(a) The code to open a combination lock is an ordered sequence of four digits chosen from the set $\{1, 2, 3, 4, 5, 6\}$. How many different codes are possible

(i) if repetition is allowed?

(ii) if repetition is not allowed?

(b) Twelve balls numbered $1, 2, 3, \ldots, 12$, are placed in a container and three balls are drawn at random without replacement. How many different selections of three balls are possible, if the order of selection is not important?

(c) In the experiment described in part (b), let A be the event that the number on each ball drawn is at most 5. Let B be the event that the number on each ball drawn is odd. Calculate the probability of each of the events A, B and $A \cap B$.