# *Problem Solving!*

***Problem solving is a crucial skill that involves identifying, analyzing, and resolving complex challenges***

***Definition: Problem solving is the process of identifying a problem, generating potential solutions, evaluating and selecting the best solution, and implementing it.***

***Benefits:***

***1. Improved critical thinking and analytical skills***

***2. Enhanced creativity and innovation***

***3. Better decision-making and judgment***

***4. Increased efficiency and productivity***

***5. Reduced stress and improved well-being***

***6. Developed resilience and adaptability***

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# Problem Solving Techniques

**Steps towards Solutions:**

1) Read the problem carefully.
2) Identification of the area of the problem.
3) Understanding the problem appropriately.

Solution Process:

a) Basic Solution- Application of the theoretical Tools.
b) Thematic under of the problem/question.
c) Compare and contrast the problem with existing resources.
d) Summing up the solution and appropriate suggestion.

**Application of problem solving techniques in life of Stakeholders:**

1) Proper understanding of the problem.
2) Appropriate access and assessment of the problem.
3) Assessment of the conceptual area of the problem.
4) Apply the knowledge accumulated to redress the problem.
5) Solution of the problem made available by knowledge and wisdom.

A Specimen Problem: Treatment of love and marriage in the novels of Jane Austen with special reference to' Pride and Prejudice'

I. Reading /understand the issue carefully.
II. Identification of the issues conceptual area: Janes Austen is primarily a novelist who deals with the problems/issues that English Women have in later $18^{th}$ Century and early $19^{th}$ Century English Society.

The contemporaries of Jane Austen like Sir Walter Scott Charlotte Bronote and several others have diverse themel subject that Romantic period makes them available and have scarcely dealt with the challenges that young English woman face in early $19^{th}$ century. But for Jane Austen the only theme /subject that captivated her mind is the problem of love,

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# Problem Solving Technique

Problem Solving is a scientific technique to discover and implement the answer to a problem. The computer is the symbol manipulating device that follows the set of commands known as program.

## Program:

Program is the set of instructions which is run by the computer to perform specific task. The task of developing program is called programming.

## Problem Solving Technique:

Sometimes it is not sufficient just to cope with problems. We have to solve that problems. Most people are involving to solve the problem. These problem are occur while performing small task or making small decision. So, Here are the some basic steps to solve the problems

**Step 1: Identify and Define Problem**

Explain you problem clearly as possible as you can.

**Step 2: Generate Possible Solutions**

- List out all the solution that you find. Don't focus on the quality of the solution
- Generate the maximum number of solution as you can without considering the quality of the solution

**Step 3: Evaluate Alternatives**

After generating the maximum solution, Remove the undesired solutions.

**Step 4: Decide a Solution**

After filtering all the solution, you have the best solution only. Then choose on of the best solution and make a decision to make it as a perfect solution.

**Step 5: Implement a Solution:**

After getting the best solution, Implement that solution to solve a problem.

**Step 6: Evaluate the result**

After implementing a best solution, Evaluate how much you solution solve the problem. If your solution will not solve the problem then you can again start with **Step 2**.

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## Report on Problem solving Techniques

The Law is the field which binds the social, economic, and political circumference forming the inevitable part of the society. In India, Legal education is most complicated and multi-layered. It is a very broad and comprehensive concept. It includes not merely the profession which is practiced in courts, but also covers law teaching, law research, administration, different branches of commercial and industrial employments and all other activities which postulate and require the use of legal knowledge and skill.

The prime object of legal education is to produce professional lawyers. The teaching method is the base behind legal education. The main purpose of legal education is to develop rational thinking, enhance knowledge and play an important role in directing and moderating the social change forming an inexorable part of the society. Such education must be imparted with proper teaching methods so that the real essence of the subject is known.

However, the most immediate challenge in Law is to improve the quality of legal education by introducing various reformative techniques of teaching, leading to the development of young lawyers. Thus, *Legal education in modern civilized society wants to include the following aims and objectives:* -

1. To inculcate students with the operative legal rules, both substantive and procedural.
2. To provide the student with adequate experience to apply these rules.
3. To equip the students with sufficient knowledge of the historical and sociological background of the country's legal system.
4. To provide the students with some knowledge of the other legal systems of the world so that the students do not find themselves at a complete loss when it comes to adopting a comparative approach.

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## Problem Solving Techniques

Problem-solving in chemistry can be challenging, but employing effective techniques can help college students navigate complex concepts and problems. Here are some strategies:

1. **Understand the Basics**
   - **Review Fundamental Concepts**: Ensure a solid grasp of basic concepts such as atomic structure, bonding, stoichiometry, and thermodynamics.
   - **Use Concept Maps**: Create visual representations of relationships between concepts to enhance understanding.

