

## 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**

<b>Presentations</b>	<b>Handouts/Worksheets</b>	<b>Reading</b>
PPT 16_Critical thinking and problem solving	Workbook session 16	REMC Company Handbook – sections 5.1

#### **Session plan**

<b>Time in min</b>	<b>Content/Activity</b>	<b>Reference/Material</b>
5	Introduction <ul style="list-style-type: none"><li>• Present learning outcomes and overview of the session</li></ul>	<i>PPT 16_Critical thinking and problem solving slides 1 – 2</i>
5	Presentation - Critical thinking <ul style="list-style-type: none"><li>• What it is? Its benefit and different methodologies of critical thinking.</li></ul>	<i>PPT 16_Critical thinking and problem solving slides 4-09</i>
45	Presentation - Root cause analysis <ul style="list-style-type: none"><li>• Explain different methods of root cause analysis</li><li>• How these can apply</li><li>• Show examples and advantages and disadvantages of different methods</li></ul> Group exercise: Root cause analysis <ul style="list-style-type: none"><li>• Worker handling Azo dyes without using personal protective equipment (PPE).<ul style="list-style-type: none"><li>▪ What actions do you suggest using the 5 Why method?</li><li>▪ What actions do you suggest using the Fishbone diagram?</li></ul></li></ul> Ask the participants present their findings to the peers and share the knowledge.	<i>PPT 16_Critical thinking and problem solving Slides 10-21</i>  <i>Work book session 16-2</i>

Time in min	Content/Activity	Reference/Material
35	Presentation - Assessing Alternatives <ul style="list-style-type: none"> <li>• Discuss on SWOT analysis, decision tree, cost benefit analysis</li> </ul> Group exercise: Evaluating alternatives <ul style="list-style-type: none"> <li>• Waterless dyeing – assessing alternatives by using a method for the given case in workbook session 16</li> </ul> Present the result in the peers	<i>PPT 16_Critical thinking and problem solving</i> <i>Slides 22-26</i>  Workbook session 16-3
5	Presentation - Problem solving Discuss MAIC methodology	<i>PPT 16_Critical thinking and problem solving</i>  <i>Slides 27-28</i>
5	Closing <ul style="list-style-type: none"> <li>• Q&amp;A</li> <li>• Summaries key points of the session</li> </ul>	PPT 16_Critical thinking and problem solving  slides 29-30