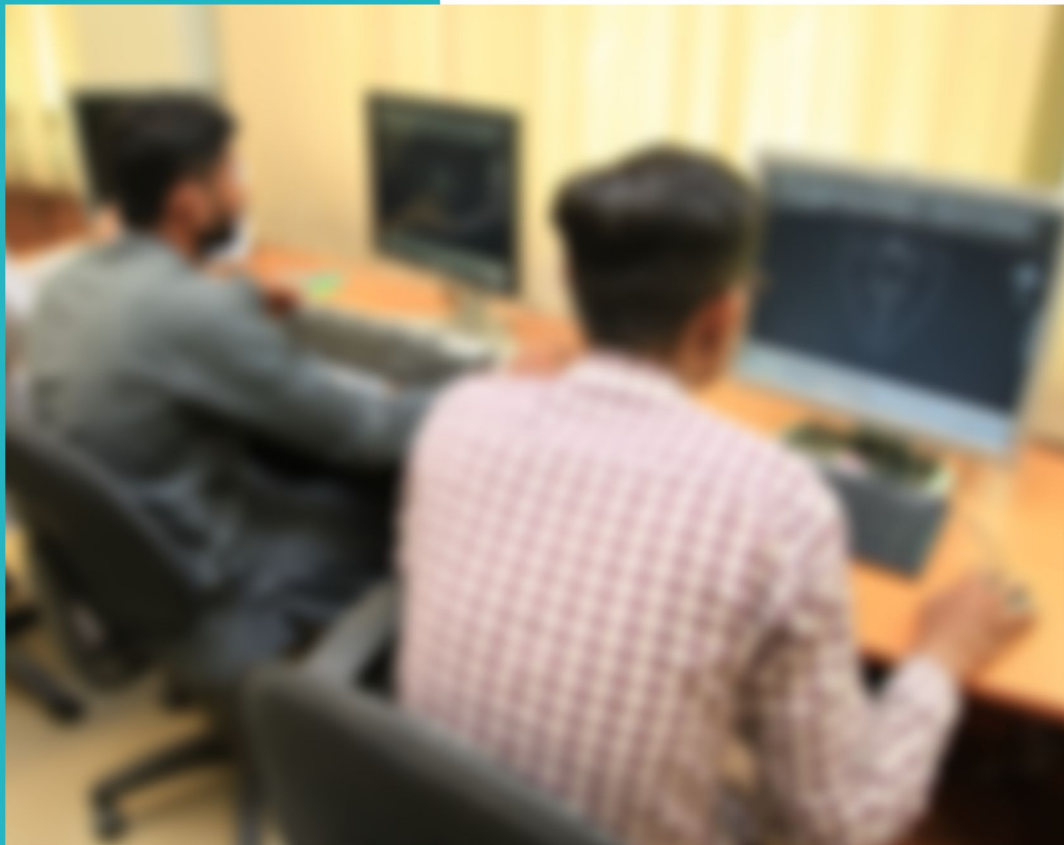


AUTOCAD



ASSESSMENT PACKAGES

National Vocational Certificate Level 2

Version 1 - July 2013

Published by

National Vocational and Technical Training Commission
Government of Pakistan

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Document Version

July, 2013
Islamabad, Pakistan

AUTOCAD



ASSESSMENT PACKAGES

National Vocational Certificate Level 2

Version 1 - July 2013



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification
AutoCAD
Qualification Code:

Level: 2
Credit: 80
Version: 1

AUTOCAD

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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 coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTC

NAVTTTC OFFICE ONLY

1. DATE
FORM
RECEIVED:

DD	MM	YYYY					

2. DATE ENTERED INTO
DATABASE:

DD	MM	YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF QUALIFICATION AUTOCAD	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create 2D building along with Section and 3D Create 3D objects using Insert Surface tools 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **four and half hours** timeframe:

- Develop an architectural plan for a two storey building as per following specifications by using different AutoCAD commands

Plot size: 45' X 60'

Ground Floor	First Floor
Three rooms with attached bath	Three rooms with attached bath
One kitchen	One kitchen
One TV lounge	One TV lounge
One car porch	One store
One drawing & dining room (combined)	One laundry
One lawn	One terrace

- Create Section and Flattened View of above mentioned plan along with the mid of Y-axis
- Create a 3D object using Insert Surface tools according to given sample (Annexure-1)

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Developing an AutoCAD Architectural Plan for the Client' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> Develop an architectural plan for two storey building by using different AutoCAD commands <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Draw walls of the plan using Line, Offset and Trim commands ✓ Draw windows of the plan using Line, Offset, Trim and Erase Zoom commands ✓ Draw doors of the plan using Line, Offset, Trim, Circle, Zoom and PAN commands ✓ Take dimensions of the plan using Text, Dimension, Zoom and PAN commands ✓ Draw Box command to create walls ✓ Convert all walls into one object by using Union command ✓ Create doors and subtract from walls using Subtract command ✓ Create windows using Elevation, Extrude and Subtract commands ✓ Create pillars of porch using Revolve command ✓ Draw water tank having butterfly roof using Taper command ✓ Draw frames of doors and windows using Polyline and Sweep commands ✓ Create leaves of door and windows and rotate using 3D Rotate ✓ Create leaves of door and windows and make copy using 3D Mirror ✓ Create gate leaves using Box, Circle, Polyline, Extrude and Revolve commands ✓ Create a realistic shaded image on drawing sheet by using Render commands (Destination, Quality, Selection, Crop and File)

	<ul style="list-style-type: none"> ✓ Apply different backgrounds (Single Colour, Multicolour Gradient and Bitmap Image) by using View command on drawing sheet ✓ Apply different Shading options (Enable, Max Depth, Max Reflection) on the object ✓ Apply different Materials on the object by using Material Attach command ✓ Apply different photos or shapes on the object by using Material Map command ✓ Apply Lights features (Point Light, Spot Light, Light List) on the object ✓ Apply and adjust Sun properties on the object ✓ Save the file with .dwg extension and print the file • Create a 3D object using Insert Surface tools according to given sample (Annexure-1) <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Mesh Primitives (Box, Cone, Cylinder, Pyramid, Sphere, Wedge and Torus) commands according to drawing ✓ Apply smoothness and refinement on mesh commands (Mesh Smooth More, Mesh Smooth Less, Mesh Smooth Refine) according to drawing ✓ Use Mesh Crease and Remove commands on 3D object ✓ Apply Mesh Edit commands (Mesh Extrude, Mesh Split, Mesh Merge, Mesh Cap) according to drawing ✓ Save the file with .dwg extension format and print the file • Create Section and Flattened view of the plan along with the mid of Y-axis <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Section command according to drawing ✓ Use Section options (Base grip, Directional Arrow grip, Segment grip and Menu grip) in the section of 3D object according to drawing ✓ Generate Flattened view of 3D object by using Flatshot command ✓ Save the file with .dwg extension and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Developing an AutoCAD Architectural Plan for the Client' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Develop an architectural plan for two storey building by using different AutoCAD commands	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Drew walls of the plan using Line, Offset and Trim commands			
	Drew windows of the plan using Line, Offset, Trim and Erase Zoom commands			
	Drew doors of the plan using Line, Offset, Trim, Circle, Zoom and PAN commands			
	Took dimensions of the plan using Text, Dimension, Zoom and PAN commands			
	Drew Box command to create walls			
	Converted all walls into one object by using Union command			
	Created doors and subtracted from walls using Subtract command			
	Created windows using Elevation, Extrude and Subtract commands			
	Created pillars of porch using Revolve command			
	Drew water tank having butterfly roof using Taper command			
	Drew frames of doors and windows using Polyline and Sweep commands			
	Created leaves of door and windows and rotated using 3D Rotate			
	Created leaves of door and windows and made copy using 3D Mirror			
	Created gate leaves using Box, Circle, Polyline, Extrude and Revolve commands			
	Created a realistic shaded image on drawing sheet by using Render commands (Destination, Quality, Selection, Crop and File)			
	Applied different backgrounds (Single Colour, Multicolour Gradient and Bitmap Image) by using View command on drawing sheet			
	Applied different Shading options (Enable, Max Depth, Max Reflection) on the object			
	Applied different Materials on the object by using Material Attach command			

