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<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Foundry and Welding Technology Quiz</title>
  <style>
    * {
      box-sizing: border-box;
      margin: 0;
      padding: 0;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
    }

    body {
      background-color: #f5f7fa;
      color: #333;
      line-height: 1.6;
    }

    .container {
      max-width: 1200px;
      margin: 0 auto;
      padding: 20px;
    }

    header {
      text-align: center;
      margin-bottom: 30px;
      padding: 20px;
      background: linear-gradient(135deg, #1a6fc4, #0d47a1);
      color: white;
      border-radius: 10px;
      box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
    }

    h1 {
      font-size: 2.5rem;
      margin-bottom: 10px;
    }

    .subtitle {
      font-size: 1.2rem;
      opacity: 0.9;
    }

    .stats-container {
      display: flex;
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justify-content: space-between;
margin-bottom: 20px;
flex-wrap: wrap;
gap: 10px;
}

.stat-box {
background: white;
padding: 15px;
border-radius: 8px;
box-shadow: 0 2px 4px rgba(0, 0, 0, 0.1);
flex: 1;
min-width: 150px;
text-align: center;
}

.stat-value {
font-size: 2rem;
font-weight: bold;
margin: 5px 0;
}

.correct {
color: #2ecc71;
}

.incorrect {
color: #e74c3c;
}

.remaining {
color: #3498db;
}

.score {
color: #9b59b6;
}

.controls {
display: flex;
justify-content: center;
gap: 15px;
margin-bottom: 20px;
}

button {
padding: 12px 25px;
border: none;
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border-radius: 5px;
cursor: pointer;
font-size: 1rem;
font-weight: 600;
transition: all 0.3s ease;
}

#startBtn, #restartBtn {
background-color: #2ecc71;
color: white;
}

#startBtn:hover, #restartBtn:hover {
background-color: #27ae60;
}

#submitBtn {
background-color: #3498db;
color: white;
}

#submitBtn:hover {
background-color: #2980b9;
}

#submitBtn:disabled {
background-color: #95a5a6;
cursor: not-allowed;
}

.quiz-container {
background: white;
border-radius: 10px;
padding: 25px;
box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
margin-bottom: 20px;
}

.question-number {
font-size: 1.2rem;
font-weight: bold;
margin-bottom: 10px;
color: #2c3e50;
}

.question-text {
font-size: 1.3rem;
margin-bottom: 20px;
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        line-height: 1.5;
    }

.options-container {
    display: grid;
    grid-template-columns: 1fr;
    gap: 12px;
}

.option {
    padding: 15px;
    border: 2px solid #e0e0e0;
    border-radius: 8px;
    cursor: pointer;
    transition: all 0.2s ease;
    font-size: 1.1rem;
}

.option:hover {
    background-color: #f8f9fa;
    border-color: #bdc3c7;
}

.option.selected {
    background-color: #d6eaf8;
    border-color: #3498db;
}

.option.correct-answer {
    background-color: #d5f5e3;
    border-color: #2ecc71;
}

.option.wrong-answer {
    background-color: #fadbd8;
    border-color: #e74c3c;
}

.feedback {
    margin-top: 20px;
    padding: 15px;
    border-radius: 8px;
    display: none;
}

.correct-feedback {
    background-color: #d5f5e3;
    border-left: 5px solid #2ecc71;
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}

.incorrect-feedback {
  background-color: #fadbd8;
  border-left: 5px solid #e74c3c;
}

.results-container {
  text-align: center;
  padding: 30px;
  background: white;
  border-radius: 10px;
  box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
  display: none;
}

.results-title {
  font-size: 2rem;
  margin-bottom: 20px;
  color: #2c3e50;
}

.final-score {
  font-size: 3rem;
  font-weight: bold;
  color: #9b59b6;
  margin: 20px 0;
}

.results-breakdown {
  display: flex;
  justify-content: center;
  gap: 20px;
  margin: 30px 0;
  flex-wrap: wrap;
}

.breakdown-item {
  flex: 1;
  min-width: 200px;
  padding: 20px;
  border-radius: 8px;
  color: white;
}

.breakdown-correct {
  background-color: #2ecc71;
}
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.breakdown-incorrect {
    background-color: #e74c3c;
}

