1.   An assembly plant receives 60% of its resistors from supplier X and 40% from supplier Y. 5% of X's resistors and 6% of Y's are defective. If a resistor is tested at the plant and found to be defective, what is the probability that it was supplied by X?   0.5556

2.   Of the group of pupils studying at A-level in schools in a certain area, 56% are boys and 44% are girls. The probability that a boy of this group is studying Chemistry is 1/5 and the probability that a girl of this group is studying Chemistry is 1/11. Find the probability that
      a)   a pupil selected at random from this group is a girl studying Chemistry,   0.04
      b)   a pupil selected at random from this group is not studying Chemistry,   0.848
      c)   a Chemistry pupil selected at random from this group is male.   0.7368

3.   A firm thinks that winning the contract for a new job has probability 0.9, 0.7 or 0.1 depending respectively on whether it finishes the current job early, on time or late. Management has been told that the chances of finishing the current job early, on time or late are respectively 5%, 20% and 75%. What chance does the firm have of winning the new job?   0.26

4.   Of the buses leaving the bus station each day, 60% are double deckers and the rest are single deckers; 30% of the double deckers are 'limited stop' buses and 40% of the single deckers are 'limited stop' buses. Draw a tree diagram to represent this information. Find the probability that a bus leaving the bus station
      a)   is not a 'limited stop' bus,   0.66
      b)   is a double decker, given that it is a 'limited stop' bus.   0.5294

5.   When a person needs a minicab, it is hired from one of the three firms: X, Y and Z. Of the hirings, 40% are from X, 50% are from y and 10% are from Z. For cabs hired from X, 9% arrive late. The corresponding percentages for cab hired from firms Y and Z being 6% and 20% respectively. Calculate the probability that the next cab hired
      a)   will be from X and will not arrive late,   b)   will arrive late
      Given that a call is made for a minicab and that it arrives late, find the probability that it came from Y.   0.364 , 0.086, 0.349

6.   A bag contains 4 red counters and 6 black counters. A counter is picked at random from the bag and not replaced. A second counter is then picked. Find the probability that
      a)   the second counter is red, given that the first counter is red,   1/3
      b)   the counters are of different colours.   8/15

7.   An army cadet is given three routes for reaching a certain destination in a field exercise. It is calculated that, using these routes, he will arrive at the destination within a certain time with probabilities 3/8, 2/3 and 2/5 respectively. It he chooses a route at random, and does in fact reach his destination within the given time, calculate the probability that he used route 1.   0.26

8.   In a building programme the event that all the materials will be delivered at the correct time is M, and the event that the building programme is completed on time is F. Given that $P(M) = 0.8$ and $P(M \cap F) = 0.65$, calculate the value of $P(F \mid M)$. If $P(F) = 0.7$, find the probability that the building programme will be completed on time if all the materials are not delivered at the correct time.   0.25