| Q. No. | DAY - 6 |
|---|---|
| 26 | **EXERCISE 1.4**<br><br>3. A chemist has one solution which is 50% acid and another solution which is 25% acid. How much each should be mixed to make 10 litres of a 40% acid solution ? (Use Cramer's rule to solve the problem) |
| 27 | 4. A fish tank can be filled in 10 minutes using both pumps A and B simultaneously. However, pump B can pump water in or out at the same rate. If pump B is inadvertently run in reverse, then the tank will be filled in 30 minutes. How long would it take each pump to fill the tank by itself ? (Use Cramer's rule to solve the problem). |
| 28 | **Example 1.27**<br><br>Solve the following system of linear equations, by Gaussian elimination method :<br><br>$4x + 3y + 6z = 25,\ x + 5y + 7z = 13,\ 2x + 9y + z = 1.$ |
| 29 | **Example 1.28**<br><br>The upward speed $v(t)$ of a rocket at time $t$ is approximated by $v(t) = at^2 + bt + c,\ 0 \le t \le 100$ where $a, b,$ and $c$ are constants. It has been found that the speed at times $t = 3, t = 6$, and $t = 9$ seconds are respectively, 64, 133, and 208 miles per second respectively. Find the speed at time $t = 15$ seconds.<br><br>(Use Gaussian elimination method.) |

| 30 | ## EXERCISE 1.5 |
|---|---|
| | 2. If $ax^2 + bx + c$ is divided by $x+3, x-5$, and $x-1$, the remainders are $21, 61$ and $9$ respectively. Find $a, b$ and $c$. (Use Gaussian elimination method.) |
| 31 | 3. An amount of ₹ 65,000 is invested in three bonds at the rates of 6%, 8% and 9 % per annum respectively. The total annual income is ₹ 4,800. The income from the third bond is ₹ 600 more than that from the second bond. Determine the price of each bond. (Use Gaussian elimination method.) |
| | <div align="center">End of Chapter - 1</div> |