



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

Gemology

CS Code: 0214G&J4 B

Level: 03

Credit: 18

Version: 1

EVALUATE OPTICAL PROPERTIES OF GEMSTONES

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1. Assessment Summary and Record
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ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature..... Date

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name:

First Name Last Name

Father's Name

Institute Name and District

CNIC/ BFORM #

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Registration Number issued by Assessment Body

Gender

Male ☐ Female ☐ Transgender ☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

You can use this cover sheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTCC

NAVTTCC OFFICE ONLY

1. DATE FORM RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO DATABASE:

DD		MM		YYYY					

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ASSESSMENT SUMMARY & RECORD

Candidate's Name:..... Father's Name:.....							
ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: EVALUATE OPTICAL PROPERTIES OF GEMSTONE	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration	✓	✓		✓	Perform role play for Evaluate Optical Properties of Gemstone		
Knowledge Assessment	✓	✓			Answer any questions your Assessor may have during the practical assessment		
Other Requirement					NA		

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CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name:.....

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform within **150 Minutes** timeframe:

- **Perform a role play to demonstrate, Evaluate Optical Properties of Gemstone :**

- ✓ Identify gemstone with light source
- ✓ Identify Phenomenon in stone
- ✓ Perform Polarization test
- ✓ Perform Pleochroism test
- ✓ Perform test for Refractive Index of stone

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task in Evaluate Optical Properties of Gemstone	During Practical assessment under observation by an assessor, I will correctly carry out the following task. • IDENTIFY GEMSTONE WITH LIGHT SOURCE ✓ Adjust lighting source/ inspection lamp ✓ Observe brilliancy under light ✓ Observe Dispersion under light if any ✓ Identify the brilliancy and dispersion • IDENTIFY PHENOMENON IN STONE ✓ Adjust lighting source/ Inspection lamp ✓ Check phenomenon in stone if any ✓ Identify the type of phenomenon • PERFORM POLARIZATION TEST ✓ Arrange Polariscope ✓ Adjust the Analyzer and Polarizer ✓ Identify the stone whether single refraction, double refraction or aggregate • PERFORM PLEOCHROISM TEST ✓ Adjust dichroscope and light source to check Pleochroism in stone ✓ Observe stone for Pleochroism i.e Pleochroism, Dichroism or Trichroism ✓ Identify the Pleochroic colors if any ✓ Perform test for Refractive Index of stone • PERFORM TEST FOR REFRACTIVE INDEX OF STONE ✓ Apply liquid on hemi-cylinder and place stone on it properly ✓ Note whether stone is Single refraction, Double Refraction or Anomalously double refraction. ✓ Calculate birefringence of stone.
2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:

Candidate's Name:

Father's Name:

**INSTRUCTIONS
FOR ASSESSOR**

This section contains minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Complete practical task in performing Assess Optical Properties of Gemstone under observation by an assessor, including:	During a practical assessment under observation by and assessor, the candidate correctly carried out the following tasks:			
Identify gemstone with light source	Adjust lighting source/ inspection lamp			
	Observe brilliancy under light			
	Observe Dispersion under light if any			
	Identify the brilliancy and dispersion			
Identify Phenomenon in stone	Adjust lighting source/ Inspection lamp			
	Check phenomenon in stone if any			
	Identify the type of phenomenon			
Perform Polarization test	Arrange Polariscopes			
	Adjust the Analyzer and Polarizer			
	Identify the stone whether single refraction, double refraction or aggregate			
Perform Pleochroism test	Adjust dichroscope and light source to check Pleochroism in stone			
	Observe stone for Pleochroism i.e Pleochroism, Dichroism or Trichroism			
	Identify the Pleochroic colors if any			
	Perform test for Refractive Index of stone			
Perform test for Refractive Index of stone	Apply liquid on hemi-cylinder and place stone on it properly			
	Note whether stone is Single refraction, Double Refraction or Anomalously double refraction.			
	Calculate birefringence of stone			

2. Answer any questions their Assessor may have during the practical assessment	Candidate answers to questions are correct and demonstrate Understanding of the topics and their application. <i>Assessor to document all questions asked and candidate Answers below. Use extra sheets if required and attach.</i>			
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LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS

- This section contains information regarding;
- Context of the assessment
 - List of required tools and equipment.
 - List of consumable items required during the service

1. Context of Assessment

This task will be performed in real time environment

2. List of tools and equipment required

S. No	Name of Items (tools and equipment)	Quantity
01	Light source	
02	Polariscope	
03	Loupe(10x)	
04	Tweezers	
05	Refractometer	
06	Dichroscope	

3. List of consumables

S. No	Name of Items	Quantity/Volume
01	Gemstone sample	
02	Refractometer Fluid	