

Mathematics for Science
Assignment 12
Introduction to combinations
Lecturer: Kahenya, N.P

Instructions: Attempt all the Questions

- 1) Evaluate the following.
 - (i) ${}_{10}C_8$
 - (ii) ${}_8C_3$
 - (iii) $\frac{{}_{13}C_5}{{}_{19}C_7}$
- 2) A team consists of 7 boys and 9 girls. Determine in how many different ways a team of five can be selected such that it contains.
 - (i) No boys
 - (ii) At least a boy
 - (iii) 2 boys and 3 girls
 - (iv) 3 boys and 2 girls
 - (v) No girls
 - (vi) At least a girl
- 3) Find the number of different selections of 3 letters can be made from the letters of the word MISSISSIPPI.
- 4) A group of 18 students is to be divided into 3 teams of 5, 6, and 7 students. In how many ways can this be achieved?
- 5) Find in how many ways can 15 children be divided into;
 - (i) A team of 5 and a team of 10.
 - (ii) Three teams of 5 members each.
- 6) Solve the for n ;
 - (i) ${}_nC_5 = {}nC_4$
 - (ii) ${}_nC_{12} = {}nC_8$