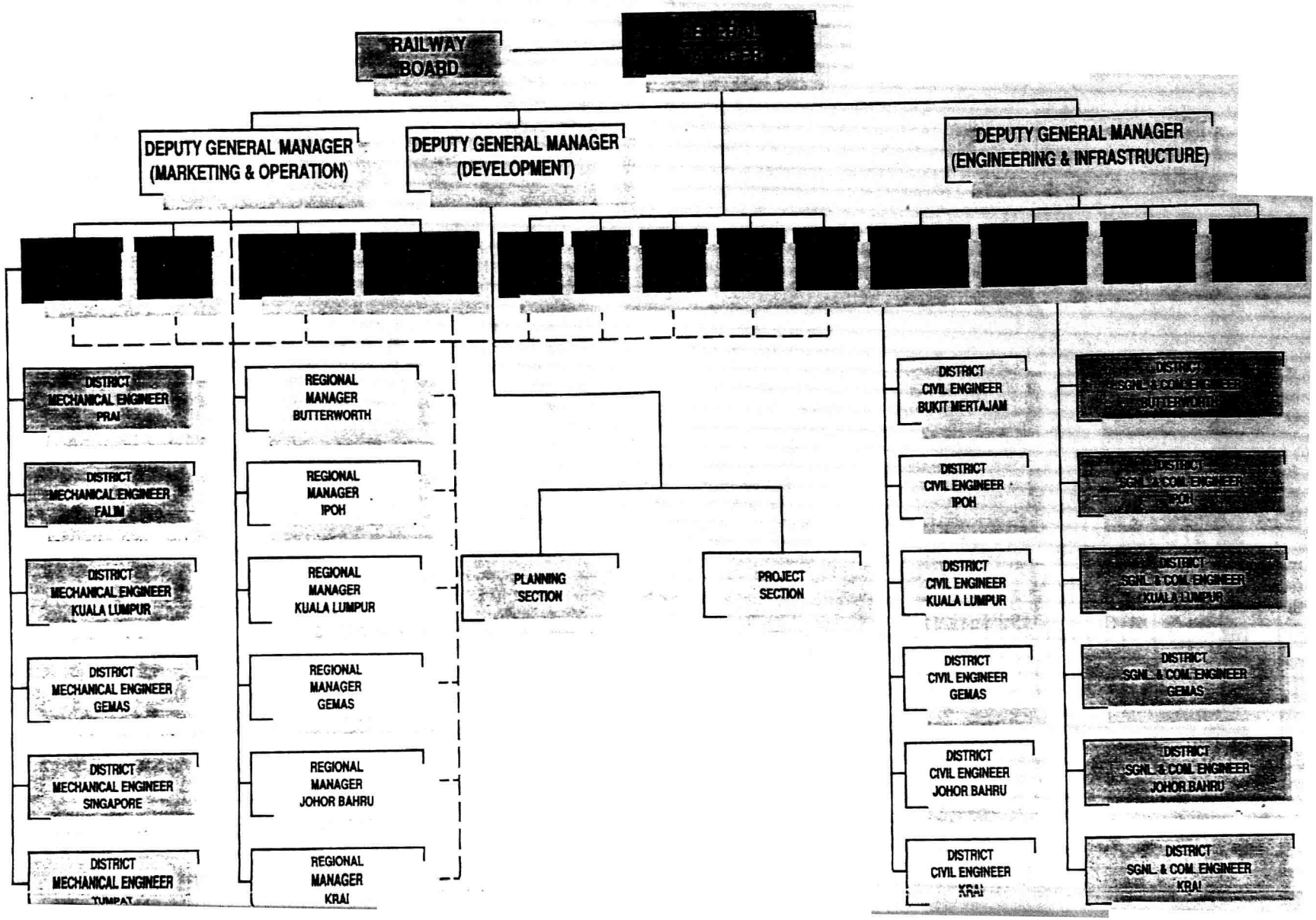


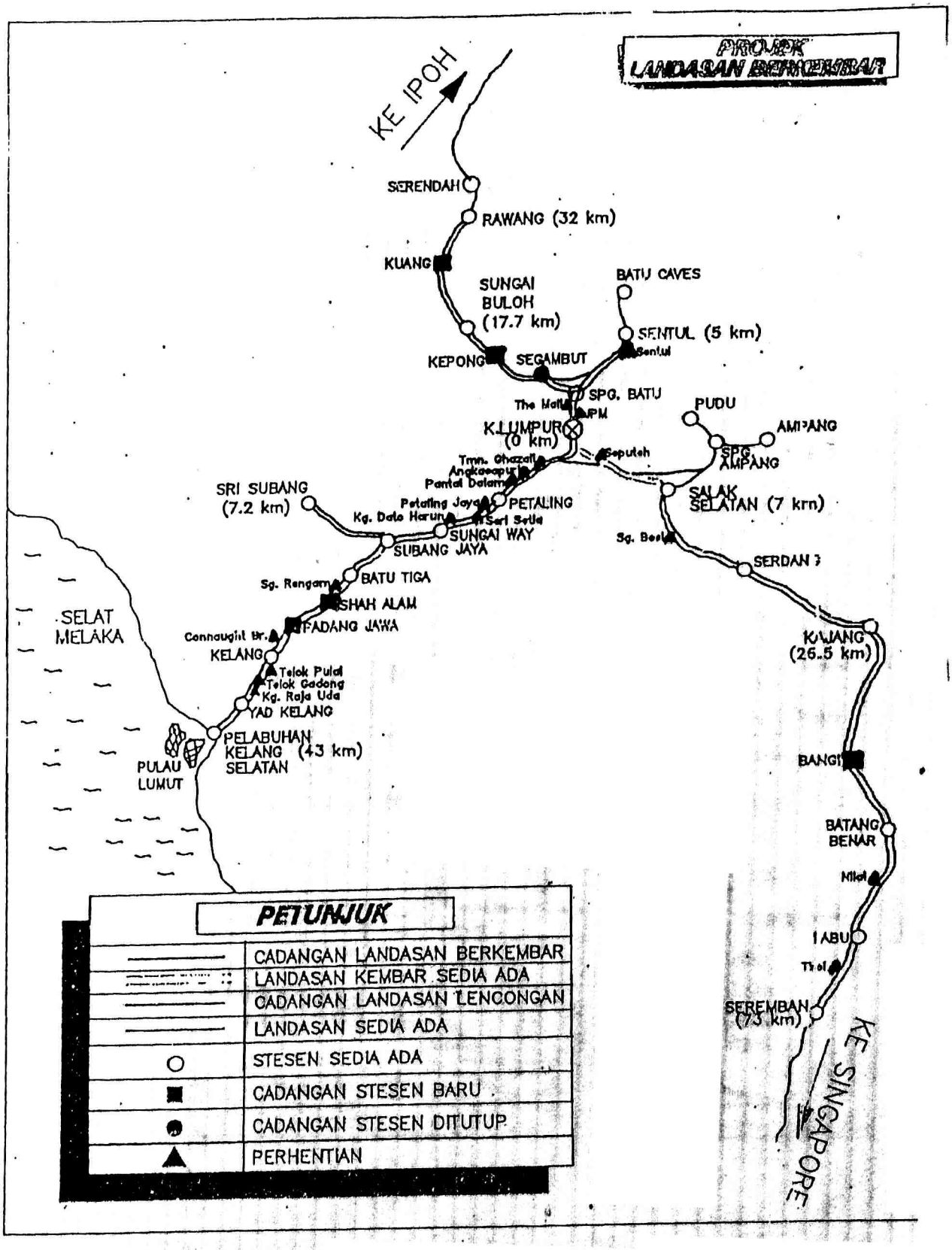

GOVERNMENT
99 year lease of all KTM properties
RAILWAYS REGULATORY BODY
(appointed by Ministry of Transport)
Operating Licence
LAND BANK TRUST
100% Government owned
98 year lease of land
PRIVATE DEVELOPERS CONSORTIUM
30 year lease of infrastructure and movable properties
Capital Grant
TRACK AND OPERATIONS COMPANY
Contract
Contract
FREIGHT COMPANY
Contract
PASSENGER COMPANY
WORKSHOP COMPANY
Contract
Contract

