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Islamabad

GENERATOR MECHANIC

ASSESSMENT PACKAGE

National Vocational Certificate Level 3

Version 1 - November, 2019

NAVTTC

Implemented by
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Published by
National Vocational and Technical Training Commission
Government of Pakistan

Headquarter
Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
www.navttc.org

Responsible
Director General Skills Standard and Curricula, National Vocational and Technical Training Commission
National Deputy Head, TVET Sector Support Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Layout & design
SAP Communications

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This document has been produced with the technical assistance of the TVET Sector Support Programme, which is funded by the European Union, the Federal Republic of Germany and the Royal Norwegian Embassy and has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close collaboration with the National Vocational and Technical Training Commission (NAVTTC) as well as provincial Technical Education and Vocational Training Authorities (TEVTAs), Punjab Vocational Training Council (PVTC), Qualification Awarding Bodies (QABs)s and private sector organizations.

Document Version
November, 2019
Islamabad, Pakistan

GENERATOR MECHANIC

ASSESSMENT PACKAGE

National Vocational Certificate Level 3

Version 1 - November, 2019

Instructions for Candidate (to be given by the Assessor before Assessment)

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300622**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Carryout Basic Electrical Installation (Alternating Current-AC)**	**Assessment Date (DD/MM/YY):**		

Candidate Details	Name……..…… Registration/Roll Number……..……
Guidance for Candidate	**To meet this standard, you are required to complete the following tasks within 40 min timeframe:** 1. **Assessment Task 1:** Lay cables 2. **Assessment Task 2:** Perform Single-phase Connection 3. **Assessment Task 3:** Perform Three phase Connection 4. **Assessment Task 4:** Perform Basic Electrical wiring 5. **Assessment Task 5:** Conduct wiring Test **And complete:** 1. **Knowledge assessment test (Written or Oral)** 2. **Portfolios at the time of assessment (if any)**
Minimum Evidence Required	**During a practical assessment, under observation by an assessor, you will complete:** **Task 1: Lay cables** Performance Criteria 1: Interpret electrical drawing/document Performance Criteria 2: Identify cables Performance Criteria 3: Lay cables Performance Criteria 4: Perform earthing **Task 2: Perform single-phase Connection** Performance Criteria 1: Select cable gauge Performance Criteria 2: Select cables colors Performance Criteria 3: Connect cables Performance Criteria 4: Insulate Joints **Task 3: Perform three phase Connection** Performance Criteria 1: Select cable Gauge Performance Criteria 2: Select cables colors Performance Criteria 3: Connect cables Performance Criteria 4: Insulate Joints

Instructions for Candidate (to be given by the Assessor before Assessment)

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300622**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Carryout Basic Electrical Installation (Alternating Current-AC)**	**Assessment Date (DD/MM/YY):**		

Candidate Details	Name…… Registration/Roll Number……
Guidance for Candidate	**To meet this standard, you are required to complete the following tasks within 40 min timeframe:** 1. **Assessment Task 1:** Lay cables 2. **Assessment Task 2:** Perform Single-phase Connection 3. **Assessment Task 3:** Perform Three phase Connection 4. **Assessment Task 4:** Perform Basic Electrical wiring 5. **Assessment Task 5:** Conduct wiring Test **And complete:** 1. **Knowledge assessment test (Written or Oral)** 2. **Portfolios at the time of assessment (if any)**
Minimum Evidence Required	**During a practical assessment, under observation by an assessor, you will complete:** **Task 1: Lay cables** Performance Criteria 1: Interpret electrical drawing/document Performance Criteria 2: Identify cables Performance Criteria 3: Lay cables Performance Criteria 4: Perform earthing **Task 2: Perform single-phase Connection** Performance Criteria 1: Select cable gauge Performance Criteria 2: Select cables colors Performance Criteria 3: Connect cables Performance Criteria 4: Insulate Joints **Task 3: Perform three phase Connection** Performance Criteria 1: Select cable Gauge Performance Criteria 2: Select cables colors Performance Criteria 3: Connect cables Performance Criteria 4: Insulate Joints

	Task 4: Perform Basic Electrical wiring Performance Criteria 1: Measure cables as per requirement Performance Criteria 2: Connect cables Performance Criteria 3: Perform joints Performance Criteria 4: Insulate Joints **Task 5: Conduct wiring Test** Performance Criteria 1: Operate multi-meter for voltage and current Performance Criteria 2: Perform continuity test Performance Criteria 3: Perform polarity test Performance Criteria 4: Perform earthing test Performance Criteria 5: Perform insulation test Performance Criteria 6: Record test results **Portfolios required at the time of assessment (if any) for** Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.

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

071300622 Carryout Basic Electrical Installation (Alternating Current-AC)

Candidate Details	Name: ..... ……Registration/Roll Number: …… Candidate Signature:..... .....
Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……..Assessor's code:…….. Assessor Signature: ....

