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*Islamabad*

# FAN MANUFACTURING TECHNICIAN


## ASSESSMENT PACKAGE

National Vocational Certificate Level 3

Version 1 - May, 2019

NAVTTC

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**Document Version**
May, 2019
**Islamabad, Pakistan**

# FAN MANUFACTURING TECHNICIAN


ASSESSMENT PACKAGE

National Vocational Certificate Level 3

Version 1 - May, 2019

| **Title of Qualification:**<br>National Vocational Certificate Level **III** in Fan Manufacturing Technician "Assembler" | CS Code:<br>072200907 | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Parts Assembling | **Assessment Date (DD/MM/YY):** | | **Assessment Time:**<br>4 Hour |

| | |
|---|---|
| Candidate Details | Name: .....<br><br>Registration/Roll Number: ..... |
| Guidance for Candidate | **To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):**<br>**1. Assessment Task 1:** Assemble and test One Fan assigned by your assessor<br>**And complete:**<br>**2. Knowledge assessment test (Written or Oral)**<br>**3. Portfolios at the time of assessment (if any)** |
| | **Assessment Task 1**<br>Performance Criteria 1: Mount ceiling fan body and plates on mandrel<br>Performance Criteria 2: Remove or add weights from body and plates for balancing if required<br>Performance Criteria 3: Set press machine as per requirement<br>Performance Criteria 4: Select bearing as per requirement<br>Performance Criteria 5: Press bearing in housing<br>Performance Criteria 6: Load rotor on balancing machine as per requirement<br>Performance Criteria 7: Remove weights (if required) from rotor for balancing<br>Performance Criteria 8: Load fixture on press machine<br>Performance Criteria 9: Load fan body in the jig<br>Performance Criteria 10: Place stator/armature in the body and press accordingly<br>Performance Criteria 11: Check air gap with filler gauge<br>Performance Criteria 12: Place plate on the body<br>Performance Criteria 13: Align screw holes of fan body and plate accordingly.<br>Performance Criteria 14: Press the plate on the body and fasten the screws<br>Performance Criteria 15: Mount the fan motor onto the hanger.<br>Performance Criteria 16: Connect to the power supply<br>Performance Criteria 17: Inspect eccentricity, noise and short circuit/ continuity<br>Performance Criteria 18: Inspect motor direction<br>Performance Criteria 19: Inspect volt, ampere, watts and power factor<br>Performance Criteria 20: Place packing between plate and blades<br>Performance Criteria 21: Mount the blades with screws and spring washers<br>Performance Criteria 22: Hang the fan on the ceiling hook<br>Performance Criteria 23: Make connections and supply power to the fan<br>Performance Criteria 24: Check speed with tachometer<br>Performance Criteria 25: Check ampere, volt, and watt<br>Performance Criteria 26: Check balancing and air flow of blades |

| | |
|---|---|
| | **Portfolios required at the time of assessment (if any) for**<br>Performance criteria 1 for the evaluation of portfolio: Diary log of practical work for performing assembling operation of Fan Parts<br>Performance criteria 2 for the evaluation of portfolio: Diary log of practical work for performing Test operations of Fan Parts |

*Continued on following page*

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

| | |
|---|---|
| Candidate Details | Name: ..... Registration/Roll Number: .....<br>Candidate Signature:..... ..... |
| Assessment Outcome | COMPETENT ☐ NOT YET COMPETENT ☐<br>Name of the Assessor: ..... Assessor's code: .....<br>Signature of the Assessor:..... ..... |

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

| | |
|---|---|
| Portfolio (if any) | Description of portfolio<br>Diary log of practical work |
| Current ☐ Sufficient ☐ Authentic ☐ Valid ☐ Reliable ☐ | |

| Portfolio meet the following performance standards: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance criteria 1 for the evaluation of portfolio: Diary log of practical work for performing assembling operation of Fan Parts | | | |
| 2 | Performance criteria 2 for the evaluation of portfolio: Diary log of practical work for performing Test operations of Fan Parts | | | |
| Competent ☐ | | Not Yet Competent ☐ | | |

| Assessment Task 1 | Description of assessment task 1<br>Assemble and test One Fan assigned by your assessor |
|---|---|

| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance Criteria 1: Mount ceiling fan body and plates on mandrel | | | |
| 2 | Performance Criteria 2: Remove or add weights from body and plates for balancing if required | | | |
| 3 | Performance Criteria 3: Set press machine as per requirement | | | |
| 4 | Performance Criteria 4: Select bearing as per requirement | | | |
| 5 | Performance Criteria 5: Press bearing in housing | | | |
| 6 | Performance Criteria 6: Load rotor on balancing machine as per requirement | | | |
| 7 | Performance Criteria 7: Remove weights (if required) from rotor for balancing | | | |
| 8 | Performance Criteria 8: Load fixture on press machine | | | |
| 9 | Performance Criteria 9: Load fan body in the jig | | | |
| 10 | Performance Criteria 10: Place stator/armature in the body and press accordingly | | | |
| 11 | Performance Criteria 11: Check air gap with filler gauge | | | |
| 12 | Performance Criteria 12:  Place plate on the body | | | |
| 13 | Performance Criteria 13: Align screw holes of fan body and plate accordingly. | | | |
| 14 | Performance Criteria 14: Press the plate on the body and fasten the screws | | | |
| 15 | Performance Criteria 15: Mount the fan motor onto the hanger. | | | |
| 16 | Performance Criteria 16: Connect to the power supply | | | |
| 17 | Performance Criteria 17: Inspect eccentricity, noise and short circuit/ continuity | | | |
| 18 | Performance Criteria 18: Inspect motor direction | | | |
| 19 | Performance Criteria 19: Inspect volt, ampere, watts and power factor | | | |
| 20 | Performance Criteria 20: Place packing between plate and blades | | | |
| 21 | Performance Criteria 21: Mount the blades with screws and spring washers | | | |
| 22 | Performance Criteria 22: Hang the fan on the ceiling hook | | | |
| 23 | Performance Criteria 23: Make connections and supply power to the fan | | | |
| 24 | Performance Criteria 24: Check speed with tachometer | | | |
| 25 | Performance Criteria 25: Check ampere, volt, and watt | | | |

| | | | | |
|---|---|---|---|---|
| 26 | Performance Criteria 26: Check balancing and air flow of blades | | | |
| Competent ☐ | | Not Yet Competent ☐ | | |

| **Title of Qualification:**<br>National Vocational Certificate Level **III** in Fan Manufacturing Technician "Winder" | CS Code:<br>072200906 | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Winding | **Assessment Date (DD/MM/YY):** | | **Assessment Duration**<br>4 Hour |

| | |
|---|---|
| Candidate Details | Name: .....<br><br>Registration/Roll Number: ..... |
| Guidance for Candidate | **To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):**<br>**4. Assessment Task 1:** Perform manually complete winding of **One** Fan Motor as assigned by your assessor<br>**5. Assessment Task 2:** Perform winding of **One** Fan Motor on fan winding machine as assigned by your assessor<br>**And complete:**<br>**6. Knowledge assessment test (Written or Oral)**<br>**7. Portfolios at the time of assessment (if any)** |
| | **During a practical assessment, under observation by an assessor, you will complete:**<br>**Assessment Task 1**<br>Performance Criteria 1: Select wire as per required gauge<br>Performance Criteria 2: Make coils as per fan motor<br>Performance Criteria 3: Select insulation paper and insulation cover (for DC invertor Fan motor)<br>Performance Criteria 4: Cut insulation paper as per slot size<br>Performance Criteria 5: Insert insulation paper in stator slots<br>Performance Criteria 6: Insert coil in internal slot as per pitch<br>Performance Criteria 7: Insert coil in external slot as per pitch<br>Performance Criteria 8: Insert wedge/insulation paper<br>Performance Criteria 9: Connect coil with each other as per circuit diagram<br>Performance Criteria 10: Perform lacing of coils<br>Performance Criteria 11: Select varnish grade as per standard<br>Performance Criteria 12: Apply varnish to motor<br>Performance Criteria 13: Dry varnish of motor<br>Performance Criteria 14: Adjust test parameters of test bench as per requirement<br>Performance Criteria 15: Perform continuity, high voltage, and power input tests<br>Performance Criteria 16: Record warning indication and follow as per SOPs. |
| | **Assessment Task 2**<br>Performance Criteria 1: Insertion of insulated winding wires<br>Performance Criteria 2: Data feeding on machine panel (No. of turns**,** pitch)<br>Performance Criteria 3: Adjustment of stator on machine bed<br>Performance Criteria 4: Operating the machine(winding outer coils, winding inner coils) |
| | **Portfolios required at the time of assessment (if any) for**<br>Performance criteria 1 for the evaluation of portfolio: Diary log of practical work for winding of Fan Motor |

