

Q1 Solve the following

- 1] Find t_{11} from the given A.P. 4, 9, 14,
- 2] Find the sum of first 11 positive numbers which are multiples of 6.
- 3] From an A.P. first and last term is 13 and 216 respectively common difference is 7. How many terms are there in that A.P. Find the sum of all terms.

Q2 Solve the following

- 1] Find the value of discriminant of each of the following equation
i) $x^2 - 3x + 2 = 0$ ii) $x^2 - 6x + 7 = 0$
- 2] Find the value of K if $x = 4$ is the solution of the equation $3x^2 + kx - 2 = 0$
- 3] Solve the following quadratic equation by completing square.
i) $x^2 + 3x + 1 = 0$ ii) $2y^2 + 5y + 1 = 0$
- 4] Solve the following quadratic equation by factorization method
i) $y^2 + 3y - 18 = 0$ ii) $x^2 + 5x + 6 = 0$
- 5] If α and β are the roots of the equation $ax^2 + bx + c = 0$ find the value of $\alpha/\beta + \beta/\alpha$

Q3 Solve the following

- 1] Solve the following simultaneous equation
i) $27/x - 2 + 31/y + 3 = 85$; $31/x - 2 + 27/y + 3 = 89$
- 2] Solve the following simultaneous equation using cramer's rule.
i) $3x - y = 7$, $x + 4y = 11$
- 3] Solve the following simultaneous equation using graphical methods
i) $x + y = 8$, $x - y = 2$
- 4] Find the value of k for which the given simultaneous equation have infinitely many solutions.
i) $4x + y = 7$, $16x + ky = 28$

- 5] On the first day of the sale of tickets of a drama, 35 tickets in all were sold. If the rates of the tickets were Rs.20 and Rs.40 per tickets and the total collection was rupees 900. Find the number of ticket sold of each rate.

Q4 Solve the following

- 1] Two coins are tossed A is the event of getting at most one head, B is the event getting both heads, C is the event of getting same face on the both the coins.
- 2] Two dice are thrown Find the probability of the events
- The product of number on their upper face is 12.
 - the sum of the numbers on their upper faces is multiple of 7.

Q3 A box contain 36 tickets numbered from 1 to 36. One ticket is drawn at random. Find the probability that the number on the tickets is either divisible by 3 or is a perfect square.

Q5 Solve the following

i) Below is given frequency distribution dividend in percentage declared by 120 companies.

Dividend in %	10-19	20-29-	30-39	40-49	50-59	60-69	70-79
Number of companies	5	15	28	42	15	12	3

Obtain mean dividend declared by a company step deviation method.

- 2] Below is given frequency distribution of driving speed (in km per hour) of a vehicle of 400 college student.

Speed (in km/hour)	20-30	30-40	40-50	50-60	60-70
Number of students	6	80	156	98	60

Find the modal driving speed of college students.

- 3] The number of hours, spent daily by a school boy in different activities in a day is given below.

Activity	Sleep	School	Play	Home work	Other	total
No.of hours	8	7	2	4	3	24

Represent the above information using pie(π) diagram.