.breakdown-skipped {
    background-color: #95a5a6;
}

.progress-bar {
    height: 10px;
    background-color: #ecf0f1;
    border-radius: 5px;
    margin: 20px 0;
    overflow: hidden;
}

.progress {
    height: 100%;
    background-color: #3498db;
    width: 0%;
    transition: width 0.3s ease;
}

@media (max-width: 768px) {
    .stats-container {
        flex-direction: column;
    }

    .controls {
        flex-direction: column;
    }

    button {
        width: 100%;
    }
}

</style>
</head>
<body>
    <div class="container">
        <header>
            <h1>Foundry and Welding Technology Quiz</h1>
            <p class="subtitle">Test your knowledge of manufacturing processes</p>
        </header>

        <div class="stats-container">
            <div class="stat-box">
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<div>Correct</div>
<div class="stat-value correct" id="correctCount">0</div>
<div>Answers</div>
</div>
<div class="stat-box">
    <div>Incorrect</div>
    <div class="stat-value incorrect" id="incorrectCount">0</div>
    <div>Answers</div>
</div>
<div class="stat-box">
    <div>Remaining</div>
    <div class="stat-value remaining" id="remainingCount">100</div>
    <div>Questions</div>
</div>
<div class="stat-box">
    <div>Score</div>
    <div class="stat-value score" id="scoreValue">0%</div>
    <div>Percentage</div>
</div>
</div>

<div class="progress-bar">
    <div class="progress" id="progressBar"></div>
</div>

<div class="controls">
    <button id="startBtn">Start Quiz</button>
    <button id="submitBtn" disabled>Submit Answer</button>
    <button id="restartBtn" style="display: none;">Restart Quiz</button>
</div>

<div class="quiz-container" id="quizContainer" style="display: none;">
    <div class="question-number" id="questionNumber">Question 1 of 100</div>
    <div class="question-text" id="questionText"></div>
    <div class="options-container" id="optionsContainer"></div>
    <div class="feedback" id="feedback"></div>
</div>

<div class="results-container" id="resultsContainer">
    <h2 class="results-title">Quiz Completed!</h2>
    <div class="final-score" id="finalScore">0%</div>
    <p>You have completed the quiz. Here's your performance breakdown:</p>

    <div class="results-breakdown">
        <div class="breakdown-item breakdown-correct">
            <h3>Correct</h3>
            <div class="stat-value" id="finalCorrect">0</div>
        </div>
    </div>
</div>
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<div class="breakdown-item breakdown-incorrect">
  <h3>Incorrect</h3>
  <div class="stat-value" id="finalIncorrect">0</div>
</div>
<div class="breakdown-item breakdown-skipped">
  <h3>Skipped</h3>
  <div class="stat-value" id="finalSkipped">0</div>
</div>
</div>

<button id="reviewBtn" style="background-color: #f39c12; color: white;">Review
Answers</button>
</div>
</div>

<script>
  // Questions data structure
  const allQuestions = [
    // Unit 1 - Foundry Technology
    { question: "The art of making required shape in moulding sand with the help of a pattern known as", options: ["Moulding", "Casting", "Pattern making", "Foundry"], correct: 0 },
    { question: "The cavity produced by moulding is known as", options: ["Mould", "Pattern", "Casting", "Core"], correct: 0 },
    { question: "The place where moulding, melting and casting are done is known as", options: ["Foundry", "Workshop", "Factory", "Plant"], correct: 0 },
    { question: "The pattern in foundry process refers to", options: ["The model of casting", "The final product", "The mould material", "The casting defect"], correct: 0 },
    { question: "The generally used pattern materials are", options: ["Wood, metal and metals", "Plastic only", "Wax only", "Rubber only"], correct: 0 },
    { question: "_____ is the best metal for pattern making.", options: ["Aluminium", "Iron", "Copper", "Steel"], correct: 0 },
    { question: "_____ is called as plaster.", options: ["Gypsum cement", "Limestone", "Clay", "Sand"], correct: 0 },
    { question: "Plastic patterns are produced from a master pattern made of", options: ["Wood", "Metal", "Plastic", "Wax"], correct: 0 },
    { question: "Wax patterns are produced from", options: ["Paraffin wax, shellac wax and bees wax", "Plastic only", "Rubber only", "Metal only"], correct: 0 },
    { question: "The pattern made of single piece without joints is known as", options: ["Solid pattern", "Split pattern", "Match plate pattern", "Gated pattern"], correct: 0 },
    { question: "The use of dowel pin is", options: ["To fit two parts of split pattern correctly", "To make holes in mould", "To remove pattern from mould", "To support the pattern"], correct: 0 },
    { question: "The extra dimension given to the pattern is called", options: ["Allowance", "Tolerance", "Clearance", "Margin"], correct: 0 },
    { question: "The allowance given to the pattern to compensate metal shrinkage is", options: ["Shrinkage allowance", "Machining allowance", "Draft allowance", "Distortion allowance"], correct: 0 },
    { question: "The machining allowance given for ferrous metals is", options: ["3 mm", "1.5

