

## MAT 2006 Relevance Checker

- **Red:** Question not relevant for current syllabus.
- **Orange:** Question not entirely relevant for current syllabus but worth attempting. See comments.
- **Black:** Question relevant for current syllabus.

### (A). Largest Value

This question is relevant for the current syllabus.

### (B). Number of Solutions

This question is relevant for the current syllabus.

### (C). Functional Equations

This question is relevant for the current syllabus

### (D). Derivative of Function

This question requires the chain rule and the derivative of  $\ln(x)$ , and so couldn't be asked according to the current syllabus.

### (E). Cubic and Factor Theorem

This question is relevant for the current syllabus.

### (F). Fractional Quadratic Inequality

This question is relevant for the current syllabus.

### (G). Areas of Equilateral Triangles

This question is relevant for the current syllabus.

### (H). Trigonometric Equation

This question is relevant for the current syllabus, although a current paper would use degrees rather than radians.

### (I). Equations with Modulus

In a modern question, they would have to give you the definition of the modulus function:  $|x| = x$  if  $x \geq 0$  and  $-x$  otherwise.

### (J). Intersecting Circles

This question is relevant for the current syllabus.

## 2. Two Variable Quadratic

The entirety of this question is relevant for the current syllabus.

## 3. Cubic and its Integrals

If this question were asked on a modern paper, they would have to give you the definition of the modulus function in (iv), the very last part. Otherwise, it is entirely relevant.

#### **4. Circles, Tangents and Parabolas**

The entirety of this question is relevant for the current syllabus.

#### **5. Four-Grids**

The entirety of this question is relevant for the current syllabus.

#### **6. Gold, Silver and Lead**

The entirety of this question is relevant for the current syllabus.

#### **7. Building Words**

The entirety of this question is relevant for the current syllabus.