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NPTEL

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Courses » Fundamentals of Material Processing - I

Announcements **Course** Ask a Question Progress

Unit 2 - Week 1



Course outline

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Week 1

- Lecture 01 - Introduction
- Lecture 02 - Solidification (Casting)
- Lecture 03 - Solidification (Welding)
- Lecture 04 - Thermodynamics of Solidification
- Lecture 05 - Kinetics of Solidification (Homogeneous)
- Quiz : Assignment-1
- Assignment 1 Solution

Week 2

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Assignment-1

The due date for submitting this assignment has passed. **Due on 2017-08-06, 23:59 IST**
As per our records you have not submitted this assignment.

1) Powder metallurgy can be used for making simple two-dimensional parts but not those with **1 point**

- Uppercuts shapes
- Undercuts or re-entrant shapes
- Central cut shape
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Undercuts or re-entrant shapes

2) In casting, molten metal flows generally by _____ **1 point**

- Wind force
- Pressure
- Gravity
- Impact force

No, the answer is incorrect.

Score: 0

Accepted Answers:

Gravity

3) Advantages of Casting are: (I) Can create complex part geometries, 3-D shapes (II) Can create both external and internal shapes and large hollow shapes (III) It is a near net shape process for small to large parts (IV) Very good mechanical strength can be obtained for as-cast component **1 point**

- III is true, but I, II and IV are not true
- I and IV are true, but II and III are not true
- I, II, III and IV are not true
- I, II and III are true, but IV is not true

No, the answer is incorrect.

Score: 0

Accepted Answers:

I, II and III are true, but IV is not true

4) Cores in sand mold casting must possess these characteristics (I) Strength (II) Permeability (III) Thermal Stability (IV) Collapsibility (v) High Modulus **1 point**

- I and III is true
- II and V is true

- All are true
- V is not true

No, the answer is incorrect.

Score: 0

Accepted Answers:

V is not true

5) Permanent mold casting are suitable only for

1 point

- Small scale production
- Prototyping
- High volume production
- All types of industries

No, the answer is incorrect.

Score: 0

Accepted Answers:

High volume production

6) The picture shows which type of casting

1 point

- Continuous casting
- Investment casting
- Lost foam casting
- Sand mold casting

No, the answer is incorrect.

Score: 0

Accepted Answers:

Continuous casting

7) Which of the following is not needed for atomization

1 point

- Melting of liquid
- Breaking of liquid droplet using gas or liquid
- High pressure in the chamber
- Collection chamber where solidified powder is collected

No, the answer is incorrect.

Score: 0

Accepted Answers:

High pressure in the chamber

8) Which of the following is not true regarding solidification and other first order solid state transformation

1 point

- Both are first order transformation
- Heat of transformation is very high for solidification while it is very small for SST
- Liquids cannot support any stresses other than hydrostatic stress, hence no strain energy contribution during solidification
- Strain energy contribution is very small for SST

No, the answer is incorrect.

Score: 0

Accepted Answers:

Strain energy contribution is very small for SST

9) In the plot shown below, which of the meaning for labels (A,B,C) is true

1 point

- A = H; B = -TS; C = G
- A = -H; B = TS; C = -G
- A = -H; B = -TS; C = G

A = H; B = TS; C = G

No, the answer is incorrect.

Score: 0

Accepted Answers:

A = H; B = TS; C = G

10) In case of binary alloys, when the tangent touches plot for two phases, it means that at that composition, chemical potential of component A in both phases are **1 point**

- same
 different
 undecided
 Any of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

same



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