*Continued on following page*

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

| | |
|---|---|
| Candidate Details | Name: ..... Registration/Roll Number: .....<br>Candidate Signature:..... ..... |
| Assessment Outcome | COMPETENT ☐ NOT YET COMPETENT ☐<br>Name of the Assessor: ..... Assessor's code: .....<br>Signature of the Assessor:..... ..... |

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

| Assessment Task 1 | Description of assessment task 1<br>Perform complete winding of **One** Fan Motor as assigned by your assessor |
|---|---|

| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance Criteria 1: Select wire as per required gauge | | | |
| 2 | Performance Criteria 2: Make coils as per fan motor | | | |
| 3 | Performance Criteria 3: Select insulation paper and insulation cover (for DC invertor Fan motor) | | | |
| 4 | Performance Criteria 4: Cut insulation paper as per slot size. | | | |
| 5 | Performance Criteria 5: Insert insulation paper in stator slots. | | | |
| 6 | Performance Criteria 6: Insert coil in internal slot as per pitch | | | |
| 7 | Performance Criteria 7: Insert coil in external slot as per pitch | | | |
| 8 | Performance Criteria 8: Insert wedge/insulation paper | | | |
| 9 | Performance Criteria 9: Connect coil with each other as per circuit diagram | | | |
| 10 | Performance Criteria 10: Perform lacing of coils | | | |
| 11 | Performance Criteria 11: Select varnish grade as per standard | | | |
| 12 | Performance Criteria 12: Apply varnish to motor | | | |
| 13 | Performance Criteria 13: Dry varnish of motor | | | |
| 14 | Performance Criteria 14: Adjust test parameters of test bench as per requirement | | | |
| 15 | Performance Criteria 15: Perform continuity, high voltage, and power input tests | | | |
| 16 | Performance Criteria 16: Record warning indication and follow as per SOPs | | | |

| Competent ☐ | Not Yet Competent ☐ |
|---|---|

| Assessment Task 2 | Description of assessment task 2<br>Perform winding of **One** Fan Motor on fan winding machine as assigned by your assessor |
|---|---|

| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance Criteria 1: Insertion of insulated winding wires | | | |
| 2 | Performance Criteria 2: Data feeding on machine panel (No. of turns**,** pitch) | | | |
| 3 | Performance Criteria 3: Adjustment of stator on machine bed | | | |
| 4 | Performance Criteria 4: Operating the machine(winding outer coils, winding inner coils) | | | |

| Competent ☐ | Not Yet Competent ☐ |
|---|---|

| Portfolio (if any) | Description of portfolio<br>Diary log for practical work |
|---|---|
| Current ☐ Sufficient ☐ Authentic ☐ Valid ☐ Reliable ☐ | |

| Portfolio meet the following performance standards: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance criteria 1 for the evaluation of portfolio:<br>Diary log of practical work for winding of Fan Motor | | | |

| Competent ☐ | Not Yet Competent ☐ |
|---|---|

| **Title of Qualification:**<br>National Vocational Certificate Level **III** in Fan Manufacturing Technician "Assembler" | CS Code: | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Parts Assembling | **Assessment Date (DD/MM/YY):** | | **Assessment Time:**<br>4 Hour |