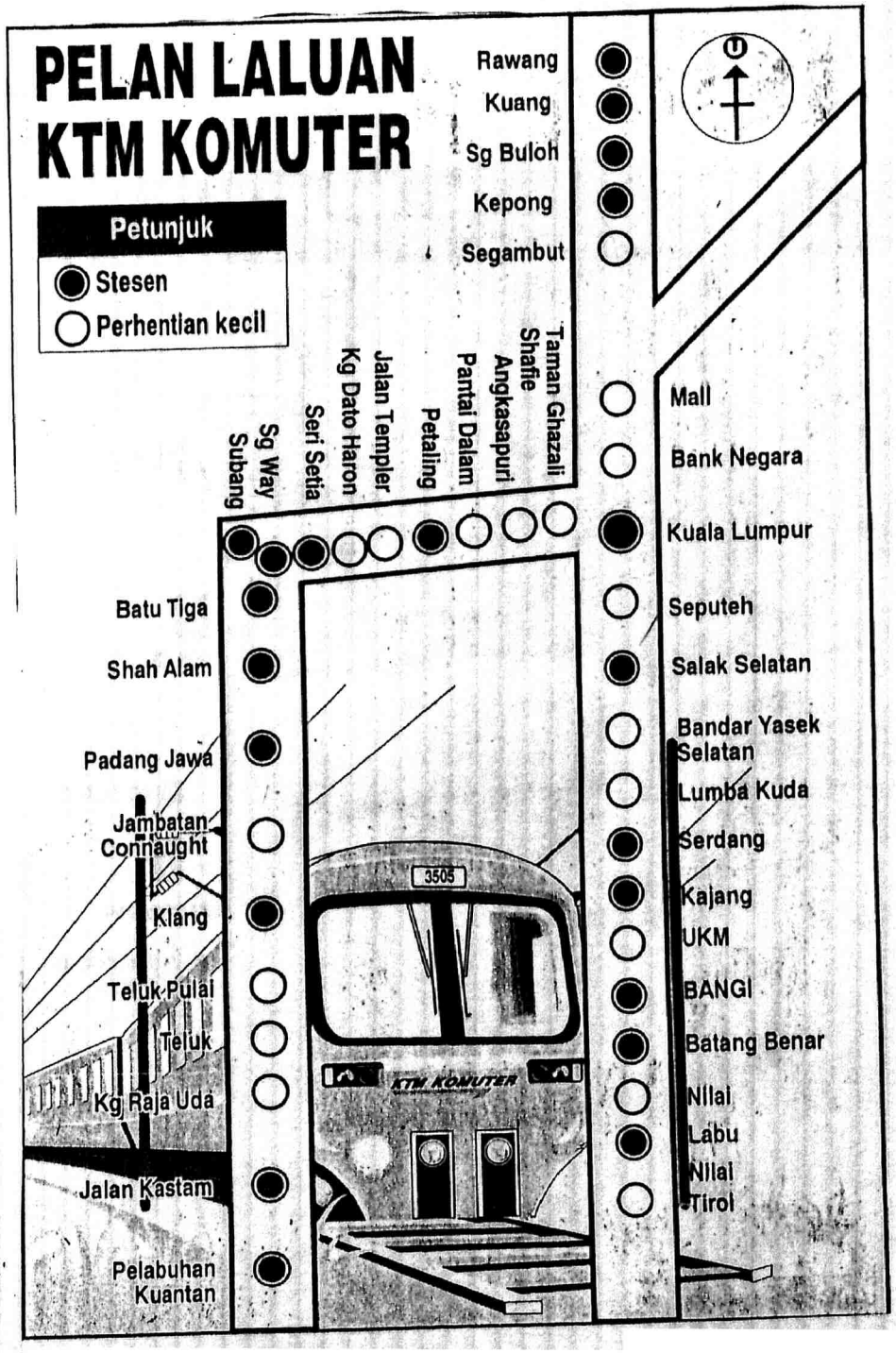
SISTEM RANGKAIAN KERETAPI TANAH MELAYU

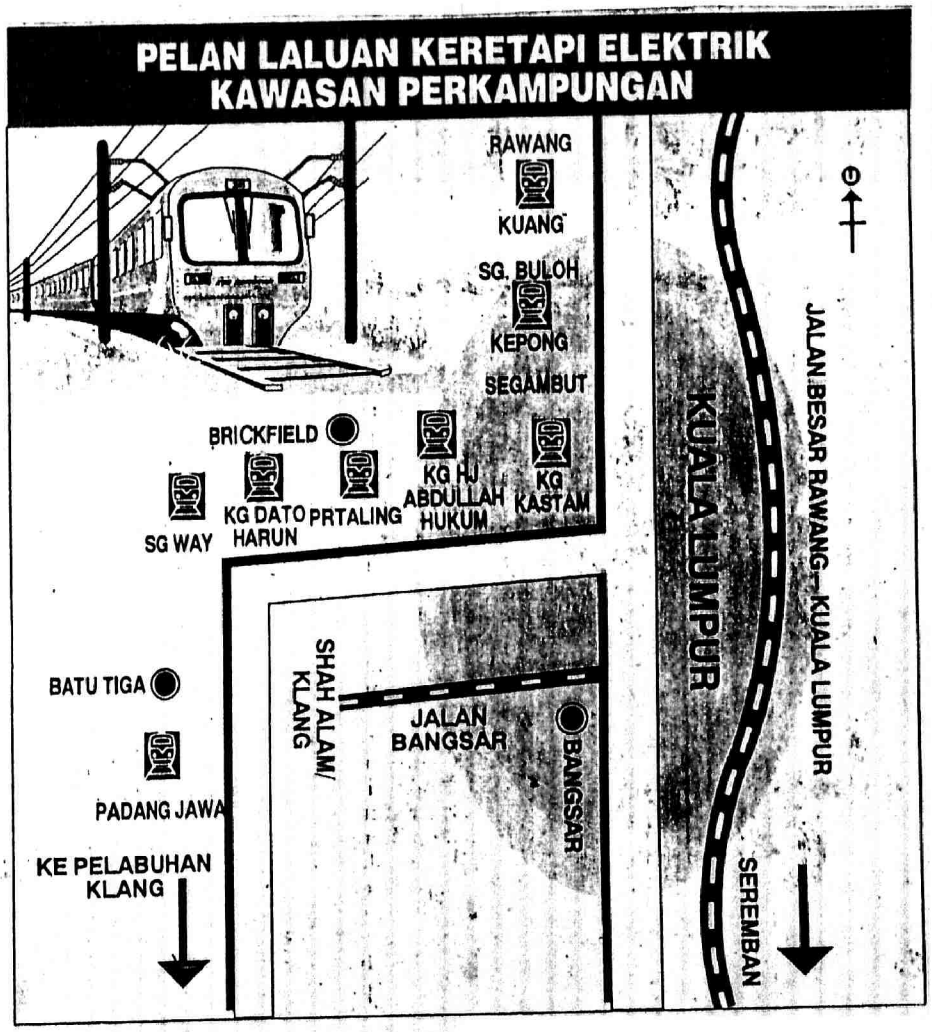


ORGANISATION STRUCTURE OF KTM – 1991




PROJEK
LANDASAN BERKEMBAR
KE IPOH
SERENDAH
RAWANG (32 km)
KUANG
SUNGAI BULOH (17.7 km)
BATU CAVES
SENTUL (5 km)
KEPONG
SEGAMBUT
SPG. BATU
PUDU
AMPANG
K.LUMPUR (0 km)
SPG AMPANG
SALAK SELATAN (7 km)
SRI SUBANG (7.2 km)
PETALING
SUNGAI WAY
SUBANG JAYA
BATU TIGA
SHAH ALAM
PADANG JAWA
SELAT MELAKA
KELANG
YAD KELANG
PELABUHAN KELANG SELATAN (43 km)
PULAU LUMUT
SERDANG
KAJANG (26.5 km)
BANGI
BATANG BENAR
IABU
SEREMBAN (73 km)
KE SINGAPORE
PETUNJUK
CADANGAN LANDASAN BERKEMBAR
LANDASAN KEMBAR SEDIA ADA
CADANGAN LANDASAN LENCONGAN
LANDASAN SEDIA ADA
STESEN SEDIA ADA
CADANGAN STESEN BARU
CADANGAN STESEN DITUTUP
PERHENTIAN


