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Question 20

Not yet answered

Marked out of 1.00

Flag question

An alloy consists of 50 g iron (Fe), and 0.8 g Carbon (C), then the concentration of C in kg/m3 is:

a. 684.7

b. None

c. 119.2

d. 538.3

e. 7452.9

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Question 20

Not yet answered

Marked out of 1.00

Flag question

An alloy consists of 50 g iron (Fe), and 0.8 g Carbon (C), then the concentration of C in kg/m3 is:

a. 684.7

b. None

c. 119.2

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Question 28

Not yet answered

Marked out of 1.00

Flag question

What is the relation between fracture toughness and thickness?

- a. None
- b. Three of them
- c. Fracture toughness increases with increase in thickness
- d. Fracture toughness increase linearly with an increase in thickness
- e. Fracture toughness does not depend on the thickness

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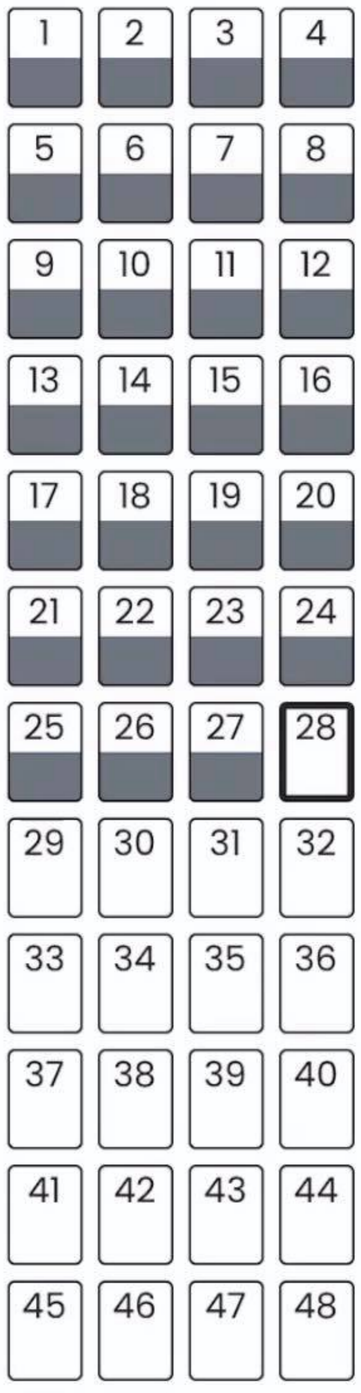

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Question 23

Not yet answered

Marked out of 1.00

Flag question

Stainless steel is so called because of its _____.

a. High corrosion resistance

b. Brittleness

c. None

d. High strength

e. High ductility

f. all of them

g. % C of High carbon Alloy

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Question 34

Not yet answered

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Flag question

Engineering stress-strain curve and True stress-strain curve are equal up to

- a. Necking
- b. Yeild point
- c. false they are deferent
- d. Tensile strength point
- e. Proportional limit
- f. Elastic limit

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Question 19

Not yet answered

Marked out of 1.00

Flag question

An alloy consists of 130 g tin (Sn) (118.71), and 75 g lead (Pb) (207.19), then the concentration of tin in wt%

- a. 73.9 wt%
- b. None
- c. 36.6 wt%
- d. 48.2 wt%
- e. 63.4 wt%

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Question 43

Not yet answered

Marked out of 1.00

Flag question

Which of the following is not correct about phase equilibrium:

a. Free energy of system is maximum

b. None of them

c. Phase characteristics are stable with time

d. A metastable state persist for a very long time

e. ALL of them

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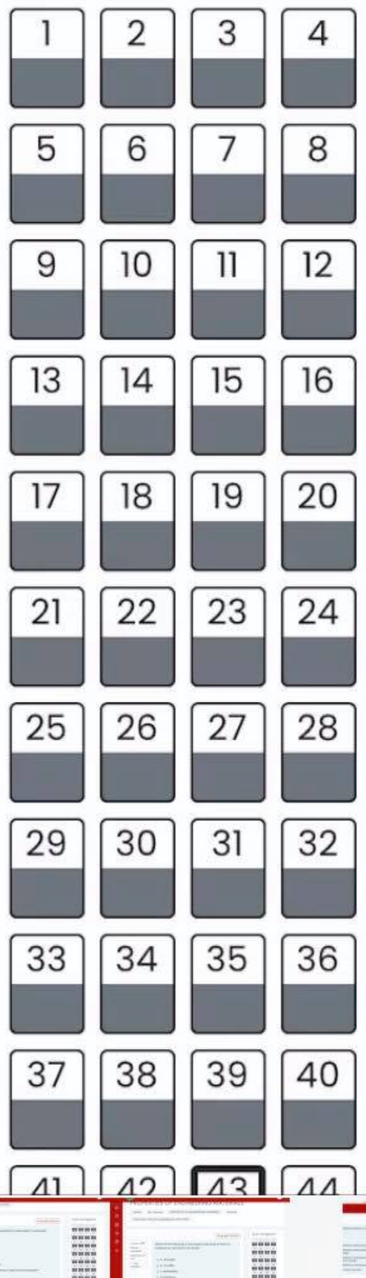

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Question 35

Not yet answered

Marked out of 1.00

Flag question

Which hardness method can be used to measure hardness of a single grain ?