| | |
|---|---|
| Candidate Details | Name: .....<br><br>Registration/Roll Number: ..... |
| Guidance for Candidate | **To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):**<br>**8. Assessment Task 1:** Assemble and test One Fan assigned by your assessor<br>**And complete:**<br>**9. Knowledge assessment test (Written or Oral)**<br>**10. Portfolios at the time of assessment (if any)** |
| | **Assessment Task 1**<br>Performance Criteria 1: Mount ceiling fan body and plates on mandrel<br>Performance Criteria 2: Remove or add weights from body and plates for balancing if required<br>Performance Criteria 3: Set press machine as per requirement<br>Performance Criteria 4: Select bearing as per requirement<br>Performance Criteria 5: Press bearing in housing<br>Performance Criteria 6: Load rotor on balancing machine as per requirement<br>Performance Criteria 7: Remove weights (if required) from rotor for balancing<br>Performance Criteria 8: Load fixture on press machine<br>Performance Criteria 9: Load fan body in the jig<br>Performance Criteria 10: Place stator/armature in the body and press accordingly<br>Performance Criteria 11: Check air gap with filler gauge<br>Performance Criteria 12: Place plate on the body<br>Performance Criteria 13: Align screw holes of fan body and plate accordingly.<br>Performance Criteria 14: Press the plate on the body and fasten the screws<br>Performance Criteria 15: Mount the fan motor onto the hanger.<br>Performance Criteria 16: Connect to the power supply<br>Performance Criteria 17: Inspect eccentricity, noise and short circuit/ continuity<br>Performance Criteria 18: Inspect motor direction<br>Performance Criteria 19: Inspect volt, ampere, watts and power factor<br>Performance Criteria 20: Place packing between plate and blades<br>Performance Criteria 21: Mount the blades with screws and spring washers<br>Performance Criteria 22: Hang the fan on the ceiling hook<br>Performance Criteria 23: Make connections and supply power to the fan<br>Performance Criteria 24: Check speed with tachometer<br>Performance Criteria 25: Check ampere, volt, and watt<br>Performance Criteria 26: Check balancing and air flow of blades |

| | |
|---|---|
| | **Portfolios required at the time of assessment (if any) for**<br>Performance criteria 1 for the evaluation of portfolio: Diary log of practical work for performing assembling operation of Fan Parts<br>Performance criteria 2 for the evaluation of portfolio: Diary log of practical work for performing Test operations of Fan Parts |

*Continued on following page*

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

| | |
|---|---|
| Candidate Details | Name: ..... Registration/Roll Number: .....<br>Candidate Signature:..... ..... |
| Assessment Outcome | COMPETENT ☐ NOT YET COMPETENT ☐<br>Name of the Assessor: ..... Assessor's code: .....<br>Signature of the Assessor:..... ..... |

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

| | |
|---|---|
| Portfolio (if any) | Description of portfolio<br>Diary log of practical work |
| Current ☐ Sufficient ☐ Authentic ☐ Valid ☐ Reliable ☐ | |

| Portfolio meet the following performance standards: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance criteria 1 for the evaluation of portfolio: Diary log of practical work for performing assembling operation of Fan Parts | | | |
| 2 | Performance criteria 2 for the evaluation of portfolio: Diary log of practical work for performing Test operations of Fan Parts | | | |
| Competent ☐ | | Not Yet Competent ☐ | | |

| Assessment Task 1 | Description of assessment task 1<br>Assemble and test One Fan assigned by your assessor |
|---|---|

| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance Criteria 1: Mount ceiling fan body and plates on mandrel | | | |
| 2 | Performance Criteria 2: Remove or add weights from body and plates for balancing if required | | | |
| 3 | Performance Criteria 3: Set press machine as per requirement | | | |
| 4 | Performance Criteria 4: Select bearing as per requirement | | | |
| 5 | Performance Criteria 5: Press bearing in housing | | | |
| 6 | Performance Criteria 6: Load rotor on balancing machine as per requirement | | | |
| 7 | Performance Criteria 7: Remove weights (if required) from rotor for balancing | | | |
| 8 | Performance Criteria 8: Load fixture on press machine | | | |
| 9 | Performance Criteria 9: Load fan body in the jig | | | |
| 10 | Performance Criteria 10: Place stator/armature in the body and press accordingly | | | |
| 11 | Performance Criteria 11: Check air gap with filler gauge | | | |
| 12 | Performance Criteria 12:  Place plate on the body | | | |
| 13 | Performance Criteria 13: Align screw holes of fan body and plate accordingly. | | | |
| 14 | Performance Criteria 14: Press the plate on the body and fasten the screws | | | |
| 15 | Performance Criteria 15: Mount the fan motor onto the hanger. | | | |
| 16 | Performance Criteria 16: Connect to the power supply | | | |
| 17 | Performance Criteria 17: Inspect eccentricity, noise and short circuit/ continuity | | | |
| 18 | Performance Criteria 18: Inspect motor direction | | | |
| 19 | Performance Criteria 19: Inspect volt, ampere, watts and power factor | | | |
| 20 | Performance Criteria 20: Place packing between plate and blades | | | |
| 21 | Performance Criteria 21: Mount the blades with screws and spring washers | | | |
| 22 | Performance Criteria 22: Hang the fan on the ceiling hook | | | |
| 23 | Performance Criteria 23: Make connections and supply power to the fan | | | |
| 24 | Performance Criteria 24: Check speed with tachometer | | | |
| 25 | Performance Criteria 25: Check ampere, volt, and watt | | | |

