(d) ***Sampling without Replacement (4 Marks)***
An urn contains 10 disks, 6 white and 4 red. Two disks are selected, without replacement, from the urn. Calculate the following probabilities:

(i) (2 Marks) at least one disk is white;

(ii) (2 Marks) exactly one disk chosen is white.

(e) ***Independent Events (4 Marks)***

Suppose A and B are two events, with P(A), the probability that A occurs, equal to 0.4 and P(B), the probability that B occurs, equal to 0.5. You may assume that A and B are independent events.

(i) (2 Marks) Calculate $P(A \cap B)$, the probability of both A and B occuring.

(ii) (2 Marks) Calculate $P(A \cup B)$, the probability of either A or B (or both) occuring.