

**COUNTING & PROBABILITY (Q 6, PAPER 2)**

**1997**

- 6 (a) A class of 29 students wins a prize. Two members of the class are chosen to receive the prize. How many different pairs of students can be chosen?
- (b) (i) In how many different ways can the letters of the word CARPET be arranged?
- (ii) How many of these arrangements begin with A?
- (iii) In how many of the arrangements do the two vowels come together?
- (c) Two people are chosen at random from a large crowd. Each person names the day of the week on which he or she was born. Assuming that each day is equally likely, what is the probability that
- (i) both people were born on a Friday
- (ii) one person was born on a Tuesday and the other was born on a Thursday
- (iii) the two people were born on different days?

**ANSWERS**

- 6 (a) 406
- (b) (i) 720 (ii) 120 (iii) 240
- (c) (i)  $\frac{1}{49}$  (ii)  $\frac{2}{49}$  (iii)  $\frac{6}{7}$