| | | | | |
|---|---|---|---|---|
| 26 | Performance Criteria 26: Check balancing and air flow of blades | | | |
| Competent ☐ | | Not Yet Competent ☐ | | |

| **Title of Qualification:**<br>National Vocational Certificate Level **III** in Fan Manufacturing Technician "Winder" | CS Code:<br>……. | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Winding | **Assessment Date (DD/MM/YY):** | | **Assessment Duration**<br>4 Hour |

| | |
|---|---|
| Candidate Details | Name: .....<br><br>Registration/Roll Number: ..... |
| Guidance for Candidate | **To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):**<br>**11. Assessment Task 1:** Perform manually complete winding of **One** Fan Motor as assigned by your assessor<br>**12. Assessment Task 2:** Perform winding of **One** Fan Motor on fan winding machine as assigned by your assessor<br>**And complete:**<br>**13. Knowledge assessment test (Written or Oral)**<br>**14. Portfolios at the time of assessment (if any)** |
| | **During a practical assessment, under observation by an assessor, you will complete:**<br>**Assessment Task 1**<br>Performance Criteria 1: Select wire as per required gauge<br>Performance Criteria 2: Make coils as per fan motor<br>Performance Criteria 3: Select insulation paper and insulation cover (for DC invertor Fan motor)<br>Performance Criteria 4: Cut insulation paper as per slot size<br>Performance Criteria 5: Insert insulation paper in stator slots<br>Performance Criteria 6: Insert coil in internal slot as per pitch<br>Performance Criteria 7: Insert coil in external slot as per pitch<br>Performance Criteria 8: Insert wedge/insulation paper<br>Performance Criteria 9: Connect coil with each other as per circuit diagram<br>Performance Criteria 10: Perform lacing of coils<br>Performance Criteria 11: Select varnish grade as per standard<br>Performance Criteria 12: Apply varnish to motor<br>Performance Criteria 13: Dry varnish of motor<br>Performance Criteria 14: Adjust test parameters of test bench as per requirement<br>Performance Criteria 15: Perform continuity, high voltage, and power input tests<br>Performance Criteria 16: Record warning indication and follow as per SOPs. |
| | **Assessment Task 2**<br>Performance Criteria 1: Insertion of insulated winding wires<br>Performance Criteria 2: Data feeding on machine panel (No. of turns**,** pitch)<br>Performance Criteria 3: Adjustment of stator on machine bed<br>Performance Criteria 4: Operating the machine(winding outer coils, winding inner coils) |
| | **Portfolios required at the time of assessment (if any) for**<br>Performance criteria 1 for the evaluation of portfolio: Diary log of practical work for winding of Fan Motor |

*Continued on following page*

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

| | |
|---|---|
| Candidate Details | Name: ..... Registration/Roll Number: .....<br>Candidate Signature:..... ..... |
| Assessment Outcome | COMPETENT ☐ NOT YET COMPETENT ☐<br>Name of the Assessor: ..... Assessor's code: .....<br>Signature of the Assessor:..... ..... |

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

| Assessment Task 1 | Description of assessment task 1<br>Perform complete winding of **One** Fan Motor as assigned by your assessor |
|---|---|

| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance Criteria 1: Select wire as per required gauge | | | |
| 2 | Performance Criteria 2: Make coils as per fan motor | | | |
| 3 | Performance Criteria 3: Select insulation paper and insulation cover (for DC invertor Fan motor) | | | |
| 4 | Performance Criteria 4: Cut insulation paper as per slot size. | | | |
| 5 | Performance Criteria 5: Insert insulation paper in stator slots. | | | |
| 6 | Performance Criteria 6: Insert coil in internal slot as per pitch | | | |
| 7 | Performance Criteria 7: Insert coil in external slot as per pitch | | | |
| 8 | Performance Criteria 8: Insert wedge/insulation paper | | | |
| 9 | Performance Criteria 9: Connect coil with each other as per circuit diagram | | | |
| 10 | Performance Criteria 10: Perform lacing of coils | | | |
| 11 | Performance Criteria 11: Select varnish grade as per standard | | | |
| 12 | Performance Criteria 12: Apply varnish to motor | | | |
| 13 | Performance Criteria 13: Dry varnish of motor | | | |
| 14 | Performance Criteria 14: Adjust test parameters of test bench as per requirement | | | |
| 15 | Performance Criteria 15: Perform continuity, high voltage, and power input tests | | | |
| 16 | Performance Criteria 16: Record warning indication and follow as per SOPs | | | |

