



ASSESSMENT MATERIAL EVIDENCE GUIDE

Qualification

Biogas Plant

Supervisor

Fixed Dome

CS Code:

Level: 3

Credit: 13

Version: 1

SUPERVISE THE CONSTRUCTION OF CIVIL ENGINEERING COMPONENT OF FIXED DOME BIODIGESTER

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ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name

Assessor's Code

Assessor's Signature

Date

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by
Assessment Body

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

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

Candidate's Signature

ASSESSMENT RESULTS SUMMARY FORM

You can use this 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: SUPERVISE THE CONSTRUCTION OF CIVIL ENGINEERING COMPONENT OF FIXED DOME BIODIGESTER	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	Supervise the construction of civil engineering component of fixed dome biodigester of biogas plant under observation by an assessor.		
Knowledge Assessment	✓	✓			Answer all questions your Assessor may have during the practical assessment.		
Other Requirements			✓		N/A		

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CANDIDATE ASSESSMENT

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

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

GUIDANCE TO CANDIDATE

To meet this standard you are required to complete the following tasks within **two hours** timeframe:

- Supervise the construction of digester of fixed dome biogas plant at farm/house as per drawing
- Supervise the construction of gas holder and turret of fixed dome biogas plant at farm/house as per drawing
- Supervise the construction of main hole, hydraulic chamber and slurry outlet of fixed dome biogas plant at farm/house as per drawing
- Supervise the construction of feeding inlet, slurring collection and composting pit of fixed dome biogas plant at farm/house as per drawing

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 precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of supervising the construction of civil engineering component of fixed dome biodigester under observation by an assessor	During a practical assessment, under observation by an assessor, I will correctly : • Supervise the construction of digester of fixed dome biogas plant at farm/house as per drawing ✓ Observe the marking the land for excavation of pit for construction of fixed dome biogas plant at farm/house ✓ Monitor the foundation preparation of digester of fixed dome biogas plant ✓ Check the construction walls of digester of fixed dome biogas plant as per drawing ✓ Observe the fixation inlet pipe in the digester wall of fixed dome biogas plant ✓ Monitor plastering of walls of digester of fixed dome biogas plant as per predetermined sand-cement ratio • Supervise the construction of gas holder and turret of fixed dome biogas plant at farm/house as per drawing ✓ Monitor the preparation of scaffolding and frameworks for dome casting as per drawing of fixed dome biogas plant ✓ Monitor the use of template as per drawing before casting of dome of fixed dome biogas plant ✓ Ensure casting of the dome of as per drawing to ensure required thickness and strength ✓ Monitor the plastering with subsequent layers of acrylic emulsion inside the dome of fixed dome biogas plant to make it impermeable to air/gas. • Supervise the construction of main hole, hydraulic chamber and slurry outlet of fixed dome biogas plant at farm/house as per drawing ✓ Observe the construction of main hole of fixed dome biogas plant as per given drawing ✓ Monitor the construction of outlet of fixed dome biogas plant as per drawing ✓ Monitor the plumbing of walls of main hole and outlet during construction ✓ Observe the preparation and fixation of slabs on outlet chamber of fixed dome biogas plant • Supervise the construction of feeding inlet, slurring collection and composting pit of fixed dome biogas plant at farm/house as per drawing ✓ Monitor construction platform of feeding inlet of fixed dome biogas plant as per drawing ✓ Observe the construction of walls of inlet and fix mixing device in the inlet tank ✓ Monitor excavation of slurry collection pit of fixed dome biogas plant for slurry collection and composting