- a. Moohe
- b. Rockwell
- c. Shore
- d. Knoop
- e. None
- f. all of them

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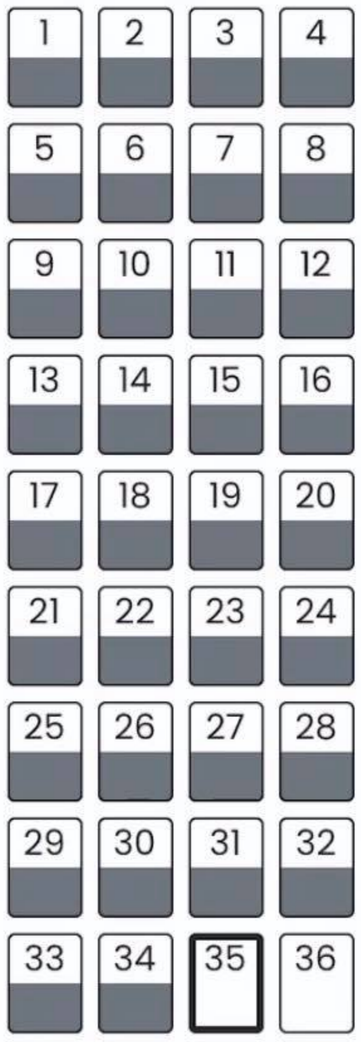

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Question 49

Not yet answered

Marked out of 1.00

Flag question

Which of the following is the property because of which a material can be drawn into wires?

- a. Strength
- b. Ductility
- c. Malleability
- d. Hardness
- e. Elasticity

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Question 48

Not yet answered

Marked out of 1.00

Flag question

On heating, one solid phase results in another solid phase and a liquid phase during _____ reaction.

a. Eutectic

b. Peritectoid

c. Peritectic

d. Eutectoid

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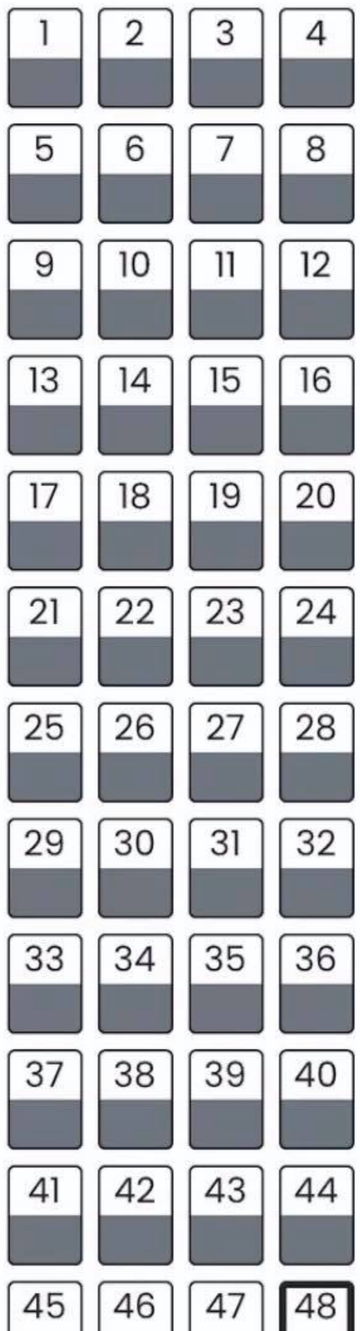

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Question 50

Not yet answered

Marked out of 1.00

Flag question

In which of the stages, do we observe a constant deformation rate?

- a. Steady stage creep stage
- b. Fracture stage
- c. All
- d. Constant creep stage
- e. Transient creep stage

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Question 24

Not yet answered

Marked out of 1.00

Flag question

For a single crystal in a tensile test, if the critical resolved shear stress is 0.74 MPa, then the minimum possible tensile stress to initiate yielding is:

- a. None
- b. 0.74 MPa
- c. 0.37 MPa
- d. 1.48 MPa

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Question 41

Not yet answered

Marked out of 1.00

Flag question

What is the eutectoid structure of Iron?

