Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-10-21, 23:59 IST.

1) Of the following metal add processes, identify process with the highest level of technology maturity and industrial use cases.

- Laser powder bed fusion
- Ultrasonic consolidation
- Polymer tensile additive process

No. the answer is incorrect
Score: 0
Accepted answers:
- Laser powder bed fusion

2) The term used to describe more efficient use of raw material in realisation of aerospace component is Buy to Fly ratio.

- True
- False

No. the answer is incorrect
Score: 0
Accepted answers:
- True

3) What are the growth factors that contribute to the industrialisation of metal additive processes?

- Reduce the part count
- Weight reduction
- Aids customization
- All of the above

No. the answer is incorrect
Score: 0
Accepted answers:
- All of the above

4) Which of the following is not a build defect associated with using non-optimal laser power and scan velocity in powder bed fusion process.

- Key hole
- Lack of fusion
- Beads
- Shift and mismatch

No. the answer is incorrect
Score: 0
Accepted answers:
- Shift and mismatch

5) AM process for making quasi/hottein parts for use as patterns in investment casting is

- Extrusion process
- Laser powder bed fusion
- Vat polymerisation or stereolithography
- Direct energy deposition

No. the answer is incorrect
Score: 0
Accepted answers:
- Vat polymerisation or stereolithography

6) Conformal cooling channels are considered an important functional improvement to the injection moulding of laser powder bed fusion process.

- True
- False

No. the answer is incorrect
Score: 0
Accepted answers:
- False

7) Match the following between Table 1 and Table 2

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Table 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>Typical applications</td>
</tr>
<tr>
<td>1.</td>
<td>Bath in process</td>
</tr>
<tr>
<td>2.</td>
<td>Vat polymerisation &amp; stereolithography</td>
</tr>
<tr>
<td>3.</td>
<td>Laser powder bed fusion</td>
</tr>
<tr>
<td>4.</td>
<td>Deposit metal deposition</td>
</tr>
<tr>
<td>A</td>
<td>Casting</td>
</tr>
<tr>
<td>B</td>
<td>Laser powder bed fusion</td>
</tr>
<tr>
<td>C</td>
<td>Vat polymerisation &amp; stereolithography</td>
</tr>
<tr>
<td>D</td>
<td>Deposit metal deposition</td>
</tr>
</tbody>
</table>

No. the answer is incorrect
Score: 0
Accepted answers:
- A: 1, C: 2, D: 3, B: 4

8) What are the primary process parameters that are considered for optimising the process of laser powder bed fusion?

- Density and tensile strength
- Particle size distribution and absorptivity
- Laser power and scan speed
- Beam diameter and wave length

No. the answer is incorrect
Score: 0
Accepted answers:
- Particle size distribution and absorptivity

9) UV laser is used as the primary energy source for vat polymerisation AM technique of stereolithography.

- True
- False

No. the answer is incorrect
Score: 0
Accepted answers:
- False

10) What is the paradigm shift in the applications of AM parts in the engineering sector?

- Prototyping to mass production
- Prototyping to end-use functional applications
- Prototyping to industrial design studies
- Prototyping to tool making application

No. the answer is incorrect
Score: 0
Accepted answers:
Prototyping to end-use functional applications

Score: 0