Assessment Summary (to be filled by the assessor)							
Activity	**Method**					**Result**	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration							
Knowledge Assessment							
Other Requirement							

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Assessment Task 1	Lay cables

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Performance Criteria 1: Interpreted electrical drawing/document			
2.	Performance Criteria 2: Identified cables			
3.	Performance Criteria 3: Laid cables			
4.	Performance Criteria 4: Performed earthing			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 2	Perform single-phase Connection

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Selected cable gauge			
2	Performance Criteria 2: Selected cables colors			
3	Performance Criteria 3: Connected cables			
4	Performance Criteria 4: Insulated Joints			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 3	Perform three phase Connection

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Selected cable Gauge			
2	Performance Criteria 2: Selected cables colors			
3	Performance Criteria 3: Connected the cables			
4	Performance Criteria 4: Insulated the Joints			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 4	Perform Basic Electrical wiring

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Measured cables as per requirement			
2	Performance Criteria 2: Connected cables			
3	Performance Criteria 3: Performed joints			
4	Performance Criteria 4: Insulated Joints			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 5	**Conduct wiring Test**

During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Operated multi-meter for voltage and current			
2	Performance Criteria 2: Performed continuity test			
3	Performance Criteria 3: Performed polarity test			
4	Performance Criteria 4: Performed earthing test			
5	Performance Criteria 5: Performed insulation test			
6	Performance Criteria 6: Recorded test results			
Competent ☐		**Not Yet Competent ☐**		

Portfolio (if any)	**Description of portfolio**
Current☐ Sufficient ☐ Authentic☐ Valid ☐ Reliable ☐	

Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.			
Competent ☐		Not Yet Competent ☐		

Knowledge Assessment

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300622**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Carryout Basic Electrical Installation (Alternating Current-AC)**	**Assessment Date (DD/MM/YY):** --/--/--		

Guidance for Candidate	**To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.**

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

Candidate Details	Name:..... Registration/Roll Number:…….. Candidate Signature:..... .....
Written Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……Assessor's code:…….. Assessor Signature: ....

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300622**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Carryout Basic Electrical Installation (Alternating Current-AC)**	**Assessment Date (DD/MM/YY):** --/--/--		

WRITTEN ASSESSMENT

Question	**Candidate's answer**
1 Interpret electrical drawing/documents ?	
2 Describe types of cables?	
3 Describe size/ gauges of cables?	

Question	Candidate's answer
4 Define Earthing?	
5 What is the importance of Earthing?	
6 Define Single Phase connection?	
7 Describe the use of different color of cables?	

Question	Candidate's answer
8 Define techniques of Joints?	
9 Describe importance of Insulation?	
10 Define Three Phase connection?	
11 Define various types of core insulation (single, two, three & four core cable)	

Question	Candidate's answer
12 Define Conductor and Insulator?	
13 Describe types of wiring?	
14 Define various wiring procedure?	
15 Describe various wiring test?	

Question	Candidate's answer
16 Describe Functions of Multimeter?	
17 Describe about series test lamp?	
18 Describe testing procedures for Continuity, short circuit and Polarity test?	
19 Describe functions of Megger/earth tester?	

Instructions for Candidate (to be given by the Assessor before Assessment)

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300621**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Repair/Replace Mechanical Components**	**Assessment Date (DD/MM/YY):**		

Candidate Details	Name…… Registration/Roll Number……
Guidance for Candidate	**To meet this standard, you are required to complete the following tasks within 40 min timeframe:** 1. **Assessment Task 1:** Replace Fuel Injection Pump 2. **Assessment Task 2:** Replace Oil pump 3. **Assessment Task 3:** Replace Fan belt 4. **Assessment Task 4:** Replace Radiator 5. **Assessment Task 5:** Change Oil filter 6. **Assessment Task 6:** Change Air filter 7. **Assessment Task 7:** Change Connecting Rod 8. **Assessment Task 8:** Change Cam shaft 9. **Assessment Task 9:** Change Crank shaft 10. **Assessment Task 10:** Change Valve train components 11. **Assessment Task 11:** Change Timing Belt / Timing Gear 12. **Assessment Task 12:** Change Injector/Automizer 13. **Assessment Task 13:** Change/repair Cylinder head 14. **Assessment Task 14:** Change/repair Cylinder block **And complete:** **3. Knowledge assessment test (Written or Oral)** **4. Portfolios at the time of assessment (if any)**
Minimum Evidence Required	**During a practical assessment, under observation by an assessor, you will complete:** **Task 1: Replace fuel / Injection pump** Performance Criteria 1: Select tools and equipment Performance Criteria 2: Replace Fuel pipes Performance Criteria 3: Replace Fuel filter Performance Criteria 4: Replace the Fuel pump Performance Criteria 5: Calibrate Injection pump with Atomizer. Performance Criteria 6: Reinstall calibrated injector pump with atomizer

Task 2: Replace oil pump
Performance Criteria 1: Select Tools and equipment
Performance Criteria 2: Dismantle oil pump.
Performance Criteria 3: Repair / Replace faulty components

Task 3: Replace fan belt
Performance Criteria 1: Collect tools and equipment
Performance Criteria 2: Identify size of belt
Performance Criteria 3: Replace fan belt
Performance Criteria 4: Adjust fan belt

