

UNIVERSITY OF MALTA
THE MATRICULATION CERTIFICATE EXAMINATION
INTERMEDIATE LEVEL

APPLIED MATHEMATICS

May 2007

EXAMINERS' REPORT

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**IM Applied Mathematics
May 2007 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 1: Distribution of grades obtained by candidates

Grade	A	B	C	D	E	F	Abs	Total
Number	15	19	24	12	8	22	4	104
% of Total	14.4	18.3	23.1	11.5	7.7	21.2	3.9	100%

Part 2: Comments regarding performance

Q1: Most candidates got the first part correct. However, the second part was not well attempted. Many candidates equated moments at different points.

Q2: Many took the rail to be situated at the end of the ladder. Besides, many did not take the reaction at the rail to be perpendicular to the ladder, but parallel to the ground.

Q3: This was generally well done. However, some candidates added the moments of the missing parts instead of subtracting them.

Q4: This was generally well done. Some candidates ignored the weight of the car in the equations.

Q5: This was not well done. Many candidates found a lot of unnecessary data, which only helped to complicate the solution. The main difficulty was found in equating the vertical displacement of the particles at collision.

Q6: This was generally well attempted. However, some candidates ignored the elastic potential energy stored in the string.

Q7: This was well answered. In the second part, very few candidates noticed that the speed after the n th bounce could be easily obtained from $V_n = V_0 e^n$. Most students computed a series of five speeds.

Q8: This was fairly well attempted. In i) and ii), many students concluded that since the framework is square, the line of action of P must pass through the point A. In the last part, few candidates knew the difference between forces in tension and in compression.

Q9: This was very well attempted and nearly all candidates worked it out correctly.

Q10: This was not well answered. In the first part, many candidates equated incorrectly the potential energy to the kinetic energy, ignoring the constant work rate of the pump. In the second part, many failed to find the area of cross-section of the nozzle.

Chairperson
Board of Examiners
July 2007