	Applied different photos or shapes on the object by using Material Map command			
	Applied Lights features (Point Light, Spot Light, Light List) on the object			
	Applied and adjusted Sun properties on the object			
	Saved the file with .dwg extension and printed the file			
Create a 3D object using Insert Surface tools according to given sample (Annexure-1)	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Mesh Primitives (Box, Cone, Cylinder, Pyramid, Sphere, Wedge and Torus) commands according to drawing			
	Applied smoothness and refinement on mesh commands (Mesh Smooth More, Mesh Smooth Less, Mesh Smooth Refine) according to drawing			
	Used Mesh Crease and Remove commands on 3D object			
	Applied Mesh Edit commands (Mesh Extrude, Mesh Split, Mesh Merge, Mesh Cap) according to drawing			
	Saved the file with .dwg extension format and printed the file			
Create Section and Flattened view of the plan along with the mid of Y-axis	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Section command according to drawing			
	Used Section options (Base grip, Directional Arrow grip, Segment grip and Menu grip) in the section of 3D object according to drawing			
	Generated Flattened view of 3D object by using Flatshot command			
	Saved the file with .dwg extension and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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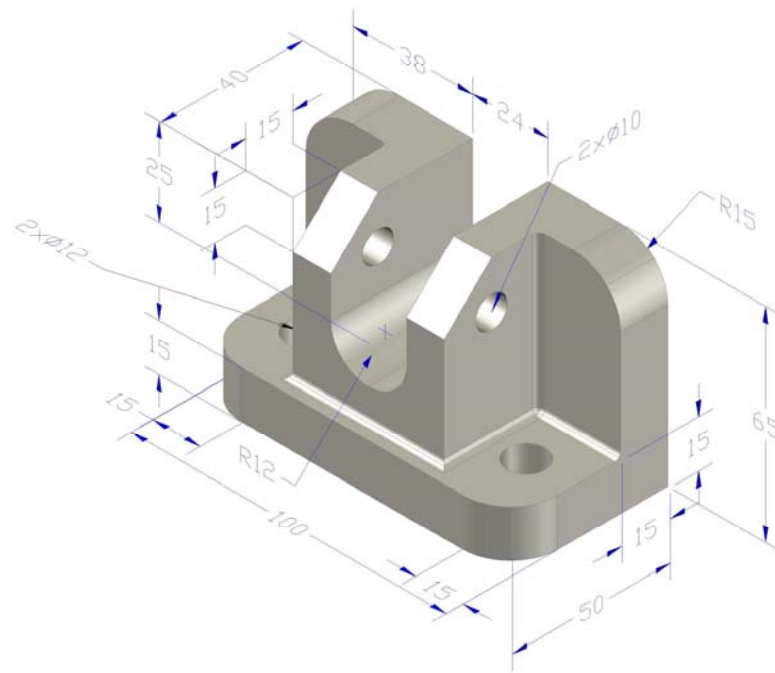
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	This section contains information regarding; <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



**ASSESSMENT
MATERIAL****EVIDENCE
GUIDE**

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 6

Version: 1

PERFORM AUTOCAD 2D FUNDAMENTALS**CONTENTS**

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

**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 coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTC**NAVTTC OFFICE
ONLY**1. DATE
FORM
RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO
DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM AUTOCAD 2D FUNDAMENTALS	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create a 'House Plan' using AutoCAD 2D Fundamentals 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create a 'House Plan' using AutoCAD 2D Fundamentals according to given sample (Annexure-1) and take the printout of the plan.

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Performing AutoCAD 2D Fundamentals' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a 'House Plan' using AutoCAD 2D Fundamentals according to given sample (Annexure-1) and take the printout of the plan: <ul style="list-style-type: none"> ✓ Open file using AutoCAD software ✓ Set the units of file as per drawing ✓ Set the limits of the file (lower left corner 0, 0 and upper right corner) according to the plan ✓ Save the file with .dwg file format ✓ Draw walls of the house using Line, Offset and Trim commands ✓ Draw windows of the house using Line, Offset, Trim, Erase and Zoom commands ✓ Draw doors of the house using Line, Offset, Trim, Circle, Zoom and PAN commands ✓ Take dimension using Text, Dimension, Zoom and PAN commands ✓ Save and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Performing AutoCAD 2D Fundamentals' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a 'House Plan' using AutoCAD 2D Fundamentals according to given sample (Annexure-1) and take the printout of the plan	Opened file using AutoCAD software			
	Set the units of file as per drawing			
	Set the limits of the file (lower left corner 0, 0 and upper right corner) according to the plan			
	Saved the file with .dwg file format			
	Drew walls of the house using Line, Offset and Trim commands			
	Drew windows of the house using Line, Offset, Trim, Erase and Zoom commands			
	Drew doors of the house using Line, Offset, Trim, Circle, Zoom and PAN commands			
	Took dimension using Text, Dimension, Zoom and PAN commands			
	Saved and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>			
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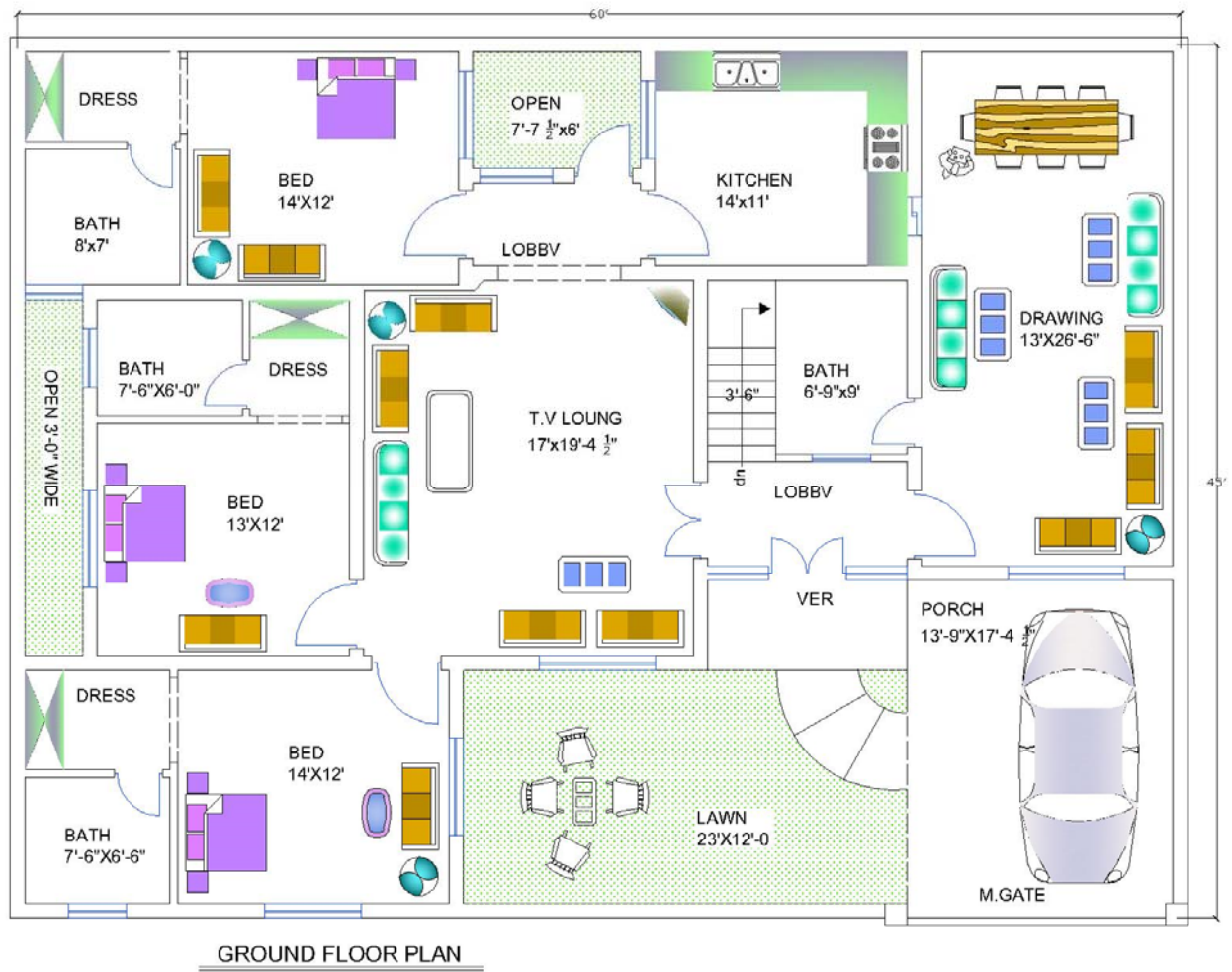
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 Size Pages	As per requirement





ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 8

Version: 1

CREATE 3D INTERFACE DRAWINGS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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 #

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

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NAVTTTC OFFICE ONLY

1. DATE FORM RECEIVED:

DD		MM		YYYY			

2. DATE ENTERED INTO DATABASE:

DD		MM		YYYY			

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: CREATE 3D INTERFACE DRAWINGS	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create 3D interfaces drawings Create House plan 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create a 'House Plan' having dimensions of (25' x 40') using AutoCAD 3D Interface/Drawing which includes the following:
 - ✓ One room with attach bath
 - ✓ Drawing room
 - ✓ Kitchen
 - ✓ Store
 - ✓ Stairs

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Creating 3D Interface Drawings' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a 'House Plan' having dimensions of (25' x 40') using AutoCAD 3D Interface/Drawing <ul style="list-style-type: none"> ✓ Open file using AutoCAD software ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner and upper right corner) ✓ Apply 2D Wireframe according to drawing ✓ Apply 3D Wireframe according to drawing ✓ Check the Elevation of drawing ✓ Apply 3D basic tools to draw solid objects (walls, doors, windows) ✓ Set Views Ribbon to change the views (top, left, south west isometric, south east isometric etc.) ✓ Set Viewport (1 Viewport, 2 Viewport, 3 Viewport) according to drawing ✓ Set Layers Ribbon (Freeze, Hide, Line Colour, Line Weight etc.) according to drawing ✓ Set Visual Style (2D Wireframe, Hidden, Realistic, Shaded, Sketchy etc.) according to drawing ✓ Set Render Ribbon (Materials, Lights etc.) ✓ Apply 3D Orbit to check angles of drawing ✓ Draw walls using Box commands for the plan ✓ Draw doors using Rectangle, Extrude and Zoom commands for the plan ✓ Draw windows using Rectangle, Elevation, Extrude and Zoom commands for the plan ✓ Draw roofs using Rectangle, Elevation, Extrude and Zoom commands for the plan ✓ Save the file with .dwg file format and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe

<p>2. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>
--	--

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 of 'Creating 3D Interface Drawings' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a 'House Plan' having dimensions of (25' x 40') using AutoCAD 3D Interface/Drawing	Opened file using AutoCAD software			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner and upper right corner)			
	Applied 2D Wireframe according to drawing			
	Applied 3D Wireframe according to drawing			
	Checked the Elevation of drawing			
	Applied 3D basic tools to draw solid objects (walls, doors, windows)			
	Set Views Ribbon to change the views (top, left, south west isometric, south east isometric etc.)			
	Set Viewport (1 Viewport, 2 Viewport, 3 Viewport) according to drawing			
	Set Layers Ribbon (Freeze, Hide, Line Colour, Line Weight etc.) according to drawing			
	Set Visual Style (2D Wireframe, Hidden, Realistic, Shaded, Sketchy etc.) according to drawing			
	Set Render Ribbon (Materials, Lights etc.)			
	Applied 3D Orbit to check angles of drawing			
	Drew walls using Box commands for the plan			
	Drew doors using Rectangle, Extrude and Zoom commands for the plan			
	Drew windows using Rectangle, Elevation, Extrude and Zoom commands for the plan			
	Drew roofs using Rectangle, Elevation, Extrude and Zoom commands for the plan			
	Saved the file with .dwg file format and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			

	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 6

Version: 1

DRAW COORDINATES

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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 coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTTC

NAVTTTC OFFICE ONLY

1. DATE FORM RECEIVED:

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DD MM YYYY

2. DATE ENTERED INTO DATABASE:

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DD MM YYYY

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: DRAW COORDINATES	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create spiral stairs 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **two hours** timeframe:

- Create spiral stairs according to Annexure-1

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Drawing Coordinates' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create spiral stairs according to Annexure-1 <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the limits of the file (lower left corner and upper right corner) ✓ Check OSNAP or use F11 key according to drawing ✓ Check Polar or use F10 key according to drawing ✓ Set 3D point filter (.x, .y, .z, .xy, .xz, or .yz) according to drawing ✓ Set face according to drawing ✓ Set UCS procedure with Plan command ✓ Draw circle for spiral stairs from 3D basic ribbon ✓ Create parts of the spiral stairs using Array command ✓ Create boundary using Boundary command of each slice created by Array command ✓ Make the object elevate using Elevate option ✓ Draw solid of slice using Extrude command ✓ Draw handrails using Helix command for stairs ✓ Define render ribbon (materials, lights etc.) ✓ Save the file with .dwg file format and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Drawing Coordinates' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create spiral stairs according to Annexure-1	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the limits of the file (lower left corner and upper right corner)			
	Checked OSNAP or used F11 key according to drawing			
	Checked Polar or used F10 key according to drawing			
	Set 3D point filter (.x, .y, .z, .xy, .xz, or .yz) according to drawing			
	Set face according to drawing			
	Set UCS procedure with Plan command			
	Drew circle for spiral stairs from 3D basic ribbon			
	Created parts of the spiral stairs using Array command			
	Created boundary using Boundary command of each slice created by Array command			
	Made the object elevate using Elevate option			
	Drew solid of slice using Extrude command			
	Drew handrails using Helix command for stairs			
	Defined render ribbon (materials, lights etc.)			
	Saved the file with .dwg file format and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>			
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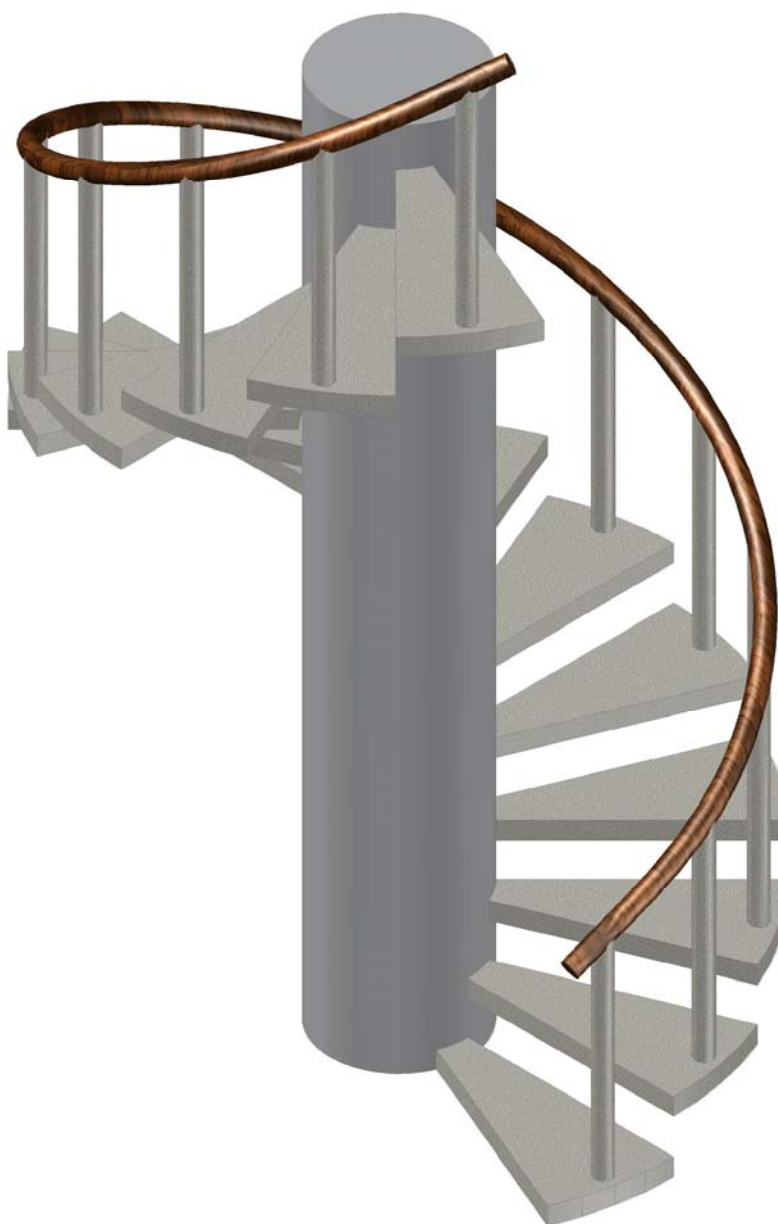
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement





ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 12

Version: 1

DRAW 3D ORBIT, NAVIGATIONS AND MODEL

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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

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NAVTTTC OFFICE ONLY

1. DATE FORM RECEIVED:

DD		MM		YYYY			

2. DATE ENTERED INTO DATABASE:

DD		MM		YYYY			

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: DRAW 3D ORBIT, NAVIGATIONS AND MODEL	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create a straight stair using AutoCAD 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create a straight stair using AutoCAD according to given sample (Annexure-1)

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Drawing 3D orbit, Navigations and Model' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a straight stair using AutoCAD according to given sample (Annexure-1) <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Free & Continuous 3D orbit command according to drawing ✓ Using Visual Style (2D Wireframe, Hidden, Realistic, Shaded, Sketchy etc.) toolbar according to drawing ✓ Apply navigational modes (Fly, Swivel and Adjust Distance) according to drawing ✓ Using functions of camera (Creation, View, Preview, Properties, Plotting, Display, Adjust, Swivelling and Distance) according to drawing ✓ Apply DVIEW command according to drawing ✓ Apply ANIPATH command for animation path on the object ✓ Draw straight stair for the plan using 3D Polylines commands ✓ Draw faceted surfaces for the plan using a Polygonal Mesh commands ✓ Save the file with .dwg extension format and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Drawing 3D orbit, Navigations and Model' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a straight stair using AutoCAD according to given sample (Annexure-1)	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Free & Continuous 3D orbit command according to drawing			
	Used Visual Style (2D Wireframe, Hidden, Realistic, Shaded, Sketchy etc.) toolbar according to drawing			
	Applied navigational modes (Fly, Swivel and Adjust Distance) according to drawing			
	Used functions of camera (Creation, View, Preview, Properties, Plotting, Display, Adjust, Swivelling and Distance) according to drawing			
	Applied DVIEW command according to drawing			
	Applied ANIPATH command for animation path on the object			
	Drew straight stair for the plan using 3D Polylines commands			
	Drew faceted surfaces for the plan using a Polygonal Mesh commands			
	Saved the file with .dwg extension format and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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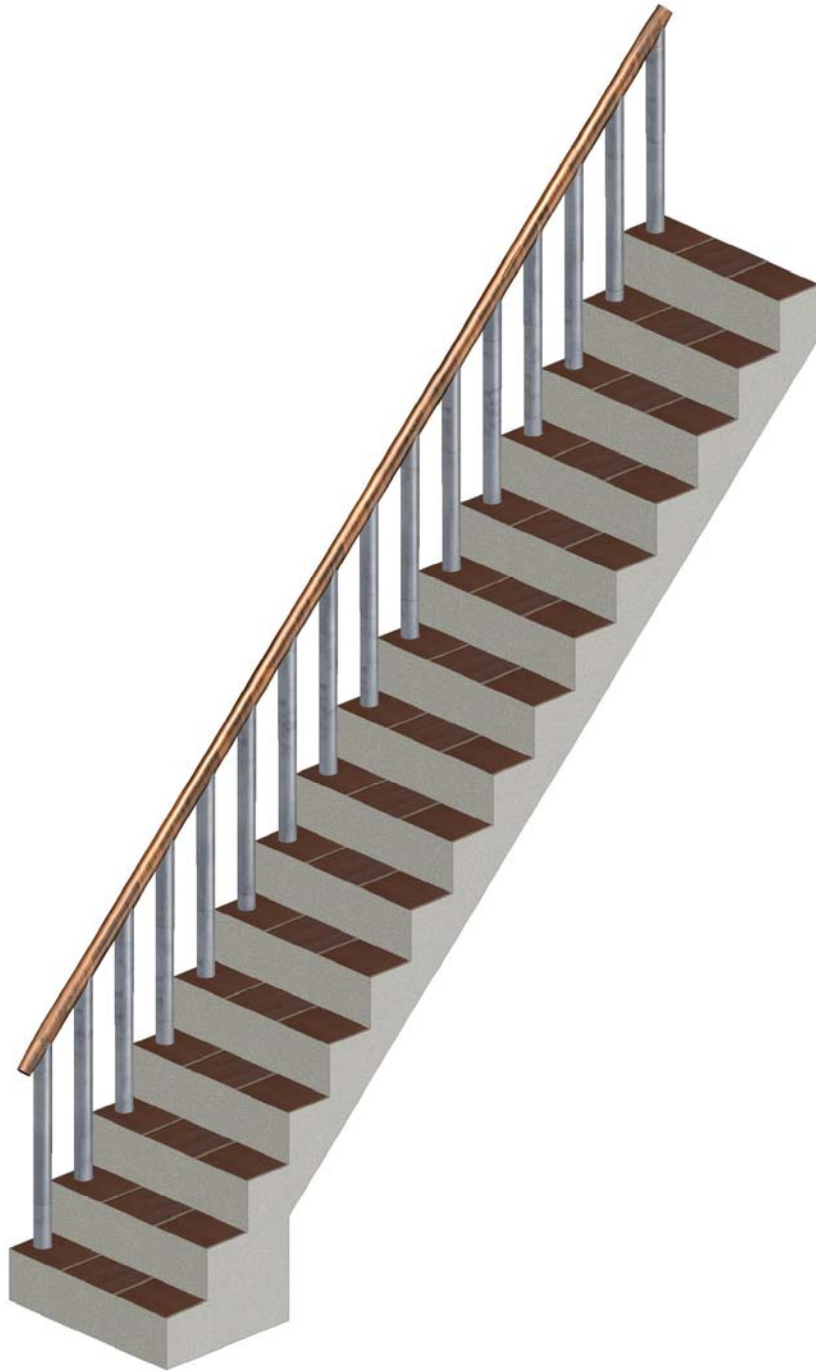
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



