

UNIVERSITI SAINS MALAYSIA

Peperiksaan Semester Kedua
Sidang 1986/87

Kursus Sains Matrikulasi II

TBD 102 - Genetik Dan Evolusi

(Bahagian B)

Tarikh: 30 Mac 1987

Masa: 9.00 - 11.00 pagi
(2 jam)

RALAT

Sila gantikan soalan 1 Seksyen B dari kertas soalan asal
dengan soalan di bawah.

Dengan itu soalan 1 Seksyen B dari kertas soalan asal
adalah dibatalkan.

SOALAN

1. Mutasi gen dan ketaknormalan bilangan kromosom merupakan dua sumber variasi genetik di dalam manusia.

Dengan bantuan gambarajah terangkan jenis-jenis mutasi gen dan bagaimana ketaknormalan bilangan kromosom boleh wujud.

(25 markah)

Lampiran

Jadual Chi-kuasadua

| Degrees of Freedom | P = .99 | .95 | .80 | .50 | .20 | .05 | .01 |
|--------------------|---------|--------|--------|--------|--------|--------|--------|
| 1 | .000157 | .00393 | .0642 | .455 | 1.642 | 3.841 | 6.635 |
| 2 | .020 | .103 | .446 | 1.386 | 3.219 | 5.991 | 9.210 |
| 3 | .115 | .352 | 1.005 | 2.366 | 4.642 | 7.815 | 11.345 |
| 4 | .297 | .711 | 1.649 | 3.357 | 5.989 | 9.488 | 13.277 |
| 5 | .554 | 1.145 | 2.343 | 4.351 | 7.289 | 11.070 | 15.086 |
| 6 | .872 | 1.635 | 3.070 | 5.348 | 8.558 | 12.592 | 16.812 |
| 7 | 1.239 | 2.167 | 3.822 | 6.346 | 9.803 | 14.067 | 18.475 |
| 8 | 1.646 | 2.733 | 4.594 | 7.344 | 11.030 | 15.507 | 20.090 |
| 9 | 2.088 | 3.325 | 5.380 | 8.343 | 12.242 | 16.919 | 21.666 |
| 10 | 2.558 | 3.940 | 6.179 | 9.342 | 13.442 | 18.307 | 23.209 |
| 15 | 5.229 | 7.261 | 10.307 | 14.339 | 19.311 | 24.996 | 30.578 |
| 20 | 8.260 | 10.851 | 14.578 | 19.337 | 25.038 | 31.410 | 37.566 |
| 25 | 11.524 | 14.611 | 18.940 | 24.337 | 30.675 | 37.652 | 44.314 |
| 30 | 14.953 | 18.493 | 23.364 | 29.336 | 36.250 | 43.773 | 50.892 |

* Taken from Table 3, R.A. Fisher, *Statistical Methods for Research Workers*, 14th edition. (Copyright © 1970, University of Adelaide).

