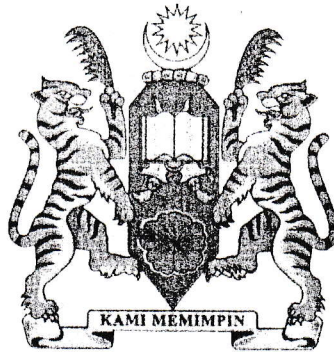


UNIVERSITI SAINS MALAYSIA



This is to certify that

MUSLIM

was conferred the degree of

DOCTOR OF PHILOSOPHY

4 AUGUST 2004

Vice-Chancellor

(Signed)

Registrar

(Signed)

Certified Translation

For Registrar

USM / 04 / IL 06064