	✓ Observe the checking of leakage of dome of fixed dome biogas plant at farm/house ✓ Monitor the curing time after each step of construction of fixed dome biogas plant at farm/house • General Performance Criteria ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations • Perform task(s) within standard timeframe
2. Other requirements	• N/A
3. 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 supervising the construction of civil engineering component of fixed dome biodigester under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Supervise the construction of digester of fixed dome biogas plant at farm/house as per drawing	Observed the marking the land for excavation of pit for construction of fixed dome biogas plant at farm/house Monitored the foundation preparation of digester of fixed dome biogas plant Checked the construction walls of digester of fixed dome biogas plant as per drawing Observed the fixation inlet pipe in the digester wall of fixed dome biogas plant Monitored plastering of walls of digester of fixed dome biogas plant as per predetermined sand-cement ratio			
Supervise the construction of gas holder and turret of fixed dome biogas plant at farm/house as per drawing	Monitored the preparation of scaffolding and frameworks for dome casting as per drawing of fixed dome biogas plant Monitored the use of template as per drawing before casting of dome of fixed dome biogas plant Ensured casting of the dome of as per drawing to ensure required thickness and strength Monitored the plastering with subsequent layers of acrylic emulsion inside the dome of fixed dome biogas plant to make it impermeable to air/gas.			
Supervise the construction of main hole, hydraulic chamber and slurry outlet of fixed dome biogas plant at farm/house as per drawing	Observed the construction of main hole of fixed dome biogas plant as per given drawing Monitored the construction of outlet of fixed dome biogas plant as per drawing Monitored the plumbing of walls of main hole and outlet during construction Observed the preparation and fixation of slabs on outlet chamber of fixed dome biogas plant			
Supervise the construction of feeding inlet, slurring collection and composting pit of fixed dome biogas plant at farm/house as per drawing	Monitored construction platform of feeding inlet of fixed dome biogas plant as per drawing Observed the construction of walls of inlet and fix mixing device in the inlet tank Monitored excavation of slurry collection pit of fixed dome biogas plant for slurry collection and composting Observed the checking of leakage of dome of fixed dome biogas plant at farm/house Monitored the curing time after each step of construction of fixed dome biogas plant at farm/house			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks Selected, used and maintained equipment/ tools as per requirement of the task			

	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			
2. Other requirements	N/A			

3. Answer any questions the assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application. Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.			
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LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	This section contains information regarding; - Context of the assessment - List of required tools and equipment. - List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Measuring tap	5
2	Plumb- bob	5
3	Water level	5
4	Mason's Trowel	5
5	Plastering trowel	5
6	Pointing trowel	5
7	Pick axe with handle	5
8	Wheel barrow	5
9	Chisel sets 9" and 12"	5
10	Mason's hammer	5
11	Templates (different sizes according to size of fixed dome biogas plant)	5
12	Straight edge	5
13	Thread roll	5
14	Lime powder for layout chalking	5kg
15	Iron trough/mortor pan	10
16	Spirit level	3
17	Brushes (wire brush, painting brush)	10
18	Shovel with handle	5
19	Builders square	5
20	Lines and pins	LS
21	Striker for horizontal and vertical joints	5
22	Steel float – small, medium and large	5
23	Wooden float – small, medium and large	5
24	Mason's Tool bag	25
25	Helmet	5
26	Dungaree (Working uniform)	5
27	Safety belt	5
28	Boots	5
29	Gloves	5
30	Rain coats	5

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Flip chart paper	5
2	Meta cards – different colours	5
3	Marker pens (Permanent and board marker)	10
4	Masking tape (rolls)	5
5	Cello tape	5
6	Biodigester drawing	5

7	Ball pen	5
8	Pencils	5
9	Erasers	5
10	Writing pad/note book	5
11	Glue stick	5
12	Cement	50
13	Bricks	7500
14	Sand	2500 cuft
15	Aggregates 20mm	2500 cu ft
16	Inlet pipes PVC 110 mm diameter 3 m long	5
17	MS Rod 10 mm diameter	25kg
18	Binding wire	1 kg
19	Scaffolding	5
20	PVC/GI pipe and fittings as per site condition	5 sets
21	Biogas filters (CO2 scrubber, H2S remover, moisture remover)	5 sets
22	Biogas appliances (as per sit condition and users' need)	5 sets
23	Control valves – as per site condition	5
24	Main gas pipe – GI 1.5" diameter, 1 m long with reducing elbow	5
25	Teflon tape	5
26	Pressure gauge	5
27	Biogas flow meter	5
28	Temperature gauge	5