



All questions may be attempted but only marks obtained on the best **four** solutions will count. The use of an electronic calculator is **not** permitted in this examination.

1. How important is a knowledge of Euclid's *Elements* for an understanding of ancient mathematics and its early modern development?
2. Describe the transmission and development of mathematics and its applications from antiquity to the rise of the Universities in the West.
3. "The peak of algebra in the seventeenth century was seen in the development of the calculus" - *Encyclopedia of the Scientific Revolution* (New York, 2000). Discuss, in the context of the work from Viète (*d* 1603) to Newton, Leibniz and the Bernoullis.
4. How important was nineteenth century work in geometry?
5. Write an essay on ONE of the following topics:-
  - (a) Arithmetic in the Ancient World;
  - (b) Mathematics before the Greeks;
  - (c) The solution of equations from Scipio to Galois;
  - (d) Does mathematics depend on applications?