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**A STUDY OF THE GENERAL CERTIFICATE OF EDUCATION  
(ADVANCED LEVEL) COMBINED MATHEMATICS SYLLABUS**

A PROJECT REPORT PRESENTED BY

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to the Board of study in Science Education of the  
**POST GRADUATE INSTITUTE OF SCIENCE**

*in partial fulfilment of the requirement  
for the award of the degree of*

**MASTER OF SCIENCE IN SCIENCE EDUCATION**

of the

**UNIVERSITY OF PERADENIYA**

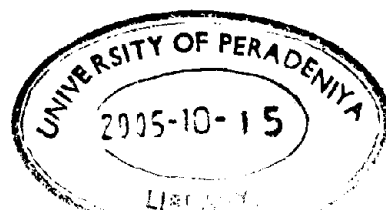
**SRI- LANKA**

**2004**

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## ABSTRACT



### **A STUDY OF THE COMBINED MATHEMATICS SYLLABUS AT THE GENERAL CERTIFICATE OF EDUCATION (ADVANCED LEVEL)**

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Under the Education Reforms of 1998, the number of mandatory subjects offered at the G.C.E. (Advanced Level) Examination was brought down from four to three. The subjects Combined Mathematics (CM) and Higher Mathematics (HM) were introduced for the G.C.E. (AL) physical science stream instead of Pure Mathematics and Applied Mathematics. All physical science students at the G.C.E. (AL) programme study CM. It should be noted that CM has been taught for nearly five years now and as a tradition it is high time to initiate steps for a revision of the curriculum content of the subject CM. In the present study we investigate the impact of the introduction of CM at the G.C.E. (AL) from the point of perception of numerous stakeholders in the relevant fields. The effect on the clientele is crucial and it was examined vis-à-vis their personal views and aspirations. This study mainly focused the curriculum content of the CM syllabus.

A sample comprising G.C.E. (AL) teachers, university academics, university students, educators involved in tertiary education and entrepreneurs were selected for this study. Questionnaires, interview schedules and documentary survey (past ten years of G.C.E. (OL) syllabi and past twenty-five years of G.C.E. (AL) syllabi) were used to collect data and information required for this study. The majority of school teachers (90%) indicated that the allocated time is inadequate to teach the subject matter to mastery level. The lecturers in the Departments of Mathematics at Engineering and Science faculties highlighted that the curriculum content of the subject CM is not adequate for the provision of the necessary background knowledge and skills to proceed to their undergraduate courses. The directors of Advanced Technical Institutes pointed out that the knowledge and skills of the students who followed CM was adequate for mathematics related technical courses. Entrepreneurs stressed that what is most required of prospective recruits is the capacity to look at and analyze a problem critically but not mere theoretical book knowledge. It needs to be emphasized that the G.C.E. (OL) Mathematics syllabus can provide adequate background mathematical knowledge to follow the G.C.E. (AL) Combined Mathematics course; but a major revision of the format and the curriculum content of the subject CM is welcomed by the 90% of the academic world to maintain the educational values of the highly regarded abstract discipline mathematics. According to the findings of this work a mathematics syllabus is prepared for the G.C.E. (AL) Physical Science Stream.