2. **Read the Problem Carefully**
   - **Identify Key Information**: Highlight or underline important data and what the problem is asking for.
   - **Break Down the Problem**: Divide the problem into smaller parts to make it more manageable.

3. **Develop a Strategy**
   - **Choose the Right Approach**: Determine whether the problem requires calculations, conceptual explanations, or both.
   - **Identify Relevant Equations**: Write down any relevant formulas or principles that might apply.

4. **Practice Dimensional Analysis**
   - **Unit Consistency**: Use dimensional analysis to ensure that units are consistent throughout calculations.
   - **Convert Units**: If necessary, convert all units to a common system before performing calculations.

5. **Work Through Examples**
   - **Study Worked Problems**: Analyze examples from textbooks or lectures to understand how to approach similar problems.
   - **Practice Similar Problems**: Reinforce learning by solving similar problems independently.

6. **Collaborate with Peers**
   - **Study Groups**: Join or form study groups to discuss and solve problems together, sharing different perspectives and methods.
   - **Teach Others**: Explaining concepts and solutions to peers can solidify your understanding.

7. **Utilize Resources**

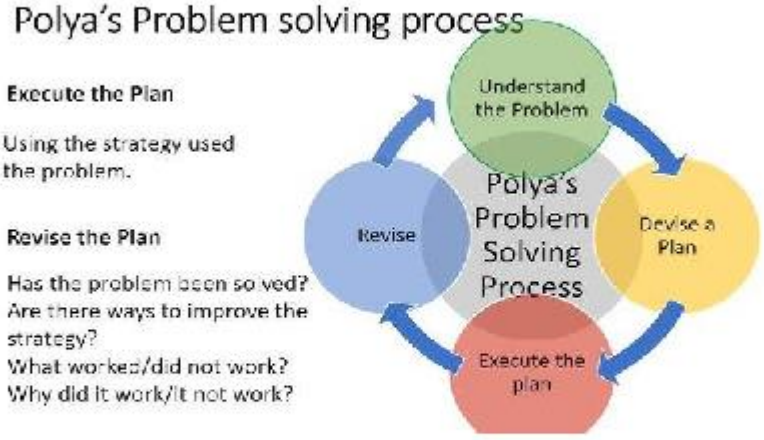
# Rajeev Gandhi Govt. P.G. College, Ambikapur
# Department of Mathematics

## Problem Solving Techniques

Problem solving is the ability which can be used not only to solve a simple problem but also a complicated problem. It is a skill which can be trained in every level of education. Therefore, teachers are required to be able to trill this ability and an obligation for mathematics teacher to have an excellent problem solving skills. This research aimed to explore the ability of postgraduate students to solve mathematics problems. Problem solving ability is an important thing. It is the ability which can be used not only to solve a simple problem but also a complicated problem.

In Higher Mathematics, we use generally Polya's Problem solving technique which is very helpful in solving mathematical problems & theorems.

There are four steps to solve the problem: understand the problem, make a plan, carry out a plan, and look back at the completed solution. Polya's problem solving diagram can be seen in the following
figure.



## Department of Zoology
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# Problem Solving Techniques

Problem-solving techniques in Zoology includes following steps:

**Observation and Description:-**

1. Taxonomic identification: Identify species using morphological characteristics, molecular techniques, or behavioural patterns.

2. Habitat and niche analysis: Study the environment and ecological role of organisms.

**Experimental Design:-**

1. Hypothesis testing: Design experiments to test hypotheses about animal behaviour, physiology, or ecology.

2. Comparative studies: Compare different species, populations, or treatments.

**Data Analysis:-**

1. Statistical analysis: Apply statistical methods (e.g., regression, ANOVA) to analyse data.

2. Phylogenetic analysis: Reconstruct evolutionary relationships using molecular or morphological data.

**Critical Thinking:-**

1. Analyse scientific literature: Evaluate research papers, identifying strengths and limitations.

2. Problem-solving case studies: Apply zoological principles to real-world scenarios.

**Modelling and Simulation:-**

1. Population dynamics modelling: Use mathematical models to understand population growth, decline, or stability.

2. Ecosystem modelling: Simulate interactions between species and their environment.

**Interdisciplinary Approaches:-**

1. Integrative biology: Combine physiology, ecology, evolution, and behaviour to understand complex phenomena.

2. Conservation biology: Apply ecological and evolutionary principles to conserve species and ecosystems.

**Research Techniques:-**

1. Field observations: Study animals in their natural habitats.