

UNIVERSITY OF MALTA
THE MATRICULATION CERTIFICATE EXAMINATION
INTERMEDIATE LEVEL

APPLIED MATHEMATICS

May 2006

EXAMINERS' REPORT

MATRICULATION AND SECONDARY EDUCATION
CERTIFICATE EXAMINATIONS BOARD

IM Applied Mathematics
May 2006 Session
Examiners' Report

Part 1: Statistical Information

Table 1 shows the distribution of grades obtained by the candidates and the percentage obtaining each grade.

Table: Distribution of grades awarded in the May 2006 session

Grade	A	B	C	D	E	F	Abs	Total
Number	16	10	31	13	6	12	4	92
% of Total	17.39	10.87	33.70	14.13	6.52	13.04	4.35	100%

Part 2: Comments regarding performance

Q1: About one-third of the candidates attempted this question correctly. Most candidates obtained the forces in **i, j** notation correctly, but then concluded that **F** is equal to the resultant, thus obtaining in incorrect equation for the line of action of **F**.

Q2: More than half the candidates answered this question correctly. Some candidates could not find the angles A and C and assumed they are both equal to 45° .

Q3: About three quarters of the students did very well in this question. However, some candidates chose to take moments about unsuitable points of the system.

Q4: Part (i) was well answered by most candidates. In part (ii), many found difficulties in finding the required angle. Only one-fifth of the candidates managed to obtain full marks in this question.

Q5: This question was not very well answered. In (i), the candidates could have used the Cartesian equation of the path straightaway. Many candidates found algebraic difficulties in solving part (ii).

Q6: Parts (i) and (ii) were done correctly by most candidates. The most common mistake in part (iii) was expressing the final kinetic energy as $1/12$ of the initial kinetic energy.

Q7: This was generally well answered. Some candidates confused the driving force with the accelerating force. Others applied the driving force directly to the trailer or ignored the resistive forces.

Q8: This question was poorly answered. Many candidates included a non-existent driving force on the block. The work done against friction was ignored by the majority of the candidates.

Q9: This question was generally well answered. However, in part (ii), some candidates assumed the tension to remain unchanged.

Q10: This question was quite easy, but was poorly attempted by most candidates, many of whom misunderstood the geometry of the problem, even though it was very carefully worded. Some omitted the mutual reaction between the upper and lower cylinders.

Chairperson
Board of Examiners
July 2006