**ASSESSMENT
MATERIAL****EVIDENCE
GUIDE**

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 5

Version: 1

PRODUCE 2D SOLIDS AND 3D FACES**CONTENTS**

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

**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 coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTC**NAVTTC OFFICE
ONLY**1. DATE
FORM
RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO
DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PRODUCE 2D SOLIDS AND 3D FACES	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create solid filled pentagon and quadrilateral 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **two hours** timeframe:

- Create solid filled pentagon and quadrilateral according to Annexure-1

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Producing 2D Solids and 3D Faces' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create solid filled pentagon and quadrilateral according to Annexure-1 <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner and upper right corner) ✓ Apply Solid command to draw an object ✓ Check Fill Mode command is set to ON for the drawing ✓ Apply 3D Face command on the two solid objects ✓ Check 3D Face command visible or invisible from the objects ✓ Apply EDGE command to control the object visibility ✓ Check EDGE command is set to invisible ✓ Save the file with .dwg file format and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Producing 2D Solids and 3D Faces' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create solid filled pentagon and quadrilateral according to Annexure-1	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner and upper right corner)			
	Applied Solid command to draw an object			
	Checked Fill Mode command is set to ON for the drawing			
	Applied 3D Face command on the two solid objects			
	Checked 3D Face command visible or invisible from the objects			
	Applied EDGE command to control the object visibility			
	Checked EDGE command is set to invisible			
General performance criteria	Saved the file with .dwg file format and printed the file			
	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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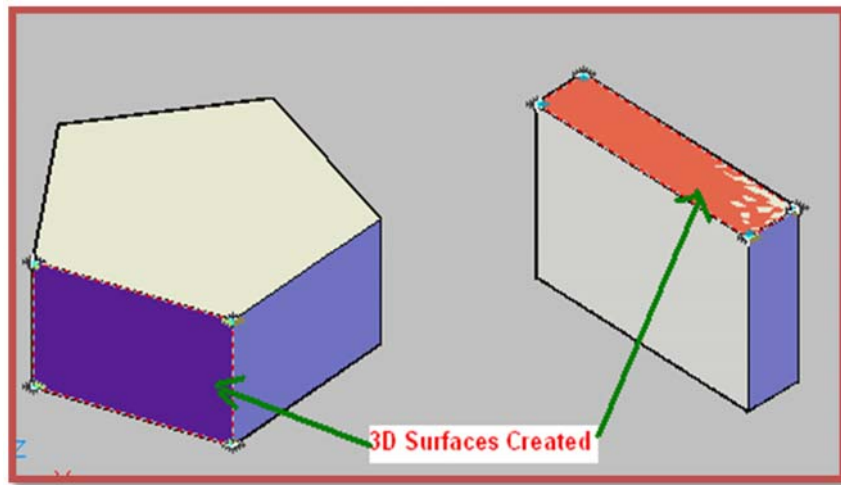
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	This section contains information regarding; <ul style="list-style-type: none"> • 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement





ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 9

Version: 1

INSERT SURFACES

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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

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1. DATE FORM RECEIVED:

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DD MM YYYY

2. DATE ENTERED INTO DATABASE:

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DD MM YYYY

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: INSERT SURFACES	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create 3D objects and 3D 'House Plan' using Insert Surface tools 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create a 3D object using Insert Surface tools according to given sample (Annexure-1)
- Create a 3D 'House Plan' using Insert Surface tools according to given sample (Annexure-2)

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of 'Inserting Surfaces' under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a 3D object using Insert Surface tools according to given sample (Annexure-1) <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Mesh Primitives (Box, Cone, Cylinder, Pyramid, Sphere, Wedge and Torus) commands according to drawing ✓ Apply smoothness and refinement on mesh commands (Mesh Smooth More, Mesh Smooth Less, Mesh Smooth Refine) according to drawing ✓ Use Mesh Crease and Remove commands on 3D object ✓ Apply Mesh Edit commands (Mesh Extrude, Mesh Split, Mesh Merge, Mesh Cap) according to drawing ✓ Save the file with .dwg extension format and print the file • Create a 3D 'House Plan' using Insert Surface tools according to given sample (Annexure-2) <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply different Develop Surface commands (Revolved Surface, Tabulated Surface, Ruled Surface, Edge Surface, Plane Surface, Extrude Surface) according to drawing ✓ Apply Loft and Sweep commands according to drawing ✓ Apply Edit Surface commands (Fillet, Trim, Extend and Sculpt) according to drawing ✓ Apply different NURBS Vertexes (Surface CV-Show, Hide, Rebuild, Add, Remove) on 3D object ✓ Perform Surface analysis via Analysis Zebra, Curvature and Draft according to drawing ✓ Save the file with .dwg extension format and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe

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.
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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 of 'Inserting Surfaces' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a 3D object using Insert Surface tools according to given sample (Annexure-1)	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Mesh Primitives (Box, Cone, Cylinder, Pyramid, Sphere, Wedge and Torus) commands according to drawing			
	Applied smoothness and refinement on mesh commands (Mesh Smooth More, Mesh Smooth Less, Mesh Smooth Refine) according to drawing			
	Used Mesh Crease and Remove commands on 3D object			
	Applied Mesh Edit commands (Mesh Extrude, Mesh Split, Mesh Merge, Mesh Cap) according to drawing			
	Saved the file with .dwg extension format and printed the file			
Create a 3D 'House Plan' using Insert Surface tools according to given sample (Annexure-2)	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied different Develop Surface commands (Revolved Surface, Tabulated Surface, Ruled Surface, Edge Surface, Plane Surface, Extrude Surface) according to drawing			
	Applied Loft and Sweep commands according to drawing			
	Applied Edit Surface commands (Fillet, Trim, Extend and Sculpt) according to drawing			
	Applied different NURBS Vertexes (Surface CV-Show, Hide, Rebuild, Add, Remove) on 3D object			
	Performed Surface analysis via Analysis Zebra, Curvature and Draft according to drawing			
	Saved the file with .dwg extension format and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			

	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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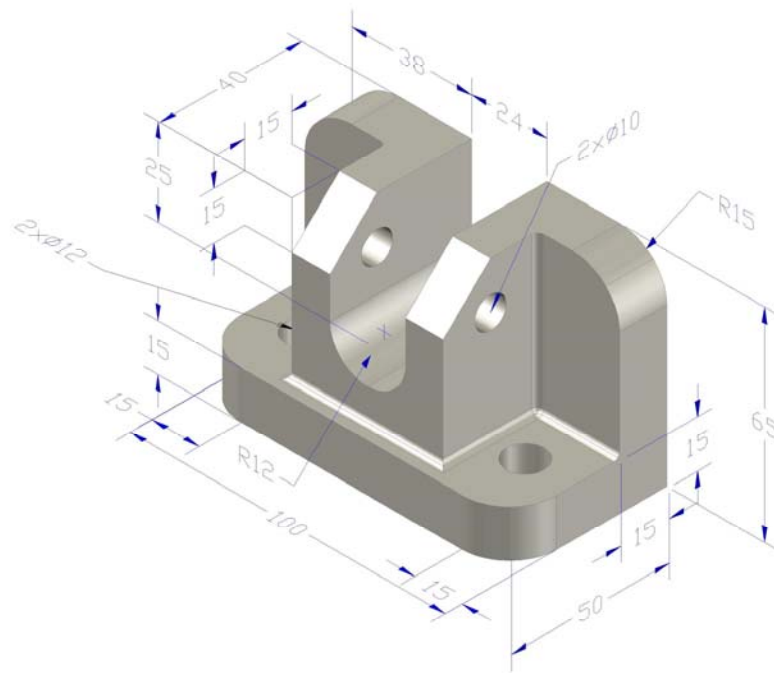
4

