

X

NPTEL

reviewer1@nptel.iitm.ac.in ▼

Courses » Iron Making

Announcements

Course

Ask a Question

Progress

Mentor

Unit 9 - Iron Making Week 7

Course outline

How to access the portal

Iron Making Week 1

DOWNLOAD VIDEOS

Iron Making Week 2

Iron Making - Week 3

Iron Making - Week 4

Iron Making - Week 5

Iron Making Week 6

Iron Making Week 7

Iron Making Lecture 31

Iron Making Lecture 32

Iron Making Lecture 33

Iron Making Lecture 34

Iron Making Lecture 35

Quiz : Assignment 7

iron-making-week7-assignment7-solution

Iron Making Week 8

Assignment 7

The due date for submitting this assignment has passed. **Due on 2018-03-28, 23:59 IST.**

Submitted assignment

- 1) Questions 1 to 6: True or False: 0.25 points
 Combustion zone is above the cohesive zone.
- True
 False
- No, the answer is incorrect.**
Score: 0
- Accepted Answers:**
 False
- 2) Rise in blast pressure is one of the indications of scaffolding. 0.25 points
- True
 False
- No, the answer is incorrect.**
Score: 0
- Accepted Answers:**
 True
- 3) Direct reduction of iron process is similar to the stack region process of the blast furnace. 0.25 points
- True
 False
- No, the answer is incorrect.**
Score: 0
- Accepted Answers:**
 True
- 4) One of the main disadvantages of direct reduction of iron is that the final metallic iron produced is highly porous in nature. 0.25 points
- True
 False
- No, the answer is incorrect.**
Score: 0
- Accepted Answers:**
 True
- 5) In a blast furnace, the non-topochemical reaction follows zero order kinetics. 0.25 points

Interactive
Session with
Students

- True
 False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

6) During blast furnace blow-in process, the first few casts have lower Si content in hot metal. **0.25 points**

- True
 False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

7) Questions 7 to 12: Fill in the blanks:

___ °C is the initial blast temperature when the blast furnace is started for the first time. (enter your answer as a number. eg: if your answer is 500, enter 500; not five hundred.)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) 200

0.25 points

8) The process of shutting down the furnace is called ___ down.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) blow

0.25 points

9) The blast is taken off for a short period of time; which is called as ___ drafting.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) back

0.25 points

10) Formation of cold, central column of stock with hot annular zone in blast furnace is called ___.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) Pillaring

0.25 points

11) ___ is a process in which metallic iron is produced by the reduction of iron ore below its melting point.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) Direct reduction

0.25 points

12) _____ is the major organic component in natural gas.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) methane

0.25 points

13) Consider the reduction of spherical wustite pellet by H_2 into metallic iron at $700^{\circ}C$. Some time is required to reduce the wustite pellet from 1cm diameter to 0.8cm diameter. The density of wustite is $4000kg/m^3$. The value of the constant 'k' may be taken as $0.09kg.s/m^2$. Find out the approximate fraction reacted and time required in seconds, respectively, to reduce the wustite pellet from 1cm to 0.8cm diameter. **3 points**

- 0.22, 10.5s
- 0.49, 44.0s
- 0.22, 20.8s
- 0.49, 68.7s

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.49, 44.0s

14) Questions 14 to 21: Multiple Choice Questions:
The sequence of blast furnace blow-in process is:

0.5 points

- Filling, drying, lighting, operation.
- Filling, lighting, drying, operation.
- Operation, filling, drying, lighting.
- Drying, filling, lighting, operation.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Drying, filling, lighting, operation.

15) The process of shutting down the blast furnace for a short period, can be carried out by: **0.5 points**

- blow-in
- blow-out
- banking
- all of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:

banking

16) The chilled hearth problem in a blast furnace can be removed by:

0.5 points

- High flame temperature and high fuel rate
- Low flame temperature and low fuel rate
- Adding limestone
- Using bell-less charging

No, the answer is incorrect.

Score: 0

Accepted Answers:

High flame temperature and high fuel rate

17) Usually direct reduced iron (DRI) has:

0.5 points

- High Sulphur content
- No tramp elements
- High porosity
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

18) From start to end in blow-in method of a blast furnace, the following keeps on decreasing: **0.5 points**

- Coke rate
- Blast volume
- Si content in hot metal
- Both first and second options

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both first and second options

19) Which gas flow pattern helps in reducing the alkalis?

0.5 points

- Peripheral
- Central

No, the answer is incorrect.

Score: 0

Accepted Answers:

Central

20) Hanging at the top in a blast furnace occurs due to

0.5 points

- Bridge formation
- Wedge formation
- Scaffolding
- Carbon deposition reaction

No, the answer is incorrect.

Score: 0

Accepted Answers:

Carbon deposition reaction

21) Midrex process is:

0.5 points

- Coal based
- Gas based
- Rotary type
- Fluidized bed type

No, the answer is incorrect.

Score: 0

Accepted Answers:

Gas based

[Previous Page](#)

[End](#)

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -



A project of



In association with



Funded by



Powered by

