

UNIVERSITY OF MALTA
THE MATRICULATION CERTIFICATE EXAMINATION
INTERMEDIATE LEVEL

APPLIED MATHEMATICS

May 2008

EXAMINERS' REPORT

**MATRICULATION AND SECONDARY EDUCATION
CERTIFICATE EXAMINATIONS BOARD**

IM Applied Mathematics
May 2008 Session
Examiners' Report

Part 1: Statistical Information

Table 1: Distribution of Grades awarded in May 2008

| GRADE | A | B | C | D | E | F | Abs | Total |
|------------|-------|------|-------|-------|-------|-------|------|-------|
| Number | 12 | 8 | 25 | 9 | 18 | 11 | 2 | 85 |
| % of Total | 14.12 | 9.41 | 29.41 | 10.59 | 21.18 | 12.94 | 2.35 | 100 |

Part 2: Comments regarding candidates' performance

Q1: a) This part was very well attempted. In b) some students did not know the meaning of a couple.

Q2: This was very well answered by most students.

Q3: This question was very poorly attempted. Most candidates first found the forces by resolving them parallel and perpendicular to the plane. They then expressed the forces in \mathbf{i} , \mathbf{j} notation, i.e. in terms of the horizontal and vertical components, making a lot of errors in the process.

Q4: This was satisfactorily attempted. In the first part, some candidates took moments of *area* instead of *volume*. Some also found difficulties in finding the distance of the centroid of the hemisphere from the base of the cylinder.

Q5: About three quarters of the students found this question easy. The rest do not seem to understand this topic. Some took e to be 0, 1, or 2.718. Others stated that no kinetic energy is lost after the collision.

Q6: Unnecessary lengthy solutions were presented, sometimes using wrong assumptions. Many candidates quoted the general equation of a projectile and stopped there. Others obtained the equation of a straight line.

Q7: This question was poorly answered. Very few candidates drew a proper force diagram.

Q8: Many candidates obtained good marks in this question. Some made the mistake of equating forces perpendicular to the plane.

Q9: This question was answered correctly by most candidates. Some candidates ignored the component of the weight in their equation.

Q10: Many candidates scored full marks. Some did not make use of the symmetry, while others considered the compressive forces in the rods resulting in lengthy and complicated solutions.

Chairperson
 Board of Examiners
 July 2008