

Answer **all six** questions from this section.

Question 1

(25 marks)

(a) A class consists of 12 boys and 8 girls.

(i) Two students are selected at random from the class. What is the probability that the two students selected will be a boy and a girl in any order?

(ii) Four students are selected, one at a time, at random from the class. What is the probability that the **first three** students selected will be boys and the fourth will be a girl?

- (b) An examination paper is made up of two sections, Section A consisting of 7 questions and Section B consisting of 8 questions. The paper contains the following instruction:
*“From section A you must answer question 1 and any three other questions.
From Section B you must also answer any four questions.”*
Find how many different combinations of questions may be answered if a candidate follows this instruction.