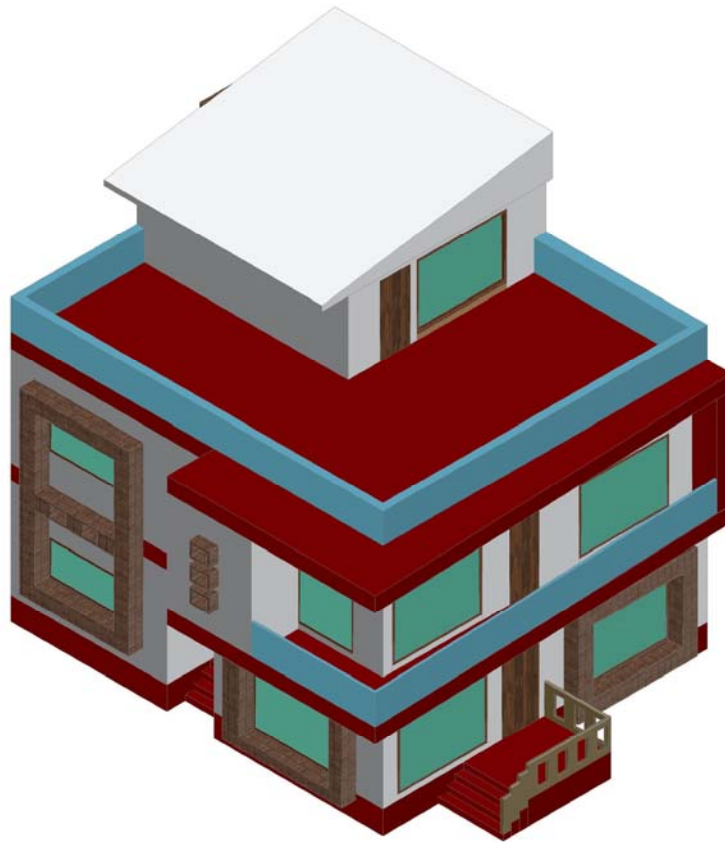
LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement







ASSESSMENT MATERIAL EVIDENCE GUIDE	<h1>DEVELOP SOLIDS</h1>																																											
Qualification AutoCAD CS Code: Level: 2 Credit: 7 Version: 1																																												
CONTENTS	1. Assessment Summary and Record 2. Candidate Assessment 3. Assessor Judgment Guide 4. List of required tools/equipment, material and context of assessment																																											
ASSESSMENT AND ASSESSOR DETAILS	Competent <input type="checkbox"/> Not Yet Competent <input type="checkbox"/>																																											
	Assessment <input type="checkbox"/> Re-Assessment <input type="checkbox"/>																																											
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DD		MM		YYYY																																								
DD		MM		YYYY																																								

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: DEVELOP SOLIDS	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create a 'House Plan' 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **four hours** timeframe:

- Create a 'House Plan' of dimensions (30' x 50') according to following instructions:
 - ✓ One room with attach batch
 - ✓ Drawing room
 - ✓ Kitchen
 - ✓ Store
 - ✓ Stairs
 - ✓ Porch

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Developing Solids' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a 'House Plan' of dimensions (30' x 50') <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the limits of the file (lower left corner and upper right corner) ✓ Draw Box command to create walls ✓ Convert all walls into one object by using Union command ✓ Create doors and subtract from walls using Subtract command ✓ Create windows using Elevation, Extrude and Subtract commands ✓ Create pillars of porch using Revolve command ✓ Draw water tank having butterfly roof using Taper command ✓ Draw frames of doors and windows using Polyline and Sweep commands ✓ Create leaves of doors and windows and rotate using 3D Rotate ✓ Create leaves of doors and windows and make copy using 3D Mirror ✓ Create gate leaves using Box, Circle, Polyline, Extrude and Revolve commands ✓ Save the file with .dwg file extension and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe

<p>2. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>
---	--

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 of 'Developing Solids' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a 'House Plan' of dimensions (30' x 50')	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the limits of the file (lower left corner and upper right corner)			
	Drew Box command to create walls			
	Converted all walls into one object by using Union command			
	Created doors and subtract from walls using Subtract command			
	Created windows using Elevation, Extrude and Subtract commands			
	Created pillars of porch using Revolve command			
	Drew water tank having butterfly roof using Taper command			
	Drew frames of doors and windows using Polyline and Sweep commands			
	Created leaves of doors and windows and rotate using 3D Rotate			
	Created leaves of doors and windows and make copy using 3D Mirror			
	Created gate leaves using Box, Circle, Polyline, Extrude and Revolve commands			
	Saved the file with .dwg file extension and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	This section contains information regarding; <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 3

Version: 1

MODIFY SOLID FACES

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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 coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTC

NAVTTTC OFFICE ONLY

1. DATE FORM RECEIVED:

DD		MM		YYYY			

2. DATE ENTERED INTO DATABASE:

DD		MM		YYYY			

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: MODIFY SOLID FACES	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create a 'House Plan' and modify Solid Faces 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create a 'House Plan' of dimensions (30' x 50') and modify Solid Faces according to following instructions:
 - ✓ One room with attach batch
 - ✓ Drawing room
 - ✓ Kitchen
 - ✓ Store
 - ✓ Stairs
 - ✓ Porch

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Modifying Solid Faces' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a 'House Plan' of dimensions (30' x 50') and modify Solid Faces <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner and upper right corner) ✓ Draw Box command to create walls ✓ Convert all walls into one object by using Union command ✓ Create doors and subtract from walls using Subtract command ✓ Create windows using Elevation, Extrude and Subtract command ✓ Create pillars of porch using Revolve command ✓ Draw water tank having butterfly roof using Taper command ✓ Draw frames of doors and windows using Polyline and Sweep commands ✓ Create leaves of doors and windows and rotate using 3D Rotate ✓ Create leaves of doors and windows and make copy using 3D Mirror ✓ Create gate using leaves of doors and windows and rotate using 3D Rotate ✓ Create step (tread) with the help of Line command ✓ Make Region of the step created through Line command to make one object ✓ Give height to rectangle using Extrude command ✓ Create blusters using Line, Arc, Region, Extrude and Move commands ✓ Draw handrails using Circle, Spline and Sweep commands ✓ Create copy of the steps using Copy command ✓ Change colour of the steps, handrails, blusters and navel posts ✓ Save the file with .dwg file extension and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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