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- mm", "5 mm", "10 mm"], correct: 0 },
 { question: "The machining allowance given for non-ferrous metals is", options: ["1.5 mm", "3 mm", "5 mm", "10 mm"], correct: 0 },
 { question: "The taper provided for easy removal of pattern is called", options: ["Draft allowance", "Shrinkage allowance", "Machining allowance", "Distortion allowance"], correct: 0 },
 { question: "The allowance given to the pattern to compensate distortion during cooling", options: ["Distortion allowance", "Shrinkage allowance", "Machining allowance", "Draft allowance"], correct: 0 },
 { question: "The pattern is made slightly _____ to give rapping allowance.", options: ["Smaller", "Larger", "Tapered", "Thicker"], correct: 0 },
 { question: "_____ is used for mixing and transferring the moulding sand in to moulding box.", options: ["Shovel", "Rammer", "Riddle", "Trowel"], correct: 0 },
 { question: "The tool used for cleaning of moulding sand is", options: ["Riddle", "Rammer", "Shovel", "Trowel"], correct: 0 },
 { question: "_____ is used for packing or ramming the moulding sand in the moulding box.", options: ["Rammer", "Shovel", "Riddle", "Trowel"], correct: 0 },
 { question: "Trowel is used to", options: ["Smoothen the mould surface and to repair the damaged portions of the mould", "Remove pattern from mould", "Make holes in mould", "Mix moulding sand"], correct: 0 },
 { question: "_____ is used for finishing mould surfaces and for repairing the round corners of the mould.", options: ["Slick", "Trowel", "Lifter", "Swab"], correct: 0 },
 { question: "Lifter is", options: ["Long steel plate with a twisted and bent end", "Tool for making holes", "Tool for ramming sand", "Tool for finishing surfaces"], correct: 0 },
 { question: "_____ is used to remove the loose sand from the mould and to repair the broken surfaces of the mould.", options: ["Lifter", "Trowel", "Slick", "Swab"], correct: 0 },
 { question: "The tool used for removing excess sand from the mould after ramming is", options: ["Strike off bar", "Rammer", "Riddle", "Trowel"], correct: 0 },
 { question: "_____ is used for making holes for runner and riser in the mould.", options: ["Sprue pin", "Draw spike", "Vent rod", "Lifter"], correct: 0 },
 { question: "The use of swab in foundry is", options: ["To apply water around the pattern before removing it from the mould", "To make holes in mould", "To ram the sand", "To finish the surface"], correct: 0 },
 { question: "The tool used for removing the pattern from the mould is", options: ["Draw spike", "Sprue pin", "Vent rod", "Trowel"], correct: 0 },
 { question: "In foundry, vent rod is used for", options: ["Making small holes on the mould", "Removing pattern", "Ramming sand", "Finishing surface"], correct: 0 },
 { question: "The upper part of the moulding box is called", options: ["Cope", "Drag", "Cheek", "Flask"], correct: 0 },
 { question: "The lower part of the moulding box is called", options: ["Drag", "Cope", "Cheek", "Flask"], correct: 0 },
 { question: "The middle part of the moulding box is called", options: ["Cheek", "Cope", "Drag", "Flask"], correct: 0 },
 { question: "Tight or box flask is also called as", options: ["Permanent flask", "Temporary flask", "Wooden flask", "Metal flask"], correct: 0 },
 { question: "Moulding sand contains _____ percentage of silica.", options: ["80 to 90", "50 to 60", "20 to 30", "5 to 20"], correct: 0 },
 { question: "Moulding sand contains _____ percentage of clay.", options: ["5 to 20", "80 to 90", "30 to 40", "50 to 60"], correct: 0 },

