

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – RAC SERVICING (DOMRAC)
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 1: PREPARING MATERIALS AND TOOLS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Identifying and classifying materials, tools, and equipment Quantifying/estimating tools and materials Specifying refrigeration materials Requesting tools and materials Making/following reports Storing/stockpiling materials 	<ol style="list-style-type: none"> Job requirements are identified. HVAC materials and tools are identified. Quantity of each material to be used is determined or specified. Correct quantity and quality of materials are determined as per job requirement. 	LO1. Identify materials and tools	Activity No.1 Making Clip Arts or Album of Materials, Tools, and Equipment according to classification	<ul style="list-style-type: none"> Written test Performance test 	3 hours
<ul style="list-style-type: none"> Manuals and plan specifications Interpreting manuals. 	<ol style="list-style-type: none"> Refrigeration materials needed are requested according to prepared list. Requisition form / slip is accomplished accurately and properly. Request is done according to company standard operating procedure. 	LO2. Request materials and tools	Activity No.1 Research Work on procedure in requesting tools and materials needed	<ul style="list-style-type: none"> Written test Performance test 	2 hours

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LESSON 2: PERFORMING MENSURATION AND CALCULATIONS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Selecting measuring instruments Identifying units of measurement to be used Calculating heat load 	<ol style="list-style-type: none"> Object or component to be measured is identified, classified, and interpreted according to the appropriate regular geometric shape. Measuring tools are selected/identified as per object to be measured or job requirements. 	LO1. Select measuring instruments	Activity No. 1 Actual measurement of given objects Activity No. 2 Reading of graduations in metric rule.	<ul style="list-style-type: none"> Written test Performance test 	4 hours
<ul style="list-style-type: none"> Using linear measurements 	<ol style="list-style-type: none"> Accurate measurements are obtained according to job requirements. Instruments are read to the limit of accuracy of the tool. Work pieces are measured according to job requirements. 	LO2. Carry out measurements and calculations	Activity No. 1 Checking each other's body temperature using a thermometer	<ul style="list-style-type: none"> Performance Test Written Test 	3 hours

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LESSON 3: INTERPRETING TECHNICAL DRAWINGS AND PLANS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Determining refrigeration symbols and signs 	<ol style="list-style-type: none"> Signs, symbols, and data are determined according to classification or as appropriate in drawing. 	LO1. Analyze signs, symbols and data	Activity No.1 Making Schematic Diagram, Pictorial Drawing used in RAC.	<ul style="list-style-type: none"> Written test Performance test 	4 hours
	<ol style="list-style-type: none"> Components, assemblies or object are recognized as per job requirement. Dimensions and specification are identified according to job requirements. 	LO2. Interpret technical drawings and plans		<ul style="list-style-type: none"> Written test Performance test 	3 hours

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LESSON 4: MAINTAINING TOOLS AND EQUIPMENT					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Proper maintenance of tools and equipment • Testing procedures • Parts and functions of HVAC/R equipment • Housekeeping 	<ol style="list-style-type: none"> 1. Tools and equipment are maintained. 2. Non-functional tools and equipment are segregated and labeled. 3. Non-functional tools are stored prior to repair. 4. Safe handling of tools and equipment are applied. 5. Safe working habits are observed. 	<p>LO1. Check condition of tools and components</p>	<p>Activity No. 1 Identification of functional and non-functional tools and equipment</p>	<ul style="list-style-type: none"> • Written test • Performance test 	<p>3 hours</p>
<ul style="list-style-type: none"> • Types of lubricants • Inventory guidelines and procedures • HVAC/R equipment, tools and instrument types and specifications • Lubrication procedures 	<ol style="list-style-type: none"> 1. Appropriate lubricants are identified according to types of equipment. 2. Lubricated hand tools are properly stored. 3. Inventory of tools, instruments and equipment are conducted and recorded. 4. Defective hand tools, instruments, equipment and accessories are replaced according to manufacturer’s specification. 5. Proper housekeeping is applied 	<p>LO2. Perform basic preventive maintenance</p>	<p>Activity No.1 Marking or labeling the storage area of tools and materials.</p> <p>Activity No.2 Applying oil/lubricants in different tools</p>	<ul style="list-style-type: none"> • Written test • Performance test 	<p>4 hours</p>

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LESSON 5: PERFORMING HOUSEKEEPING AND SAFETY PRACTICES					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Classification of tools, equipment and materials. • Considerations in the selection of appropriate areas for storing materials, tools, and equipment. 	<ol style="list-style-type: none"> 1. Materials, tools and equipment are classified according to their kind. 2. Appropriate areas for materials, tools, and equipment are designated. 	<p>LO1. Sort materials, tools and equipment</p>	<p>Activity No.1 Classifying of tools, equipment, and materials.</p>	<ul style="list-style-type: none"> • Written test • Performance test 	<p>3 hours</p>
<ul style="list-style-type: none"> • Cleaning materials, types and applications. • Procedures in cleaning workplace area, tools, and equipment. • Consideration of a safe workplace area, tools, and equipment. 	<ol style="list-style-type: none"> 1. Cleaning materials are identified according to specified application and procedures 2. Workplace area, tools, materials and equipment are cleaned using specified cleaning materials. 3. Workplaces are in safe condition in accordance with safety regulation practices. 	<p>LO2. Clean workplace area, materials, tools and equipment.</p>	<p>Activity No.1 Performing cleaning in specific areas of the workplace.</p>	<ul style="list-style-type: none"> • Written examination 	<p>2 hours</p>
<ul style="list-style-type: none"> • Procedures in dispensing and retrieval of materials; tools, and equipment • Things to be considered in returning the borrowed tools and equipment. 	<ol style="list-style-type: none"> 1. System for requesting, borrowing and returning of materials, tools, and equipment is followed and implemented. 2. Form used is completely 	<p>LO3. Systematize dispensing and retrieval of materials, tools and equipment</p>	<ol style="list-style-type: none"> 1. Filling-up needed forms <ul style="list-style-type: none"> • barrower's slip • requisition form 2. Locating and/or returning tools and materials in designated areas in the 	<ul style="list-style-type: none"> • Written examination • Performance assessment 	<p>2 hours</p>

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	filled-up and filed. 3. Borrowed tools and equipment are returned to designated area. 4. Materials are consumed as requested.		tool room.		
					37 hours