Task 4: Replace Radiator
Performance Criteria 1: Arrange tools and equipment
Performance Criteria 2: Uninstall the radiator
Performance Criteria 3: Clean and flush radiator
Performance Criteria 4: Repair radiator
Performance Criteria 5: Reinstall radiator

Task 5: Change Oil filter
Performance Criteria 1: Collect tools and equipment
Performance Criteria 2: Select proper size of oil filter
Performance Criteria 3: Remove oil filter
Performance Criteria 4: Install oil filter

Task 6: Change Air filter
Performance Criteria 1: Collect tools and equipment
Performance Criteria 2: Select proper size of Air filter
Performance Criteria 3: Remove air filter
Performance Criteria 4: Install air filter

Task 7: Change Connecting Rod
Performance Criteria 1: Select tools and equipment
Performance Criteria 2: Remove engine from main alternator
Performance Criteria 3: Dismantle engine
Performance Criteria 4: Remove connecting rod
Performance Criteria 5: Repair /replace connecting rod

Task 8: Change Cam shaft
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Remove tippet cover
Performance Criteria 3: Remove cam shaft
Performance Criteria 4: Repair and replace Cam shaft

Task 9: Change Crank Shaft
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Remove Fly wheel
Performance Criteria 3: Open main big end
Performance Criteria 4: Remove Timing plate and timing gear / Pully
Performance Criteria 5: Remove hosing
Performance Criteria 6: Remove Main Oil seal plate
Performance Criteria 7: Remove Crank shaft
Performance Criteria 8: Repair and replace Crank shaft

Task 10: Change Valve train components
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Remove Tippet cover, Automizer pipe timing belt, rocker and head bolt
Performance Criteria 3: Dress/ Polish Valve and valve set
Performance Criteria 4: Replace head gas kit.
Performance Criteria 5: Reinstall valve train component

Task 11: Change Timing Belt/Timing Gear
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Identify timing marks
Performance Criteria 3: Loose the adjustment bolt
Performance Criteria 4: Remove the timing belt/Gear
Performance Criteria 5: Reinstall the timing belt / Gear

Task 12: Change Injector/Automizer
Performance Criteria 1: Identify the tools and equipment
Performance Criteria 2: Remove the Injection pipe
Performance Criteria 3: Remove the mounting bolt of Injector
Performance Criteria 4: Remove the Injector
Performance Criteria 5: Calibrate the Injectors
Performance Criteria 6: Install the Injectors.

Task 13: Change/repair Cylinder head
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Repair Valve set
Performance Criteria 3: Perform Top overhaul
Performance Criteria 4: Perform head tightening sequence

Task 14: Change/repair Cylinder Block
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Perform Major Overhaul
Performance Criteria 3: Change Sleeve
Performance Criteria 4: Perform Honing
Performance Criteria 5: Replace Piston and Piston rings

Portfolios required at the time of assessment (if any) for
Performance criteria for the evaluation of portfolio:
Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.

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

071300620 Repair/Replace Mechanical Components

Candidate Details	Name: ..... ……Registration/Roll Number: …… Candidate Signature:..... .....
Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……..Assessor's code:…….. Assessor Signature: ....

Assessment Summary (to be filled by the assessor)							
Activity	**Method**					**Result**	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration							
Knowledge Assessment							
Other Requirement							

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Assessment Task 1	Replace Fuel / Injection pump			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1.	Performance Criteria 1: Selected tools and equipment			
2.	Performance Criteria 2: Replaced Fuel pipes			
3.	Performance Criteria 3: Replaced Fuel filter			
4.	Performance Criteria 4: Replaced the Fuel pump			
5.	Performance Criteria 5: Calibrated Injection pump with Atomizer.			
6.	Performance Criteria 6: Reinstalled calibrated injector pump with atomizer			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 2	Replace Oil pump			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Selected Tools and equipment			
2	Performance Criteria 2: Removed oil pump.			
3	Performance Criteria 3: Repaired / Replaced faulty components of oil pump			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 3	Replace Fan belt			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Collected tools and equipment			
2	Performance Criteria 2: Identified size of belt			
3	Performance Criteria 3: Replaced belt			
4	Performance Criteria 4: Adjusted belt			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 4	Replace Radiator			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Arranged tools and equipment			
2	Performance Criteria 2: Uninstalled the radiator			
3	Performance Criteria 3: Cleaned and flush radiator			
4	Performance Criteria 4: Repaired radiator			
5	Performance Criteria 5: Reinstalled radiator			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 5	Change Oil filter			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Collected tools and equipment			
2	Performance Criteria 2: Selected proper size of oil filter			
3	Performance Criteria 3: Removed oil filter			
4	Performance Criteria 4: Installed oil filter			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 6	Change Air filter			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Collected tools and equipment			
2	Performance Criteria 2: Selected proper size of air filter			
3	Performance Criteria 3: Removed air filter			
4	Performance Criteria 4: Installed air filter			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 7	Change Connecting Rod			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Selected tools and equipment			
2	Performance Criteria 2: Removed engine from alternator			
3	Performance Criteria 3: Dismantled engine			
4	Performance Criteria 4: Removed connecting rod			
5	Performance Criteria 5: Repaired / replaced connecting rod			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 8	Change Cam shaft			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Removed tippet cover			
3	Performance Criteria 3: Removed cam shaft			
4	Performance Criteria 4: Repaired and replaced Cam shaft			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 9	Change Crank Shaft

