Instructions
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working. You may use a non-programmable scientific calculator.

1. On my desk, I have five different Economics books and seven different Mathematics books.
   (a) In how many ways can I select three Economics books?
   (b) In how many ways can I select four Mathematics books?
   (c) In how many ways can I select six different books?
   (d) In how many ways can I select six books if I choose an equal number of Economics and Mathematics books.
   (e) In how many ways can I choose four books if I choose more Mathematics books than Economics books?

2. A number lock has 9 different digits. A combination of three digits can be set to open the lock. How many combinations are possible?

3. In a class, there are 15 students. Out of them, 9 are boys. A team is to be formed with 10 students of them 6 must be boys. In how many ways can the team be formed?

4. How many different 3-letter permutations can be formed using the letters in the word "SCARED" exactly once?

5. Find the number of ways of choosing 4 members from a team of 15 members.

6. State "TRUE" or "FALSE" for the following statements. If the statement is "FALSE", then find the correct answer.
   (a) $2! + 5! = 127$
   (b) $4! \times * 1! + 0!) = 52$
   (c) $\frac{9!}{(9-2)!} = 72$

7. Henry lists different arrangements of the letters in the word NKP as follows: NPK, NKP, PKN, PNK and KPN. Find the number of arrangements **not** included in the list.

8. In how many ways can you distribute a king, a queen and a jack card to three persons?