| Competent ☐ | Not Yet Competent ☐ |
|---|---|

| Assessment Task 2 | Description of assessment task 2<br>Perform winding of **One** Fan Motor on fan winding machine as assigned by your assessor |
|---|---|

| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
|---|---|---|---|---|
| 1 | Performance Criteria 1: Insertion of insulated winding wires | | | |
| 2 | Performance Criteria 2: Data feeding on machine panel (No. of turns**,** pitch) | | | |
| 3 | Performance Criteria 3: Adjustment of stator on machine bed | | | |
| 4 | Performance Criteria 4: Operating the machine(winding outer coils, winding inner coils) | | | |

| Competent ☐ | Not Yet Competent ☐ |
|---|---|

| Portfolio (if any) | | Description of portfolio<br>Diary log for practical work | | |
|---|---|---|---|---|
| Current ☐ Sufficient ☐ Authentic ☐ Valid ☐ Reliable ☐ | | | | |
| Portfolio meet the following performance standards: | | Yes | No | Remarks |
| 1 | Performance criteria 1 for the evaluation of portfolio:<br>Diary log of practical work for winding of Fan Motor | | | |
| Competent ☐ | | Not Yet Competent ☐ | | |

| **Title of Qualification:**<br>National Vocational Certificate Level III in Fan Manufacturing Technician “Assembler” | CS Code: | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Parts Assembling | **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:<br>Candidate Signature:..... ..... |
|---|---|
| Written Assessment Outcome | COMPETENT ☐ NOT YET COMPETENT ☐<br>Name of the Assessor:..... Assessor’s code:<br>Signature of the Assessor:..... ..... |

| **Title of Qualification:**<br>National Vocational Certificate Level III in Fan Manufacturing Technician "Assembler" | CS Code: | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Parts Assembling | **Assessment Date (DD/MM/YY):** | | |

**WRITTEN ASSESSMENT**

| **Question** | **Candidate's answer** |
|---|---|
| Why does fan wobble? | |
| What is fan balancing? | |
| Air delivery of fan depends upon which part? | |
| Which tool is used to measure the air gap between rotor and stator? | |
| Why do ceiling fan have three blades? | |
| In fan assembly shop, hydraulic press is used for<br>a) Winding fan motor<br>b) Varnishing fan motor<br>c) Inserting armature in fan body housing<br>To test fan motor | |
| Why bearings are used in fan? | |
| Bearing number shows<br>1. Size of bearing<br>2. Quality of bearing<br>3. Price of bearing<br>4. Usage of bearing | |

| Question | Candidate's answer |
| --- | --- |
| How DC fan works? | |

| **Title of Qualification:**<br>National Vocational Certificate Level III in Fan Manufacturing Technician “Winder” | CS Code: | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Winding | **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:<br>Candidate Signature:..... ..... |
|---|---|
| Written Assessment Outcome | COMPETENT ☐ NOT YET COMPETENT ☐<br>Name of the Assessor:..... Assessor’s code:<br>Signature of the Assessor:..... ..... |

| **Title of Qualification:**<br>National Vocational Certificate Level III in Fan Manufacturing Technician "Winder" | CS Code: | Level:<br>03 | Version:<br>01 |
|---|---|---|---|
| **Competency Standard Title:**<br>Perform Winding | **Assessment Date (DD/MM/YY):** | | |

**WRITTEN ASSESSMENT**

| Question | Candidate's answer |
|---|---|
| What is an electric coil? | |
| What is a coil of wire in a motor called? | |
| What is a coil winding machine? | |
| What is the difference between a coil and winding in a motor? | |
| What is the definition of electric wire? | |
| How to Test Electric Motor Windings? | |
| What do you mean by single phase induction motor? | |

| Question | Candidate's answer |
| --- | --- |
| What is the pole pitch of winding? | |
| Define single layer winding | |

**National Vocational and Technical Training Commission (NAVTTC)**

Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
+92 51 9044 322
+92 51 9044 322
info@navttc.org
www.navttc.org