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Unit 8 - Iron Making Week 6

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Assignment 6

The due date for submitting this assignment has passed. **Due on 2018-03-21, 23:59 IST.**

Submitted assignment

1) When the gangue content in iron ore increases: 0.5 points

- Flux consumption increases
- Amount of slag increases
- Molten metal will have high impurity content
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

2) Flame temperature is prevailed in the following region: 0.5 points

- Bosh
- Raceway
- Cohesive zone
- Hearth

No, the answer is incorrect.

Score: 0

Accepted Answers:

Raceway

3) Which of the following factors(s) is/are responsible to reduce the slag rate in a blast furnace? 0.5 points

- Better quality coke with low ash content
- Use of agglomerates (sinter and pellets)
- Use of O₂ enriched blast
- Both first and second choices

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both first and second choices

4) Near the tuyere (inside the raceway), the gas atmosphere is: 0.5 points

- Reducing
- Oxidizing
- Neutral
- First reducing and then oxidizing

No, the answer is incorrect.

Score: 0

Accepted Answers:

Oxidizing

5) How many types of slags prevail in a blast furnace?

0.5 points

- Only one type
- Two types
- Three types
- Four types

No, the answer is incorrect.

Score: 0

Accepted Answers:

Three types

6) Which of the following statements is true?

0.5 points

- Almost all of the silicon transfer to the hot metal occurs via the gaseous phase
- Almost all of the silicon transfer to the hot metal occurs via slag-metal reactions
- Gaseous phase reactions and slag-metal reactions are equal contributors to the silicon transfer to the hot metal
- Silicon transfer to the hot metal is a solid state reaction

No, the answer is incorrect.

Score: 0

Accepted Answers:

Almost all of the silicon transfer to the hot metal occurs via the gaseous phase

7) In a blast furnace, 1 tonne of coke is burned per day and the consumption of coke was found to be 60%. Find the approximate productivity of the blast furnace in THM/day

- 1.0
- 1.4
- 1.7
- 2.0

No, the answer is incorrect.

Score: 0

Accepted Answers:

1.7

8) The approximate density (g/cm^3) of pure iron at 2500K is:

0 points

- 7.8
- 8.0
- 8.3
- 8.5

No, the answer is incorrect.

Score: 0

Accepted Answers:

8.3

9) The approximate surface tension (N/m) of iron at 1800K is:

1 point

- 1.0
- 1.4
- 1.8
- 2.1

No, the answer is incorrect.

Score: 0

Accepted Answers:*1.8*

10) Assume that 35% of the coke ash is released above the tuyere level and is incorporated in the bosh slag. Final slag basicity is 1.3 and coke rate is 500 kg/THM. **4 points**

Coke contains 12% ash, which has 50% SiO₂ in it.

Iron ore has 52% Fe and 5.6% SiO₂. Consider 93% Fe in the one ton of final pig iron.

Calculate:

The amount of iron ore input, amount of ash in coke, total silica, total lime (to be added as CaO) and bosh slag basicity to produce 1ton of liquid iron would respectively be:

- 1788kg, 60kg, 130kg, 169kg, 1.5
- 1788kg, 30kg, 130kg, 121kg, 3.5
- 1788kg, 30kg, 100kg, 169kg, 5.5
- 1788kg, 60kg, 90kg, 121kg, 2.5

No, the answer is incorrect.

Score: 0

Accepted Answers:*1788kg, 60kg, 130kg, 169kg, 1.5*[Previous Page](#)[End](#)

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