- { question: "_____ is added to moulding sand to obtain cohesiveness.", options: ["Binder", "Additive", "Flux", "Catalyst"], correct: 0 },
- { question: "Examples of clay type binders are", options: ["Bentonite and kalvanite", "Wood and resin", "Linseed oil and dextrin", "Molasses and oil"], correct: 0 },
- { question: "Examples of organic binders are", options: ["Wood, resin, linseed oil, dextrin and molasses", "Bentonite and kalvanite", "Silica and clay", "Zircon and chromite"], correct: 0 },
- { question: "Examples of special moulding sands are", options: ["Olivine sand, Zircon sand and Chromite sand", "Bentonite and kalvanite", "Wood and resin", "Linseed oil and dextrin"], correct: 0 },
- { question: "_____ is the property of moulding sand by which the sand permits steam and gases to escape through it.", options: ["Porosity or permeability", "Cohesiveness", "Adhesiveness", "Refractoriness"], correct: 0 },
- { question: "The property by which the moulding sand particles stick to other materials is known as", options: ["Adhesiveness", "Cohesiveness", "Porosity", "Refractoriness"], correct: 0 },
- { question: "The property of moulding sand by which the sand particles stick together is called", options: ["Cohesiveness", "Adhesiveness", "Porosity", "Refractoriness"], correct: 0 },
- { question: "_____ is the property of moulding sand to withstand high temperature of molten metal.", options: ["Refractoriness", "Cohesiveness", "Adhesiveness", "Porosity"], correct: 0 },
- { question: "Core is used to", options: ["Make hollow or a hole in a casting", "Support the pattern", "Remove the casting", "Finish the surface"], correct: 0 },
- { question: "A projection made in the pattern is called", options: ["Core print", "Draft", "Allowance", "Riser"], correct: 0 },
- { question: "The binder used in CO₂ process of core making is", options: ["Sodium silicate", "Clay", "Resin", "Oil"], correct: 0 },
- { question: "CO₂ reacts with sodium silicate to form", options: ["Silica gel", "Sodium carbonate", "Carbon monoxide", "Calcium silicate"], correct: 0 },
- { question: "Cupola furnace is used for melting", options: ["Cast iron", "Steel", "Non-ferrous metals", "Aluminum"], correct: 0 },
- { question: "Air for combustion of fuel is sent through the openings called", options: ["Tuyers", "Vents", "Runners", "Risers"], correct: 0 },
- { question: "In cupola furnace, iron and coke is added in the ratio of", options: ["10:1", "5:1", "15:1", "20:1"], correct: 0 },
- { question: "In cupola furnace, _____ is added as flux.", options: ["Limestone", "Sand", "Clay", "Coke"], correct: 0 },
- { question: "In cupola furnace, the purpose of adding flux is", options: ["To remove slag", "To increase temperature", "To reduce metal", "To support structure"], correct: 0 },
- { question: "In cupola furnace, the iron and limestone is added in the ratio of", options: ["25:1", "10:1", "5:1", "15:1"], correct: 0 },
- { question: "Crucible furnaces are used for melting", options: ["Non-ferrous metals", "Cast iron", "Steel", "Iron"], correct: 0 },
- { question: "Electric furnaces are used for melting", options: ["Steel", "Cast iron", "Non-ferrous metals", "Aluminum"], correct: 0 },
- { question: "In green sand casting, _____ mould is used.", options: ["Green sand", "Dry sand", "Loam sand", "Core sand"], correct: 0 },
- { question: "_____ is obtained after heating the green sand mould.", options: ["Dry sand mould", "Green sand mould", "Loam sand mould", "Core sand mould"], correct: 0 },
- { question: "Say true or false: Sand moulds cannot be reused.", options: ["True", "False"], correct: 0 }

correct: 0 },
 { question: "Gravity die casting is also called as", options: ["Permanent mould casting", "Sand casting", "Investment casting", "Centrifugal casting"], correct: 0 },
 { question: "_____ casting is mainly used for producing carburetor body.", options: ["Gravity die casting", "Sand casting", "Investment casting", "Centrifugal casting"], correct: 0 },
 { question: "In hot chamber die casting, _____ is provided fo