Assignment 3

The due date for submitting this assignment has passed. Due on 2018-02-14, 23:59 IST.

Submitted assignment

1) In casting, gating ratio is defined as the ratio of
   - sprue area: total runner area: total gate area
   - total gate area: sprue area: total runner area
   - total runner area: sprue area: total gate area
   - total runner area: total gate area: sprue area

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   sprue area: total runner area: total gate area

2) In which of the gating system molten metal flows into the mould cavity due to the adverse effect of gravity?
   - Top gating
   - Bottom gating
   - Parting gating
   - All of the above

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Bottom gating

3) In gating system, sprue is usually tapered to
   - Avoid air aspiration effect
   - Quick fill the mould cavity
   - Minimize the temperature

   1 point

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4) The gating ratio of 1:2:4 is used to design the gating system for magnesium alloy casting. This gating ratio refers to the cross-section areas of the various gating elements as given below:
(i) Runner
(ii) In gates
(iii) Down sprue
The sequence of the above elements in the ratio 1:2:4 is

- i-ii-iii
- i-iii-ii
- ii-iii-i
- iii-i-ii

No, the answer is incorrect.
Score: 0
Accepted Answers:
iii-i-ii

5) A mould having dimensions 100 mm × 90 mm × 20 mm is filled with molten metal through a gate with height ‘h’ and cross-sectional area A, the mould filling time is \( t_1 \). The height is now quadrupled and the cross-sectional area is halved. The corresponding filling time is \( t_2 \). The ratio \( t_2/t_1 \) is

- 3
- 1
- 4
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
1

6) For a constant volume, the shape of riser that has minimum surface area exposed for heat transfer is

- Cylindrical
- Cubical
- Rectangular
- Hexagonal

No, the answer is incorrect.
Score: 0
Accepted Answers:
Cylindrical

7) Riser is designed so as to

- Freeze after the casting freezes
- Freeze before the casting freezes
- Freeze at the same time as the casting
- Minimize the time of pouring

No, the answer is incorrect.
Score: 0
Accepted Answers:
Freeze after the casting freezes

8) Chills are made by those metal having
   - Higher melting point than that of cast metal
   - Lower melting point than that of cast metal
   - Equal melting point as that of cast metal
   - None of these

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Higher melting point than that of cast metal

9) A cast steel slab of dimension 30×20×5 cm is poured horizontally using a side riser. The riser is cylindrical in shape with diameter and height, both equal to D. The freezing ratio of the mould is
   - 8D/75
   - 4D/75
   - 75/8D
   - 75/4D

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   8D/75

10) A mould has a down sprue whose length is 20 cm and the cross-sectional area at the base of down sprue is 1 cm². The down sprue feeds a horizontal runner leading into the mould cavity of volume 1000 cm³. The time required to fill the mould cavity will be
   - 4.05 sec
   - 5.05 sec
   - 6.05 sec
   - 7.25 sec

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   5.05 sec