## Unit 9 - Week 7: Welding: part B

### Assignment 7

Due on 2016-09-16, 23:59 IST.

<table>
<thead>
<tr>
<th>Question</th>
<th>Points</th>
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<tbody>
<tr>
<td>1. Which of the following is correct about the heat input to a weld?</td>
<td>2 points</td>
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<tr>
<td>a) It must be constant</td>
<td>b) It must be increased as the weld progresses</td>
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<tr>
<td>2. Which of the following is NOT a process of electromagnetic pulse welding?</td>
<td>2 points</td>
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<tr>
<td>a) Induction heating</td>
<td>b) Resistance welding</td>
</tr>
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<td>3. Which one of the following is a principle of the Fick's law?</td>
<td>2 points</td>
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<tr>
<td>a) Conservation of energy</td>
<td>b) Conservation of mass</td>
</tr>
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<td>4. Which of the following techniques is used to measure the intensity in a welded structure?</td>
<td>2 points</td>
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<tr>
<td>a) Thermography</td>
<td>b) X-ray inspection</td>
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<td>5. The tensile strength of a welding process requires a yield strength of 240 MPa, the tensile strength at 1500 mm and having a ductility percentage of 7%. What is the welder's name?</td>
<td>2 points</td>
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<tr>
<td>a) 40 K</td>
<td>b) 50 K</td>
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<tr>
<td>6. The tensile strength of a welding process is determined by which of the following factors?</td>
<td>2 points</td>
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<tr>
<td>a) Type of weld</td>
<td>b) Temperature gradient</td>
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<tr>
<td>7. In an electromagnetic pulse welding process, the force generated between two infinitely long parallel conductors, while carrying 10 A constant current with a separation gap of 0.1 mm between them is</td>
<td>2 points</td>
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<tr>
<td>a) 1.2 x 10^6 N</td>
<td>b) 1.2 x 10^5 N</td>
</tr>
<tr>
<td>8. The tensile strength of a welding process, the weld cross-sectional area (A) is calculated as 12 cm² and the average temperature gradient (G) is 12 K/cm. The tensile strength (S) in K is calculated as</td>
<td>2 points</td>
</tr>
<tr>
<td>a) 180</td>
<td>b) 200</td>
</tr>
<tr>
<td>9. In Farris welding process, the weld cross-sectional area (A) is calculated as 12 cm² and the average temperature gradient (G) is 12 K/cm. The tensile strength (S) in K is calculated as</td>
<td>2 points</td>
</tr>
<tr>
<td>a) 180</td>
<td>b) 200</td>
</tr>
<tr>
<td>10. The linear coefficient of thermal expansion of a material is 1.7 x 10^-5 °C^-1. What is the temperature difference in Farris welding process in ambient at 30°C, the thermal stress is calculable as</td>
<td>2 points</td>
</tr>
<tr>
<td>a) 0.0018</td>
<td>b) 0.0012</td>
</tr>
</tbody>
</table>

### Note:
- For any incorrect answer, 1 point will be deducted.