

## **EXAM: JOURNEYMAN HVAC MECHANIC**

One Part, Open Book, 80 Multiple-Choice Questions, 4-Hour Time Limit  
Reference: Uniform Mechanical Code, 2006

### **Content Outline**

The content outline is a list of job tasks performed by the Journeyman HVAC Mechanic. The outline is organized by subject content areas with job tasks listed in each. In the process of analyzing the relative importance of the various job tasks, the Exam Development Committee determined the number of questions on the exam for each content area.

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|--|----------------|-------|-----------------|
| <b>01. GENERAL CODE PROVISIONS, HVAC PRINCIPALS, &amp; TECHNOLOGY</b>  | (Content Area) | (10%) | <b>8 Items</b>  |
| <b>0101. HVAC Principals, Code Definitions, and Terms</b>  | (Job Task)     |       | <b>5 Items</b>  |
| Perform installations according to HVAC theory, technology and principals and communicate with inspectors, customers, and associates using code definitions and accepted trade terms found on supply lists, drawings, blue prints, sketches, and specifications.   |                |       |                 |
| <b>0102. Plan Reading</b>  | (Job Task)     |       | <b>3 Items</b>  |
| Obtain required permits, read and Interpret plans, and install HVAC equipment according to plans and code provisions.  |                |       |                 |
| <b>02. HEATING AND COOLING EQUIPMENT</b>   | (Content Area) | (17%) | <b>13 Items</b> |
| <b>0201. Heating Equipment</b>   | (Job Task)     |       | <b>4 Items</b>  |
| Install mechanical equipment and appliances including boilers in compliance with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access, clearances, supply air, return air, and connection to ducts and plenums.   |                |       |                 |
| <b>0202. Cooling Equipment</b>   | (Job Task)     |       | <b>5 Items</b>  |
| Install cooling systems and cooling units in compliance with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access and clearances, supply air, return air, and connection to ducts and plenums.  |                |       |                 |
| <b>0203. Other Systems</b>   | (Job Task)     |       | <b>2 Items</b>  |
| Install special systems utilizing fuel burning equipment such as interior open-flame grills, pool and sauna heaters, hydronic heating systems and decorative appliances in compliance with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access and clearances. |                |       |                 |
| <b>0204. Refrigeration Systems</b>   | (Job Task)     |       | <b>2 Items</b>  |
| Install refrigeration systems in compliance with code provisions including pipe sizing, refrigerant classification, machinery room requirements.   |                |       |                 |
| <b>03. EXHAUST SYSTEMS</b>   | (Content Area) | (18%) | <b>15 Items</b> |
| <b>0301. Exhaust Fans, and Product Conveying Systems</b>   | (Job Task)     |       | <b>4 Items</b>  |
| Install exhaust fans and product conveying systems in compliance with code requirements and provide proper mechanical ventilation where required.  |                |       |                 |
| <b>0302. Clothes Dryer Exhaust</b>   | (Job Task)     |       | <b>4 Items</b>  |
| Install clothes dryer exhaust ducts in compliance with code requirements.  |                |       |                 |
| <b>0303. Commercial Hoods and Kitchen Ventilation</b>  | (Job Task)     |       | <b>7 Items</b>  |
| Install commercial hoods and ventilation equipment in compliance with code requirements and provide proper mechanical ventilation where required.  |                |       |                 |

<b>04. DUCT SYSTEMS</b> (Content Area)	<b>(17%) 14 Items</b>
<b>0401. Duct Construction, Installation and Plenums</b> (Job Task)	<b>7 Items</b>
Construct ducts acceptable materials and install ducts in compliance with code requirements and approved installation methods, including support and insulation.	
<b>0402. Duct and Plenum Use and Application</b> (Job Task)	<b>3 Items</b>
Use proper ducts and plenums with the mechanical system installed verify sizing of the supply and return air ducts.	
<b>0403. Smoke and Fire Dampers</b> (Job Task)	<b>4 Items</b>
Install smoke and fire dampers where needed in compliance with code provisions.	
<b>05. COMBUSTION AIR</b> (Content Area)	<b>(14%) 11 Items</b>
<b>0501. Combustion Air</b> (Job Task)	<b>11 Items</b>
Determine proper sources of air supply for fuel burning appliances including size and location of openings and that proper materials and installation methods of combustion air ducts comply with code.	
<b>06. CHIMNEYS AND VENTS</b> (Content Area)	<b>(15%) 12 Items</b>
<b>0601. Venting of Fuel Burning Appliances</b> (Job Task)	<b>6 Items</b>
Install vents and venting systems in compliance with code including proper size, type, location, clearances, connections, and terminations.	
<b>0602. Chimney and Vent Connectors</b> (Job Task)	<b>4 Items</b>
Install chimneys and vent connectors in compliance with code including proper size, type, location, and clearances.	
<b>0603. Factory-Built Chimneys and Fireplaces</b> (Job Task)	<b>2 Items</b>
Install factory-built chimneys and connectors in compliance with code including clearances, bracing, listing and labeling.	
<b>07. FUEL SUPPLY SYSTEMS</b> (Content Area)	<b>(9%) 7 Items</b>
<b>0701. Fuel Supply Installation and Sizing</b> (Job Task)	<b>4 Items</b>
Install gas piping systems with proper materials, supports and determine proper gas pipe size. Test gas piping for tightness.	
<b>0702. Fuel System Connections</b> (Job Task)	<b>3 Items</b>
Install fittings, valves, and connections in compliance with code including the material used in transitions.	