19. Shares of a particular company are offered for subscription in a manner listed below.

No. of Units Subscribed	No. of Units Available for Subscription	Chance of Success	No. of Units Allocated if Successful
1	1 000	$\frac{1}{10}$	1
5	1 000	$\frac{1}{6}$	2
10	1 000	$\frac{1}{3}$	3

Robert, Hao Ling and Weng subscribed for 1, 5 and 10 units of shares respectively.
(a) Is the outcome of each of their subscription independent of one another? Explain your answer.
(b) Calculate the probability that
  (i) all of them are successful in their subscriptions,
  (ii) only one of them is successful,
  (iii) all of them are allocated a total of 3 units.

20. Suppose that 45% and 40% of Singaporeans approve and disapprove of the ideas of building a casino respectively. If three Singaporeans are interviewed at random, find the probability that
(a) all of them will either approve or disapprove of the idea,
(b) at least two of them will not approve of the idea,
(c) at most one of them will approve of the idea.

21. Five army recruits were reporting back to their barrack on the same bus. As they were late, the recruits gave the excuse that the bus they were in had a punctured tyre. To verify if the recruits are telling the truth, the duty officer separated the recruits and questioned them one by one on the position of the punctured tyre.
If each recruit randomly select a tyre, calculate the probability of
(a) exposing their excuse upon questioning the second recruit,
(b) exposing their excuse upon questioning the fifth recruit,
(c) not exposing their excuse upon questioning all the recruits.

22. A shopper was given the chance to draw a prize, which may be a $10 shopping voucher or a $100 shopping voucher. Bin A, which has 90 $10 vouchers, 10 $100 vouchers and bin B which initially has 20 $10 vouchers and 4 $100 vouchers are used for the draw.
A voucher is first randomly selected from bin A. The selected voucher is then placed in bin B and a voucher is then selected from bin B. The shopper will take away the selected voucher from bin B as the prize.
(a) Represent the sample space using a tree diagram.
(b) Calculate the probability of selecting a $100 voucher from bin A.
(c) Calculate the probability of the shopper winning a
  (i) $10 voucher,
  (ii) $100 voucher.