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Removed Fly wheel			
3	Performance Criteria 3: Opened main big end			
4	Performance Criteria 4: Removed Timing plate and timing gear / Pulley			
5	Performance Criteria 5: Removed hosing			
6	Performance Criteria 6: Removed Main Oil seal plate			
7	Performance Criteria 7: Removed crank shaft			
8	Performance Criteria 8: Repaired and replace Crank shaft			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 10	Change Valve train components

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Removed Tippet cover, Automizer pipe timing belt, rocker and head bolt			
3	Performance Criteria 3: Dressed/ Polished valve and valve set			
4	Performance Criteria 4: Replaced head gas kit			
5	Performance Criteria 5: Reinstalled valve train component			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 11	Change Timing Belt/Timing Gear

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Identified timing marks			
3	Performance Criteria 3: Loosed the adjustment bolt			
4	Performance Criteria 4: Removed the Timing belt/Gear			
5	Performance Criteria 5: Reinstalled the Timing belt / Gear			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 12	Change Injector/Automizer			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Identified the tools and equipment			
2	Performance Criteria 2: Removed the Injection pipe			
3	Performance Criteria 3: Removed the mounting bolt of Injector			
4	Performance Criteria 4: Removed the Injector			
5	Performance Criteria 5: Calibrated the Injectors			
6	Performance Criteria 6: Installed the injectors.			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 13	Change/repair Cylinder head			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Repaired Valve set			
3	Performance Criteria 3: Performed Top overhaul			
4	Performance Criteria 4: Performed head tightening sequence			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 14	Change/repair Cylinder Block			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Performed Major Overhaul			
3	Performance Criteria 3: Changed Sleeve			
4	Performance Criteria 4: Performed Honing			
5	Performance Criteria 5: Replaced Piston and Piston rings			
Competent ☐		**Not Yet Competent ☐**		

Portfolio (if any)		**Description of portfolio**		
Current☐ Sufficient ☐ Authentic☐ Valid ☐ Reliable ☐				
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.			
Competent ☐		Not Yet Competent ☐		

Knowledge Assessment

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300621**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Repair/Replace Mechanical Components**	**Assessment Date (DD/MM/YY):** --/--/--		

Guidance for Candidate	**To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.**

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

Candidate Details	Name:..... Registration/Roll Number:……. Candidate Signature:..... .....
Written Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……Assessor's code:…….. Assessor Signature: ....

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300621**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Repair/Replace Mechanical Components**	**Assessment Date (DD/MM/YY):** --/--/--		

WRITTEN ASSESSMENT

Question	Candidate's answer
20 Describe different types of Injection pump?	
21 Define Phasing and Calibration?	
22 Describe different types of Oil pumps?	

Question	Candidate's answer
23 Define importance of Fan belt?	
24 Describe different types of Fan belts?	
25 Describe various radiators (single & double tubes)?	
26 Describe servicing techniques of Radiator?	

Question	Candidate's answer
27 Define different chemicals for internal cleaning/flushing?	
28 Describe different types of Oil filter and its functions?	
29 Describe procedure for replacing Oil filter?	
30 Describe sizes of air filter and its functions?	

Question	Candidate's answer
31 Describe procedure of replacing Air filter?	
32 Describe Connecting rod and its functions?	
33 Describe importance of Connecting rod components?	
34 Describe dismantling procedure of Engine?	

Question	Candidate's answer
35 Describe Cam shaft and its functions?	
36 Describe dismantling procedure of Cam shaft?	
37 Describe Crank shaft and its functions?	
38 Describe dismantling procedure of Crank shaft?	

Question	Candidate's answer
39 Describe functions of flywheel?	
40 Describe dismantling procedure of flywheel?	
41 Define Valve train?	
42 Describe grinding /polishing of Valve and valve seat?	

Question	Candidate's answer
43 Describe head gas kit?	
44 Describe Timing belt/timing plate/timing gear?	
45 Describe dismantling procedure of Timing belts, Timing gear and Pulley?	
46 Describe mounting techniques of timing belts/gear?	

Question	Candidate's answer
47 Define injector/automizer?	
48 Describe functions of injector/automizer?	
49 Describe dismantling procedure of Injector/Automizer ?	
50 Describe Calibration techniques of Injector/Automizer ?	

Question	Candidate's answer
51 Define Cylinder head?	
52 Define components in cylinder head?	
53 Describe facing and decarburizing techniques of cylinder head?	
54 Describe installation techniques of cylinder head?	

