

# **Assessment Evidence Guide**

## **For**

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**Level-5**

**Non-Destructive Testing Technician**  
(Formative Assessment)

*8<sup>th</sup> -12<sup>th</sup> March 2021*



**National Vocational & Technical  
Training Commission**

<b>Title of Qualification:</b> Non-Destructive Testing Technician	CS Code:	Level: 5	Version:
<b>Competency Standard Title:</b>  <b>Perform dye penetrant, magnetic particle and Eddy current non-destructive techniques</b>	<b>Assessment Date (DD/MM/YY):</b>  <b>Assessment Time:</b>		

Candidate Details	Name: .....  Registration/Roll Number:.....
Guidance for Candidate	<p><b>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration &amp; assessment):</b></p> <p><b>Assessment Task 1:</b> Candidate is required to:  <b>Determine the surface defects of specimen using dye penetrant technique</b></p> <p><b>Assessment Task 2:</b> Candidate is required to:  <b>Determine the defects of given ferromagnetic specimen using magnetic particle testing technique</b></p> <p><b>Assessment Task 3:</b> Candidate is required to:  <b>Determine the defects of given metallic specimen by using eddy current testing technique</b></p> <p><b>And complete:</b></p> <ol style="list-style-type: none"> <li><b>1. Knowledge assessment test (Written or Oral)</b></li> <li><b>2. Portfolios at the time of assessment (if any)</b></li> </ol>
Minimum Evidence Required	<p><b>During a practical assessment, under observation by an assessor, you will complete:</b></p> <p><b>Assessment Task 1</b></p> <ul style="list-style-type: none"> <li>• Perform pre-cleaning of samples.</li> <li>• Apply dye penetrant.</li> <li>• Remove the excess dye penetrant.</li> <li>• Apply the developer.</li> <li>• Inspect the specimen for defects.</li> <li>• Interpret the results.</li> </ul>

	<p><b>During a practical assessment, under observation by an assessor, you will complete:</b></p> <p><b>Assessment Task 2</b></p> <ul style="list-style-type: none"> <li>• Perform pre-cleaning of samples.</li> <li>• Apply magnetic field to the specimen</li> <li>• Apply ferromagnetic medium with respect to type of test (Dry or Wet)</li> <li>• Remove the excess ferromagnetic medium.</li> <li>• Interpret the results.</li> </ul>
	<p><b>During a practical assessment, under observation by an assessor, you will complete:</b></p> <p><b>Assessment Task 3</b></p> <ul style="list-style-type: none"> <li>• Perform pre-cleaning of samples.</li> <li>• Place the specimen on insulator table</li> <li>• Test the specimen</li> <li>• Note the values of resultant current of the coil</li> <li>• Interpret the results</li> </ul>
	<p><b>Portfolios required at the time of assessment (if any) for</b></p>

*Continued on following page*

**Assessors Judgment Guide** (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: ..... Registration/Roll Number: ..... Candidate Signature: .....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: ..... Assessor's code: ..... Signature of the Assessor: .....

Assessment Summary (to be filled by the assessor)		
Activity	Method	Result

Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Each Assessment Task (with performance criteria)				
<b>Assessment Task 1</b>		<b>Description of assessment task 1</b>		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
	Perform pre-cleaning of samples.			
	Apply dye penetrant.			
	Remove the excess dye penetrant.			
	Apply the developer.			
	Inspect the specimen for defects.			
	Interpret the results.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

<b>Assessment Task 2</b>		<b>Description of assessment task 2</b>		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
	Perform pre-cleaning of samples.			
	Apply magnetic field to the specimen			
	Apply ferromagnetic medium with respect to type of test (Dry or Wet)			
	Remove the excess ferromagnetic medium.			
	Interpret the results.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Each Assessment Task (with performance criteria)			
<b>Assessment Task 3</b>		<b>Description of assessment task 3</b>	
During the practical assessment, candidate demonstrated the following:		Yes	No
	Perform pre-cleaning of samples.		
	Place the specimen on insulator table		
	Test the specimen		
	Note the values of resultant current of the coil		
	Interpret the results		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>	

<b>Title of Qualification:</b> Non-Destructive Testing Technician	CS Code:	Level: 5	Version: 01
<b>Competency Standard Title:</b>  Perform dye penetrant, magnetic particle and Eddy current non-destructive techniques	<b>Assessment Date (DD/MM/YY):</b>  <b>Assessment Time:</b> 30 min		

Guidance for Candidate	<b>To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.</b>
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**Assessors Guide** (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name:..... Registration/Roll Number:  Candidate Signature: .....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/>  Name of the Assessor: ..... Assessor's code:  Signature of the Assessor: .....

<b>Title of Qualification:</b>	CS Code:	Level:	Version: 01
<b>Competency Standard Title:</b>	<b>Assessment Date (DD/MM/YY):</b>  <b>Assessment Time:</b> 30 min		

### WRITTEN ASSESSMENT

Question	Candidate's answer
1. What is the advantage of dye penetrant test?	This test can be applied on the surface of all types of materials such as metals, ceramics and plastics.
2. What is the limitation of Dye penetrant test?	This test cannot be used to determine internal defects of materials. This is just applicable for surfaces.
3. Write the names of different types of defects of engineering materials.	Cracks Flaws Blow holes Gas holes Pores Inclusions, etc
4. Define eddy current.	Eddy currents are loops of electrical current induced within conductors by changing magnetic field in the conductor according to Faraday's law of induction. Eddy currents flow in closed loops within conductors, in planes perpendicular to the magnetic field
5. What is the limitation of eddy current inspection?	Eddy current inspection is just applicable for materials having good electrical conductivity. This test is not applicable for ceramics and plastics.
6. What are the two types of magnetic particle testing?	Two types of magnetic particle testing are, I. Dry magnetic particle testing II. Wet magnetic particle testing