**Session 16**  
**Critical thinking and problem solving**

In addition to the objectives, targets and performance indicators, it is needed to decide what action to take to best address the situation. To effectively address a situation, avoid addressing the obvious symptoms only, but focus on the underlying root causes and contributing factors instead.

The implementation of this session will require about 1 hour and 35 minutes.

**Learning outcomes**

At the end of this session, the participants will be able to

1. adapt strategies and methodologies of critical thinking.
2. develop the skillset needed to conduct a root-cause analysis.
3. apply different techniques to problem solving.

**Training materials required**

<table>
<thead>
<tr>
<th>Presentations</th>
<th>Handouts/Worksheets</th>
<th>Reading</th>
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</thead>
<tbody>
<tr>
<td>PPT 16_Critical thinking and problem solving</td>
<td>Workbook session 16</td>
<td>REMC Company Handbook – sections 5.1</td>
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</table>

**Session plan**

<table>
<thead>
<tr>
<th>Time in min</th>
<th>Content/Activity</th>
<th>Reference/Material</th>
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</table>
| 5           | Introduction  
• Present learning outcomes and overview of the session | PPT 16_Critical thinking and problem solving  
slides 1 – 2                                            |
| 5           | Presentation - Critical thinking  
• What it is? Its benefit and different methodologies of critical thinking. | PPT 16_Critical thinking and problem solving  
slides 4-09                                              |
| 45          | Presentation - Root cause analysis  
• Explain different methods of root cause analysis  
• How these can apply  
• Show examples and advantages and disadvantages of different methods  
Group exercise: Root cause analysis  
• Worker handling Azo dyes without using personal protective equipment (PPE).  
  • What actions do you suggest using the 5 Why method?  
  • What actions do you suggest using the Fishbone diagram?  
Ask the participants present their findings to the peers and share the knowledge. | PPT 16_Critical thinking and problem solving  
Slides 10-21  
Work book session 16-2                                      |
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| 35         | Presentation - Assessing Alternatives  
• Discuss on SWOT analysis, decision tree, cost benefit analysis  
Group exercise: Evaluating alternatives  
• Waterless dyeing – assessing alternatives by using a method for the given case in workbook session 16  
Present the result in the peers | PPT 16_Critical thinking and problem solving  
Slides 22-26  
Workbook session 16-3 |
| 5          | Presentation - Problem solving  
Discuss MAIC methodology | PPT 16_Critical thinking and problem solving  
Slides 27-28 |
| 5          | Closing  
• Q&A  
• Summaries key points of the session | PPT 16_Critical thinking and problem solving  
slides 29-30 |