	✓ Perform task(s) within standard timeframe
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 of 'Modifying Solid Faces' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a 'House Plan' of dimensions (30' x 50') and modify Solid Faces	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner and upper right corner)			
	Drew Box command to create walls			
	Converted all walls into one object by using Union command			
	Created doors and subtracted from walls using Subtract command			
	Created windows using Elevation, Extrude and Subtract command			
	Created pillars of porch using Revolve command			
	Drew water tank having butterfly roof using Taper command			
	Drew frames of doors and windows using Polyline and Sweep commands			
	Created leaves of doors and windows and rotated using 3D Rotate			
	Created leaves of doors and windows and made copy using 3D Mirror			
	Created gate using leaves of doors and windows and rotated using 3D Rotate			
	Created step (tread) with the help of Line command			
	Made Region of the step created through Line command to make one object			
	Given height to rectangle using Extrude command			
	Created blusters using Line, Arc, Region, Extrude and Move commands			
	Drew handrails using Circle, Spline and Sweep commands			
	Created copy of the steps using Copy command			
	Changed colour of the steps, handrails, blusters and navel posts			
	Saved the file with .dwg file extension and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			

	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	This section contains information regarding; <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 4

Version: 1

NAVIGATE SECTIONS AND MERGE FLAT OBJECTS FROM 3D MODEL

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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

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NAVTTTC OFFICE ONLY

1. DATE FORM RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: NAVIGATE SECTIONS AND MERGE FLAT OBJECTS FROM 3D MODEL	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create three sections of 3D objects 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create three sections of 3D objects along with the points mentioned on each object in Annexure-1

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Navigating Sections and Merging Flat Objects from 3D Model' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create three sections of 3D objects <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Section plane command according to drawing ✓ Use Section options (Base grip, Directional Arrow grip, Segment grip and Menu grip) in the section of 3D object according to drawing ✓ Apply different Section commands (Erase, Move, Copy, Scale, Rotate and Draw Order) on the object ✓ Generate 2D and 3D sections of object by using mouse ✓ Generate Flattened view of 3D object by using Flatshot command ✓ Generate profile of 3D object by using Solview and Sldraw commands ✓ Save the file with .dwg extension and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Navigating Sections and Merging Flat Objects from 3D Model' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create three sections of 3D objects along with the points mentioned on each object in Annexure-1	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Section plane command according to drawing			
	Used Section options (Base grip, Directional Arrow grip, Segment grip and Menu grip) in the section of 3D object according to drawing			
	Applied different Section commands (Erase, Move, Copy, Scale, Rotate and Draw Order) on the object			
	Generated 2D and 3D sections of object by using mouse			
	Generated Flattened view of 3D object by using Flatshot command			
	Generated profile of 3D object by using Solview and Sldraw commands			
	Saved the file with .dwg extension and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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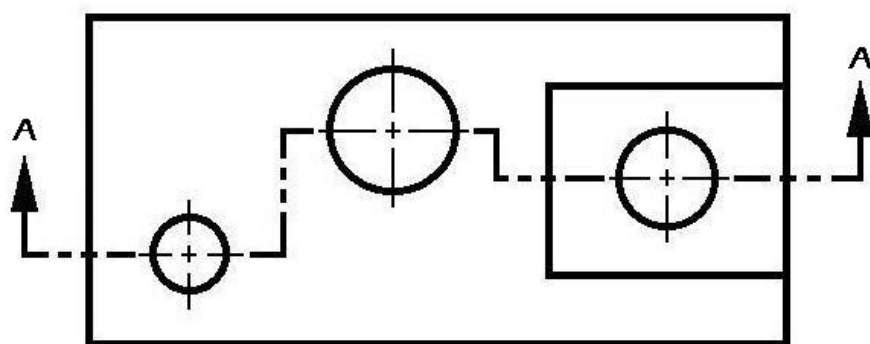
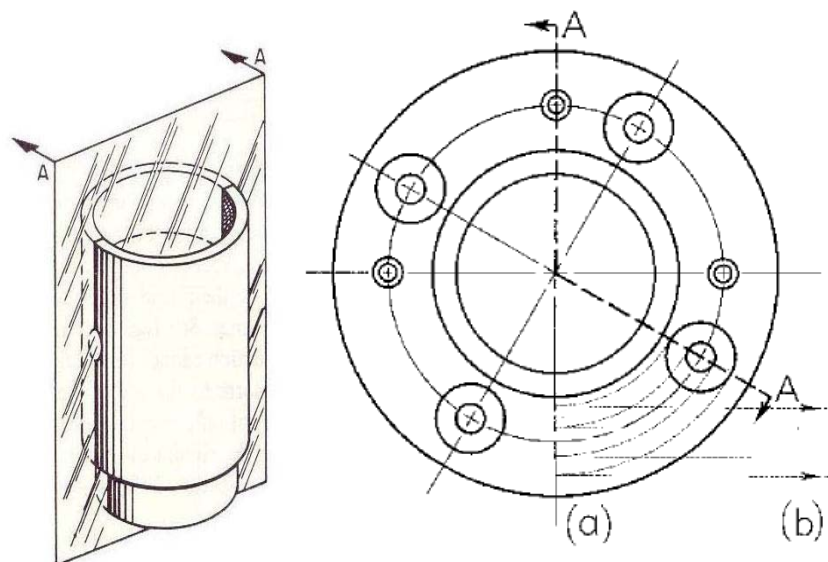
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



OFFSET SECTION LINE



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

CS Code:

Level: 2

Credit: 16

Version: 1

CUSTOMISE RENDERING, MATERIALS AND LIGHTS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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

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NAVTTTC OFFICE ONLY

1. DATE FORM RECEIVED:

DD		MM		YYYY			

2. DATE ENTERED INTO DATABASE:

DD		MM		YYYY			

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: CUSTOMISE RENDERING, MATERIALS AND LIGHTS	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create single storey 'House Plan' by using different AutoCAD Commands (e.g. Lights, Rendering and Texture Material) 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **three hours** timeframe:

- Create a single storey 'House Plan' of plot size (25' X 45') as per following instructions by using different AutoCAD commands (e.g. Lights, Rendering and Texture Material)
 - ✓ Ground floor
 - ✓ Three rooms with attached baths
 - ✓ One kitchen
 - ✓ One TV lounge
 - ✓ One car porch
 - ✓ One drawing & dining room (combined)
 - ✓ One lawn

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Customising Rendering, Materials and Lights' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> • Create a single storey 'House Plan' of plot size (25' X 45') by using different AutoCAD commands (e.g. Lights, Rendering and Texture Material) <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Create a realistic shaded image on drawing sheet by using Render commands (Destination, Quality, Selection, Crop and File) ✓ Apply RPREF command on drawing sheet ✓ Use Render settings (View, Crop, and Selected) in the rendering object according to drawing ✓ Apply different backgrounds (Single Colour, Multicolour Gradient and Bitmap Image) by using View command on drawing sheet ✓ Apply advance features of Rendering (Sampling, Shadow, Ray Tracing, Illumination and Diagnostic Processing) on the object ✓ Apply different Shading options (Enable, Max Depth and Max Reflection) on the object ✓ Apply different materials on the object by using Material Attach command ✓ Apply different photos or shapes on the object by using Material Map command ✓ Apply Lights features (Point Light, Spot Light and Light List) on the object ✓ Apply and adjust Sun properties on the object ✓ Save the file with .dwg extension and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe

<p>2. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>
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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 of 'Customising Rendering, Materials and Lights' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Create a single storey 'House Plan' of plot size (25' X 45') by using different AutoCAD commands (e.g. Lights, Rendering and Texture Material)	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Created a realistic shaded image on drawing sheet by using Render commands (Destination, Quality, Selection, Crop and File)			
	Applied RPREF command on drawing sheet			
	Used Render settings (View, Crop, and Selected) in the rendering object according to drawing			
	Applied different backgrounds (Single Colour, Multicolour Gradient and Bitmap Image) by using View command on drawing sheet			
	Applied advance features of Rendering (Sampling, Shadow, Ray Tracing, Illumination and Diagnostic Processing) on the object			
	Applied different Shading options (Enable, Max Depth and Max Reflection) on the object			
	Applied different materials on the object by using Material Attach command			
	Applied different photos or shapes on the object by using Material Map command			
	Applied Lights features (Point Light, Spot Light and Light List) on the object			
	Applied and adjusted Sun properties on the object			
	Saved the file with .dwg extension and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>		
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> 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 (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

