Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: January 2011

M is the set of squares of the first 20 natural numbers:

$M = \{1^2, 2^2, 3^2, 4^2, \ldots, 20^2\}.$

We say that n is a **good** number, if in any subset of M of size n there are two elements a and b such that $a + b$ is a prime number. Find the smallest **good** number.