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कौशल भारत - कुशल भारत



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# Sample Test Project

**State Skill Competition**

**Skill - Refrigeration and Air Conditioning**

*Category: Construction and Building Technology*

**A. Preface**

**B. Test Project**

**C. Marking Scheme**

**D. Instructions for candidates**

**F. Health, Safety, and Environment**

## ***A. Preface***

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### **Skill Explained:**

An Refrigeration and Air conditioning Technician works on residential and ,commercial projects,There is a direct relationship between the nature and quality of the product and the payment made by the customer. Therefore an Refrigeration and Air conditioning Technician has continuing responsibility to work professionally in order to meet the requirements of the customer and thus maintain and grow the business.Air conditioning Installation is closely associated with other parts of the construction industry and with the many products that support it.

### **Eligibility Criteria (for IndiaSkills 2018 and WorldSkills 2019):**

Competitors born on or after 01 Jan 1997 are eligible to attend the Competition.

**Total Duration: 8 Hrs in two days**

## **B. TEST PROJECT:**

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### **Module A. Install & commission of Air conditioner system Max. Time allowed : 4 Hrs**

The competitors are required to arrest leak in an air-conditioning system.

### **Module B. Refrigeration system fault find, repair and commissioning Time allowed : 4 Hrs**

The competitors will be provided with refrigeration system with mechanical faults. Competitors will be required to identify mechanical faults and repair the faults and recharge refrigerant.

## C . MARKING SCHEME:

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### **Module A. Leak arrest& commission of Air conditioner system** Time allowed : 4 Hrs

1. Leak arrest air conditioning system (Marks:10)
2. Pressure test the system (Marks:10)
3. Evacuation (Marks: 10)
4. Charging with refrigerant (Marks:10)
5. Commission the system (Marks:10)

**Total Marks : 50**

### **Module B. Refrigeration system fault find, repair and commissioning** Time allowed : 4 Hrs

1. Replace capillary tube (Marks: 10}
2. Pressure test the system (Marks: 10)
3. Evacuation (Marks: 15)
4. Charging with refrigerant (Marks: 10)
5. Commission the system (Marks:5)

**Total Marks : 50**

## ***D. Instructions for candidates***

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### **Module A. Leak arrest & commission of Air conditioner system**

**Max. Time allowed: 4 Hrs**

**Marks: 50**

Scope: The competitors are required to arrest leak in an air-conditioning system..

**1. Leak arrest air conditioning system:**

All competitors will be supply with all necessary equipments and materials to complete to arrest leak in the air conditioning system .

**2. Pressure test the system:**

Carryout staged pressure test with dry Nitrogen .

**3. Evacuation:**

Evacuate the system using deep vacuum method at least 1000 microns

**4. Charging with refrigerant:**

Charge the refrigeration system with the required weight of refrigerant.

**5. Commission the system:**

Competitors are to commission for the system for normal operation.

## **Module B. Refrigeration system fault find, repair and commissioning**

**Max. Time allowed : 4 Hrs**

**Marks : 50**

**Scope:**The competitors will be provided with refrigeration system with mechanical faults. Competitors will be required to identify mechanical faults and repair the faults and recharge refrigerant.

**1. Replace filter drier:**

All competitors are required to replace the defective filter drier.

**2. Pressure test the system:**

Carryout staged pressure test with dry Nitrogen.

**3. Evacuation:**

Evacuate the system using deep vacuum method at least 500 microns

**4. Charging with refrigerant:**

Charge the refrigeration system with the required weight of refrigerant.

**5. Commission the system:**

Competitors are to commission for the system for normal operation

## ***F. Health, Safety, and Environment***

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During the competition , all competitors must follow the safety rules listed below along with the local health , safety and environment requirements of the test centre.

1. Personal safety
2. Equipment safety
3. Electrical safety