Question	Candidate's answer
55 Define cylinder block?	
56 Define components in cylinder block?	
57 Describe Piston and piston rings?	
58 Describe installation techniques of Piston and piston rings?	

Instructions for Candidate (to be given by the Assessor before Assessment)

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300624**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Repair/Replace Electrical Components**	**Assessment Date (DD/MM/YY):**		

Candidate Details	Name……..…… Registration/Roll Number……..……
Guidance for Candidate	**To meet this standard, you are required to complete the following tasks within 40 min timeframe:** 1. **Assessment Task 1:** Repair Self-Starter 2. **Assessment Task 2:** Replace faulty parts of main Alternator 3. **Assessment Task 3:** Change gauges on Display panel 4. **Assessment Task 4:** Repair/ replace Governor 5. **Assessment Task 5:** Replace warning sensors 6. **Assessment Task 6:** Replace main Alternator bearings 7. **Assessment Task 7:** Change Spark plugs **And complete:** **5. Knowledge assessment test (Written or Oral)** **6. Portfolios at the time of assessment (if any)**

Minimum Evidence Required	**During a practical assessment, under observation by an assessor, you will complete:** **Task 1: Repair Self-Starter** Performance Criteria 1: Identify tools and equipment Performance Criteria 2: check the self-starter relay Performance Criteria 3: Check self- starter switch contacts (cut-out) Performance Criteria 4: Check starter loose connections Performance Criteria 5: Check self-starter Armature Performance Criteria 6: Check starter field coil for short circuit Performance Criteria 7: Check Drive system of self-gear Performance Criteria 8: Check self-bushes **Task 2: Replace faulty parts of main Alternator** Performance Criteria 1: Select tools and equipment Performance Criteria 2: Replace carbon-bushes Performance Criteria 3: Replace self-excitation. Performance Criteria 4: Replace Automatic Voltage Regulator (AVR) Performance Criteria 5: Replace Alternator terminal block (connection plate)

Task 3: Change gauges on display panel
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Replace Temperature gauge
Performance Criteria 3: Replace Oil pressure gauge
Performance Criteria 4: Replace AC Ampere gauge
Performance Criteria 5: Replace DC charging gauge
Performance Criteria 6: Replace Revolution Per Minute (RPM) meter
Performance Criteria 7: Replace AC volt meter
Performance Criteria 8: Replace Frequency meter
Performance Criteria 9: Replace Hour count meter

Task 4: Repair/ Replace Governor
Performance Criteria 1: Identify tools and equipment
Performance Criteria 2: Remove Fuel pipe lines
Performance Criteria 3: Remove Timing plate
Performance Criteria 4: Remove Injection fuel pump gear
Performance Criteria 5: Repair Governor
Performance Criteria 6: Install Governor

Task 5: Replace warning sensors
Performance Criteria 1: Select tools and equipment
Performance Criteria 2: Remove and replace fuel sensors
Performance Criteria 3: Remove and replace temperature sensors
Performance Criteria 4: Remove and replace oil pressure sensors

Task 6: Replace main Alternator Bearings
Performance Criteria 1: Arrange tools and equipment
Performance Criteria 2: Dismantle main alternator
Performance Criteria 3: Pull out the bearings
Performance Criteria 4: Install bearings

Task 7: Change Spark plugs
Performance Criteria 1: Arrange tools and equipment
Performance Criteria 2: Remove the spark plug cables
Performance Criteria 3: Remove spark plugs
Performance Criteria 4: Mount new spark plugs

Portfolios required at the time of assessment (if any) for
Performance criteria for the evaluation of portfolio:
Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.

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

071300624 Repair/Replace Electrical Components

Candidate Details	Name: ..... ……Registration/Roll Number: …… Candidate Signature:..... .....
Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……..Assessor's code:…….. Assessor Signature: ....

Assessment Summary (to be filled by the assessor)							
Activity	**Method**					**Result**	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration							
Knowledge Assessment							
Other Requirement							

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Assessment Task 1	**Repair Self-Starter**			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1.	Performance Criteria 1: Identified tools and equipment			
2.	Performance Criteria 2: Checked the self-starter relay			
3.	Performance Criteria 3: Checked self- starter switch contacts (cut-out)			
4	Performance Criteria 4: Checked starter loose connections			
5	Performance Criteria 5: Checked self- starter Armature			
6	Performance Criteria 6: Checked starter field coil for short circuit			
7	Performance Criteria 7: Checked drive system of self-gear			
8	Performance Criteria 8: Checked self- starter bushes			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 2	**Replace faulty parts of main Alternator**			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Selected tools and equipment			
2	Performance Criteria 2: Replaced Carbon-bushes			
3	Performance Criteria 3: Replaced of Self-excitation system			
4	Performance Criteria 4: Replaced Automatic Voltage Regulator (AVR)			
5	Performance Criteria 5: Replaced Alternator terminal block (connection plate)			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 3	**Change gauges on display panel**			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Identify tools and equipment			
2	Performance Criteria 2: Replace Temperature gauge			
3	Performance Criteria 3: Replace Oil pressure gauge			
4	Performance Criteria 4: Replace AC Ampere gauge			
5	Performance Criteria 5: Replace DC charging gauge			
6	Performance Criteria 6: Replace Revolution Per Minute (RPM) meter			
7	Performance Criteria 7: Replace AC volt meter			
8	Performance Criteria 8: Replace Frequency meter			
9	Performance Criteria 9: Replace Hour meter			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 4	Repair/ Replace Governor