AutoCAD

Qualification Code:

Level: 2

Credit: 80

Version: 1

AUTOCAD

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgment Guide
4. List of required tools/equipment, material and context of assessment

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 coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTC

NAVTTC OFFICE ONLY

1. DATE

FORM RECEIVED:

DD	MM							YYYY	

2. DATE ENTERED INTO DATABASE:

DD	MM							YYYY	

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF QUALIFICATION AUTOCAD	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Create 2D building along with Section and 3D Create 3D objects using Insert Surface tools 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your assessor may have during the practical assessment. 		
Other Requirements					<ul style="list-style-type: none"> N/A 		

2

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 complete the following tasks within **four and half hours** timeframe:

- Develop an architectural plan for a two storey building as per following specifications by using different AutoCAD commands

Plot size: 45' X 60'

Ground Floor	First Floor
Three rooms with attached bath	Three rooms with attached bath
One kitchen	One kitchen
One TV lounge	One TV lounge
One car porch	One store
One drawing & dining room (combined)	One laundry
One lawn	One terrace

- Create Section and Flattened View of above mentioned plan along with the mid of Y-axis
- Create a 3D object using Insert Surface tools according to given sample (Annexure-1)

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
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of 'Developing an AutoCAD Architectural Plan for the Client' under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly:</p> <ul style="list-style-type: none"> Develop an architectural plan for two storey building by using different AutoCAD commands <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Draw walls of the plan using Line, Offset and Trim commands ✓ Draw windows of the plan using Line, Offset, Trim and Erase Zoom commands ✓ Draw doors of the plan using Line, Offset, Trim, Circle, Zoom and PAN commands ✓ Take dimensions of the plan using Text, Dimension, Zoom and PAN commands ✓ Draw Box command to create walls ✓ Convert all walls into one object by using Union command ✓ Create doors and subtract from walls using Subtract command ✓ Create windows using Elevation, Extrude and Subtract commands ✓ Create pillars of porch using Revolve command ✓ Draw water tank having butterfly roof using Taper command ✓ Draw frames of doors and windows using Polyline and Sweep commands ✓ Create leaves of door and windows and rotate using 3D Rotate ✓ Create leaves of door and windows and make copy using 3D Mirror ✓ Create gate leaves using Box, Circle, Polyline, Extrude and Revolve commands ✓ Create a realistic shaded image on drawing sheet by using Render commands (Destination, Quality, Selection, Crop and File)

	<ul style="list-style-type: none"> ✓ Apply different backgrounds (Single Colour, Multicolour Gradient and Bitmap Image) by using View command on drawing sheet ✓ Apply different Shading options (Enable, Max Depth, Max Reflection) on the object ✓ Apply different Materials on the object by using Material Attach command ✓ Apply different photos or shapes on the object by using Material Map command ✓ Apply Lights features (Point Light, Spot Light, Light List) on the object ✓ Apply and adjust Sun properties on the object ✓ Save the file with .dwg extension and print the file • Create a 3D object using Insert Surface tools according to given sample (Annexure-1) <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Mesh Primitives (Box, Cone, Cylinder, Pyramid, Sphere, Wedge and Torus) commands according to drawing ✓ Apply smoothness and refinement on mesh commands (Mesh Smooth More, Mesh Smooth Less, Mesh Smooth Refine) according to drawing ✓ Use Mesh Crease and Remove commands on 3D object ✓ Apply Mesh Edit commands (Mesh Extrude, Mesh Split, Mesh Merge, Mesh Cap) according to drawing ✓ Save the file with .dwg extension format and print the file • Create Section and Flattened view of the plan along with the mid of Y-axis <ul style="list-style-type: none"> ✓ Open file using AutoCAD ✓ Set the units of file as per drawing ✓ Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet ✓ Apply Section command according to drawing ✓ Use Section options (Base grip, Directional Arrow grip, Segment grip and Menu grip) in the section of 3D object according to drawing ✓ Generate Flattened view of 3D object by using Flatshot command ✓ Save the file with .dwg extension and print the file • General performance criteria: <ul style="list-style-type: none"> ✓ 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 ✓ Perform task(s) within standard timeframe
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 of 'Developing an AutoCAD Architectural Plan for the Client' under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Develop an architectural plan for two storey building by using different AutoCAD commands	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Drew walls of the plan using Line, Offset and Trim commands			
	Drew windows of the plan using Line, Offset, Trim and Erase Zoom commands			
	Drew doors of the plan using Line, Offset, Trim, Circle, Zoom and PAN commands			
	Took dimensions of the plan using Text, Dimension, Zoom and PAN commands			
	Drew Box command to create walls			
	Converted all walls into one object by using Union command			
	Created doors and subtracted from walls using Subtract command			
	Created windows using Elevation, Extrude and Subtract commands			
	Created pillars of porch using Revolve command			
	Drew water tank having butterfly roof using Taper command			
	Drew frames of doors and windows using Polyline and Sweep commands			
	Created leaves of door and windows and rotated using 3D Rotate			
	Created leaves of door and windows and made copy using 3D Mirror			
	Created gate leaves using Box, Circle, Polyline, Extrude and Revolve commands			
	Created a realistic shaded image on drawing sheet by using Render commands (Destination, Quality, Selection, Crop and File)			
	Applied different backgrounds (Single Colour, Multicolour Gradient and Bitmap Image) by using View command on drawing sheet			
	Applied different Shading options (Enable, Max Depth, Max Reflection) on the object			
	Applied different Materials on the object by using Material Attach command			

	Applied different photos or shapes on the object by using Material Map command			
	Applied Lights features (Point Light, Spot Light, Light List) on the object			
	Applied and adjusted Sun properties on the object			
	Saved the file with .dwg extension and printed the file			
Create a 3D object using Insert Surface tools according to given sample (Annexure-1)	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Mesh Primitives (Box, Cone, Cylinder, Pyramid, Sphere, Wedge and Torus) commands according to drawing			
	Applied smoothness and refinement on mesh commands (Mesh Smooth More, Mesh Smooth Less, Mesh Smooth Refine) according to drawing			
	Used Mesh Crease and Remove commands on 3D object			
	Applied Mesh Edit commands (Mesh Extrude, Mesh Split, Mesh Merge, Mesh Cap) according to drawing			
	Saved the file with .dwg extension format and printed the file			
Create Section and Flattened view of the plan along with the mid of Y-axis	Opened file using AutoCAD			
	Set the units of file as per drawing			
	Set the Limits of the file (lower left corner 0, 0 and upper right corner) on drawing sheet			
	Applied Section command according to drawing			
	Used Section options (Base grip, Directional Arrow grip, Segment grip and Menu grip) in the section of 3D object according to drawing			
	Generated Flattened view of 3D object by using Flatshot command			
	Saved the file with .dwg extension and printed the file			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

<p>2. Answer any questions the assessor may have during the practical assessment</p>	<p>Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.</p> <p>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</p>			
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	<p>This task will be performed in real time environment.</p>

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	PC	5
2	AutoCAD	For each PC
3	Printer/Plotter	1

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	A4 size pages	As per requirement

