1. Three fair coins are tossed once, find the probability of the following :
   a) at least 1 tail b) exactly 1 head c) exactly 2 tail d) exactly 3 heads e) at least two tails
2. If a dice is tossed, what is the probability the number appearing on the top is
   a) Odd number b) less than 3 c) an even number less than 5.
3. What is the chance of 53 Sundays in a calendar year if the year selected at random is
   a) A leap year b) a normal year
4. Three coins are tossed simultaneously. Find the probability of getting
   a) Two heads b) at least two heads.
5. A problem in statistics is given to five students A, B, C, D, and E. Their chances of solving it are 1/2, 1/3, 1/4, 1/5, and 1/6. What is the probability that the problem will be solved?
6. A construction company is bidding for two contracts A and B. The probability that the company will get contract A is 3/5 the probability that the company will get contract B is 1/3 and the probability that the company will get both the contracts is 1/8. What is the Probability that the company will get contract A or B?
7. A fair dice is thrown. What is the chance that either an evens number or a number greater than 3 will turn up?
8. The probability that a contractor will not get a plumbing contract is 1/3 and the probability that he will get an electric contract is 4/9. If the probability of setting at least one contract is 4/5, what is the probability that he will get both the contracts?
9. A candidate is selected for an interview for three posts. For the first post, there are 3 candidates, for the second there are 4 and for the third there are 2. What are the chances of his getting at least one post?
10. A university has to select an examiner from a list of 50 persons, 20 of them women and 30 men, 10 of them knowing Hindi and 40 not, 15 of them being teachers and 35 not. What is the probability of the University selecting a Hindi-knowing woman teacher?
11. There are three men aged 60, 65 and 70 years. The probability to live 5 year more is 0.8 for a 60 year old, 0.6 for a 65 year old and 0.3 for a 70 year old person. Find the probability that at least two of the three person will remain 5 year hence.
12. Define the normal distribution and write the characteristics of normal distribution curve.
13. The income of 10000 persons was found to be normally distributed with mean Rs. 750 PM and standard deviation of Rs. 50. Show that of this group, about 95% had income exceeding Rs. 668 and only 5% had income exceeding Rs. 832.
14. Media researchers report the average daily TV viewing time for adult males to be 4.28 hours. Assume a normal distribution with a standard deviation of 1.30 hours. What is the probability that a randomly selected adult male watches TV less than 2 hours per day?
15. A sales tax officer has reported the average sales of the 500 firms that he has to deal with during a year amount to Rs. 72000 with a standard deviation of Rs. 20000. Assuming that the sales in these firms are normally distributed, find
    a) The number of firms whose sales are over Rs. 80000.
    b) The percentage of firms whose sales are likely to range between Rs. 60000 and Rs. 80000.
16. In a sample of 1000 cases, the mean of the certain test is 14 and the standard deviation is 2.5. Assuming the data to be normally distributes. Find
    a) How many students score between 12 and 15?
    b) How many students score above 18?
    c) How many students score below 18?
    d) How many students score 16?
17. For a normal distribution with mean 1 and S.D. 3. Find the probability when $-1.43 \leq X \leq 6.19$.

18. The customer accounts of a certain departmental store have an average balance of Rs. 120 and S.D. of Rs. 40. Assuming that the account balance are normally distributed.

a) What proportion of account is over Rs. 150?

b) What proportion of account is between Rs. 100 and Rs. 150?