PELAN LALUAN
KTM KOMUTER
Petunjuk
Stesen
Perhentian kecil
Rawang
Kuang
Sg Buloh
Kepong
Segambut
Taman Ghazali
Shafie
Angkasapuri
Pantai Dalam
Petaling
Jalan Templer
Kg Dato Haron
Seri Setia
Sg Way
Subang
Mall
Bank Negara
Kuala Lumpur
Seputeh
Salak Selatan
Bandar Yasek Selatan
Lumba Kuda
Serdang
Kajang
UKM
BANGI
Batang Benar
Nilai
Labu
Nilai
Tirol
Batu Tiga
Shah Alam
Padang Jawa
Jambatan Connaught
Klang
Teluk Pulai
Teluk
Kg Raja Uda
Jalan Kastam
Pelabuhan Kuantan
3505
KTM KOMUTER


PELAN LALUAN KERETAPI ELEKTRIK
KAWASAN PERKAMPUNGAN
RAWANG
KUANG
SG. BULOH
KEPONG
SEGAMBUT
BRICKFIELD
KG HJ ABDULLAH HUKUM
KG KASTAM
SG WAY
KG DATO HARUN
PRTALING
BATU TIGA
PADANG JAWA
KE PELABUHAN KLANG
SHAH ALAM/ KLANG
JALAN BANGSAR
BANGSAR
KUALA LUMPUR
JALAN BESAR RAWANG—KUALA LUMPUR
SEREMBAN