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Identify tools and equipment			
2	Performance Criteria 1: Remove Fuel pipe lines			
3	Performance Criteria 1: Remove Timing plate			
4	Performance Criteria 1: Remove Fuel injection pump gear			
5	Performance Criteria 1: Repair Governor			
6	Performance Criteria 1: Install Governor			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 5	Replace warning sensors

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Removed and replace Fuel sensors			
3	Performance Criteria 3: Removed and replace Temperature sensors			
4	Performance Criteria 4: Removed and replace Oil Pressure sensors			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 6	Replace main Alternator Bearings

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Arranged tools and equipment			
2	Performance Criteria 2: Dismantled main alternator			
3	Performance Criteria 3: Pulled out the bearings			
4	Performance Criteria 4: Installed bearing			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 7	**Change Spark plugs**

During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Identified tools and equipment			
2	Performance Criteria 2: Removed the spark plug cables			
3	Performance Criteria 3: Removed spark plugs			
4	Performance Criteria 4: Installed new spark plugs			
Competent ☐		**Not Yet Competent ☐**		

Portfolio (if any)	**Description of portfolio**
Current☐ Sufficient ☐ Authentic☐ Valid ☐ Reliable ☐	

Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.			
Competent ☐		Not Yet Competent ☐		

Knowledge Assessment

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300624**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Repair/Replace Electrical Components**	**Assessment Date (DD/MM/YY):** --/--/--		

Guidance for Candidate	**To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.**

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

Candidate Details	Name:..... Registration/Roll Number:…….. Candidate Signature:..... .....
Written Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……Assessor's code:…….. Assessor Signature: ....

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300624**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Repair/Replace Electrical Components**	**Assessment Date (DD/MM/YY):** --/--/--		

WRITTEN ASSESSMENT

Question	Candidate's answer
59 Describe functions of self-starter and its components?	
60 Describe various types of main Alternator (statically and dynamically induced EMF)?	
61 Describe function Automatic Voltage Regulator (AVR)?	

Question	Candidate's answer
62 Describe functions of various Main Alternator parts?	
63 Describe replacement techniques of various gauges on Display panel?	
64 Describe repair/replacement techniques of Governor Components?	
65 Describe replacement techniques of various warning sensors?	

Question	Candidate's answer
66 Describe replacement techniques of Main Alternator bearings?	
67 Describe replacement techniques of change spark plugs?	

Instructions for Candidate (to be given by the Assessor before Assessment)

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300627**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Install New Generator**	**Assessment Date (DD/MM/YY):**		

Candidate Details	Name……..…… Registration/Roll Number……..……
Guidance for Candidate	**To meet this standard, you are required to complete the following tasks within 40 min timeframe:** 1. **Assessment Task 1:** Adopt manufacture procedure 2. **Assessment Task 2:** Interpret foundation drawing 3. **Assessment Task 3:** Hoist Generator 4. **Assessment Task 4:** Level Generator 5. **Assessment Task 5:** Distribute electrical load 6. **Assessment Task 6:** Install change over switch **And complete:** **7. Knowledge assessment test (Written or Oral)** **8. Portfolios at the time of assessment (if any)**
Minimum Evidence Required	**During a practical assessment, under observation by an assessor, you will complete:** **Task 1: Adopt manufacture procedure** Performance Criteria 1: Identify Gross weight of the Generator Performance Criteria 2: Identify foundation holes of Generator as per manufacturer description Performance Criteria 3: Ensure holes in concrete base **Task 2: Interpret foundation drawing** Performance Criteria 1: Measure distance between foundation holes Performance Criteria 2: Measure diameters of foundation holes Performance Criteria 3: Compare diameters of foundation bolts as per specification **Task 3: Hoist Generator** Performance Criteria 1: Locate loading hooks of Generator Performance Criteria 2: Secure ropes and balance Generator Performance Criteria 3: Place Generator on concrete foundation safely

	Task 4: Level Generator Performance Criteria 1: Put foundation bolts in foundation holes Performance Criteria 2: Level Generator length and width wise Performance Criteria 3: Fill holes in base with concrete **Task 5: Distribute electrical load** Performance Criteria 1: Estimate total electrical load. Performance Criteria 2: Distribute load on each phase equally **Task 6: Install change over switch** Performance Criteria 1: Mount change over switch/ATS on wall Performance Criteria 2: Connect load side with changeover switch Performance Criteria 3: Connect Generator output with changeover switch Performance Criteria 4: Connect external power source with changeover switch **Portfolios required at the time of assessment (if any) for** Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.

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

071300627 Install New Generator

Candidate Details	Name: ..... ……Registration/Roll Number: …… Candidate Signature:..... .....
Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……..Assessor's code:…….. Assessor Signature:..... .....

Assessment Summary (to be filled by the assessor)							
Activity	**Method**					**Result**	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration							
Knowledge Assessment							
Other Requirement							

Feedback to the candidate on assessment.

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Candidate Signature……. Assessor Signature ……

Assessment Task 1	Adopt manufacture procedure			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1.	Performance Criteria 1: Identified Gross weight of the Generator			
2.	Performance Criteria 2: Identified foundation holes of Generator as per manufacturer description			
3.	Performance Criteria 3: Ensured holes in concrete base			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 2	Interpret foundation drawing			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Measured distance between foundation holes			
2	Performance Criteria 2: Measured diameters of foundation holes			
3	Performance Criteria 3: Compared diameters of foundation bolts as per specification			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 3	Hoist Generator			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Located loading hooks of Generator			
2	Performance Criteria 2: Secured ropes and balanced Generator			
3	Performance Criteria 3: Placed Generator on concrete foundation safely			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 4	Level Generator			
During the practical assessment, candidate demonstrated the following:		**Yes**	**No**	**Remarks**
1	Performance Criteria 1: Put foundation bolts in foundation holes			
2	Performance Criteria 2: Leveled Generator length and width wise			
3	Performance Criteria 3: Filled holes in base with concrete			
Competent ☐		**Not Yet Competent** ☐		

Assessment Task 5	Distribute electrical load

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Estimated total electrical load.			
2	Performance Criteria 2: Distributed load on each phase equally			
Competent ☐		**Not Yet Competent ☐**		

Assessment Task 6	Install change over switch

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Mounted change over switch/ATS on wall			
2	Performance Criteria 2: Connected load side with changeover switch			
3	Performance Criteria 3: Connected Generator output with changeover switch			
4	Performance Criteria 4: Connected external power source with changeover switch			
Competent ☐		**Not Yet Competent ☐**		

Portfolio (if any)	Description of portfolio

Current☐ Sufficient ☐ Authentic☐ Valid ☐ Reliable ☐

Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.			
Competent ☐		Not Yet Competent ☐		

Knowledge Assessment

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300627**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Install New Generator**	**Assessment Date (DD/MM/YY):** --/--/--		

Guidance for Candidate	**To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.**

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

Candidate Details	Name:..... Registration/Roll Number:……. Candidate Signature:..... .....
Written Assessment Outcome	COMPETENT ☐ NOT YET COMPETENT ☐ Assessor Name:..... ……Assessor's code:…….. Assessor Signature: ....

Feedback to the candidate on assessment.

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Candidate Signature…….. Assessor Signature ……

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **071300627**	Level: 3	Version: 1 (2019)
Competency Standard Title: **Install New Generator**	**Assessment Date (DD/MM/YY):** --/--/--		

WRITTEN ASSESSMENT

Question	**Candidate's answer**
68 Interpret foundation drawing?	
69 How to Hoist Generator?	
70 Define process of leveling Generator?	

Question	Candidate's answer
71 Define electrical load?	
72 Describe how to Install change over switch?	

Title of Qualification: National Vocational Certificate level 3, In Generator Mechanic	CS Code: **0713E&E20**	Level: 3	Version: 1 (2019)
Competency Standard Title: **National Vocational Standards Level – 3 in Generator Mechanic**	**Assessment Date (DD/MM/YY):**		

Candidate Details	Name: ..... Registration/Roll Number: .....
Guidance for Candidate	**To meet this standard, you are required to complete the following activities within 04 Hrs. time frame (for practical demonstration & assessment):** ▪ Adjust fan belt ▪ Replace Carbon bushes of Alternator ▪ Balance Generator on Foundation ▪ Carry out Three Phase connection to connect change over switch **And complete:** ▪ **Knowledge assessment test (Written or Oral).** ▪ **Portfolios at the time of assessment (if any).**
Minimum Evidence Required	**During a practical assessment, under the observation by an assessor, you are required to** perform **by demonstrate the following criteria** **Task 1: Replace fan belt** **Performance Criteria 1: Collect tools and equipment** **Performance Criteria 2: Identify size of belt** **Performance Criteria 3: Replace fan belt** **Performance Criteria 4: Adjust fan belt** **Task 2: Replace Carbon Bushes of main Alternator** **Performance Criteria 1: Select tools and equipment** **Performance Criteria 2: Replace carbon-bushes** **Task 3: Perform three phase Connection** **Performance Criteria 1: Select cable Gauge** **Performance Criteria 2: Select cables colors** **Performance Criteria 3: Connect cables** **Performance Criteria 4: Insulate Joints** **Task 4: Install change over switch** **Performance Criteria 1: Mount change over switch/ATS on wall** **Performance Criteria 2: Connect load side with changeover switch**

	Portfolios required at the time of assessment (if any) for Performance criteria for the evaluation of portfolio: Submit log book or activity record (practical journal, project, pictures etc.) completed during the training.

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	0713E&E20 National Vocational Certificate Level- 3 in Generator Mechanic
Purpose of Assessment	**Summative Assessment**
Assessment Task	**To meet this standard, you are required to complete the following activities within 04 Hrs. time frame (for practical demonstration & assessment):** ▪ Adjust fan belt ▪ Replace Carbon bushes of Alternator ▪ Balance Generator on Foundation ▪ Carry out Three Phase connection to connect change over switch

Performance Criteria	**Yes**	**No**
Task 1: Replace fan belt		
Performance Criteria 1: Collect tools and equipment		
Performance Criteria 2: Identify size of belt		
Performance Criteria 3: Replace fan belt		
Performance Criteria 4: Adjust fan belt		
Task 2: Replace Carbon Bushes of main Alternator		
Performance Criteria 1: Select tools and equipment		
Performance Criteria 2: Replace carbon-bushes		
Task 3: Perform three phase Connection		
Performance Criteria 1: Select cable Gauge		
Performance Criteria 2: Select cables colors		
Performance Criteria 3: Connect cables		
Performance Criteria 4: Insulate Joints		
Task 4: Install change over switch		
Performance Criteria 1: Mount change over switch/ATS on wall		
Performance Criteria 2: Connect load side with changeover switch		
Performance Criteria 3: Connect Generator output with changeover switch		
Performance Criteria 4: Connect external power source with changeover switch		

Candidate's Signature_____ Assessor's Signature_____

Date: _____

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

0713E&E20 National Vocational Certificate Level – 3 in Generator Mechanic

Candidate Details	Name: .....Registration/Roll Number: ..... Candidate's Signature: .....
Assessment Outcome	COMPETENT☐ NOT YET COMPETENT☐ Assessor Name:.....Assessor's code: ..... Assessor's Signature: .....

Assessment Summary (to be filled by the assessor)							
Activity	**Method**					**Result**	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration							
Knowledge Assessment							
Other Requirement							

Feedback to the Candidate
Candidate's Signature_____ Assessor's Signature _____

Each Assessment Task (with performance criteria)	
Assessment Task	**To meet this standard, you are required to complete the following activities within 04 Hrs. time frame (for practical demonstration & assessment):** ▪ Adjust fan belt ▪ Replace Carbon bushes of Alternator ▪ Balance Generator on Foundation ▪ Carry out Three Phase connection to connect change over switch

	During the practical assessment, candidate demonstrated the following:	Yes	No	Remarks
1.	**Task 1: Replace fan belt**			
2.	Performance Criteria 1: Collect tools and equipment			
3.	Performance Criteria 2: Identify size of belt			
4.	Performance Criteria 3: Replace fan belt			
5.	Performance Criteria 4: Adjust fan belt			
6.	**Task 2: Replace Carbon Bushes of main Alternator**			
7.	Performance Criteria 1: Select tools and equipment			
8.	Performance Criteria 2: Replace carbon-bushes			
9.	**Task 3: Perform three phase Connection**			
	Performance Criteria 1: Select cable Gauge			
	Performance Criteria 2: Select cables colors			
	Performance Criteria 3: Connect cables			
	Performance Criteria 4: Insulate Joints			
	Task 4: Install change over switch			
	Performance Criteria 1: Mount change over switch/ATS on wall			
	Performance Criteria 2: Connect load side with changeover switch			
	Performance Criteria 3: Connect Generator output with changeover switch			
	Performance Criteria 4: Connect external power source with changeover switch			

Competent ☐	**Not Yet Competent** ☐

Knowledge Assessment

Qualification	**0713E&E20 National Vocational Certificate Level – 3 in Generator Mechanic**
Purpose of Assessment	**Summative Assessment**
Candidate Details	Name: _____ Registration Number: _____Signature: _____
Assessment Outcome	**COMPETENT** ☐ **NOT YET COMPETENT** ☐ **Name of the Assessor**_____ **Assessor's code:** _____ **Signature:** _____

Portfolio (if any)	Description of portfolio
Current☐ Sufficient☐ Authentic☐ Valid☐ Reliable ☐	

Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria for the evaluation of portfolio: Submitted log book or activity record (practical journal, project, pictures etc.) completed during the training.			
Competent ☐		Not Yet Competent ☐		

Feedback to the Candidate
Candidate's Signature_____ **Assessor's Signature** _____

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		**Satisfactory**	**Not Satisfactory**
1.	What is foundation drawing?		
2	Why leveling of generator is important during installation?	**Satisfactory**	**Not Satisfactory**
4	What is the function of change over switch?	**Satisfactory**	**Not Satisfactory**

5	Why earthing is necessary?	**Satisfactory**	**Not Satisfactory**
6	Describe procedure of earthing construction and installation	**Satisfactory**	**Not Satisfactory**
7	What do you know about generator manual?	**Satisfactory**	**Not Satisfactory**

8	What is the purpose of fuel injector pump?	**Satisfactory**	**Not Satisfactory**
9	What is meant by electric cable?	**Satisfactory**	**Not Satisfactory**
10	Define sensors?	**Satisfactory**	**Not Satisfactory**

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