- a. Martensite
- b. Ferrite
- c. Austentite
- d. Cementite
- e. Pearlite

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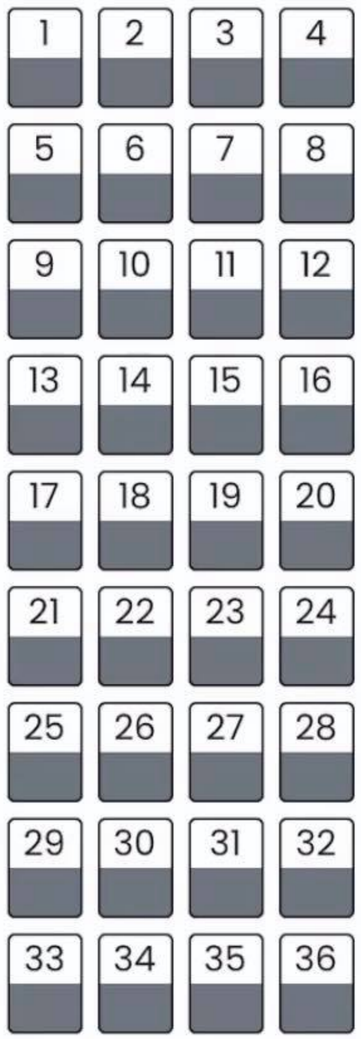

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Question 36

Not yet answered

Marked out of 1.00

Flag question

Which of the following characteristics does/do not describe a eutectic system

- a. c. Alloy of eutectic composition solidifies into a single phase eutectic microstructure
- b. All of them
- c. b. Alloy of eutectic composition melts at a constant temperature
- d. a & c
- e. a. Three phases exist in equilibrium at points along the eutectic isotherm

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Question 47

Not yet answered

Marked out of 1.00

Flag question

The following characteristic(s) describe(s) martensite:

a.

b.

c.

d. All the above

- a. None of them
- b. It is an equilibrium steel microconstituent
- c. All of them
- d. It is a supersaturated solid solution
- e. It has a body centered cubic structure

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Question 32

Not yet answered

Marked out of 1.00

Flag question

The following types of metallic materials are usually the most brittle

- a. None
- b. ceramics
- c. polymers
- d. Body centered cubic lattice
- e. Hexagonal close packed lattice
- f. Face centered cubic lattice

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Question 44

Not yet answered

Marked out of 1.00

Flag question

Brittle fracture Toughness is more dangerous than ductile fracture because _____.

a. false

b. Crack propagates at very high speeds

c. No warning sign

d. All

e. No need for extra stress during crack propagation

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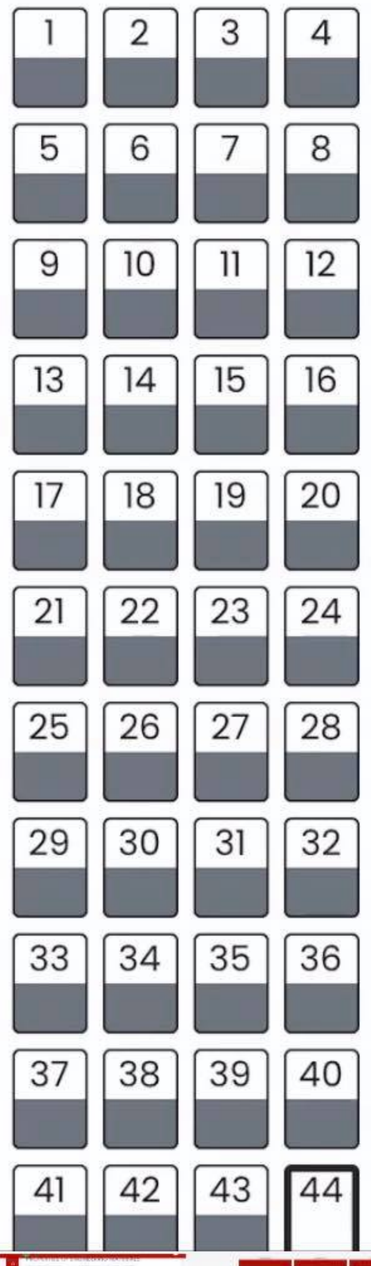

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Question 27

Not yet answered

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Flag question

Corrosion of metals involves

- a. Physical reactions
- b. Both
- c. Electro- Chemical reactions
- d. None

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Question 38

Not yet answered

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Flag question

Difficult to monitor and very dangerous form of corrosion

- a. Galvanic
- b. Stress corrosion
- c. Pitting
- d. all of them
- e. Crevice

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Question 25

Not yet answered

Marked out of 1.00

Flag question

The fracture resistance of a material is defined as its _____

a. Fracture hardness

b. Fracture toughness

c. Fracture strength

d. All

e. Fracture resilience

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Question 45

Not yet answered

Marked out of 1.00

Flag question

Advantages of hot working include

- a. c. lower deformation forces
- b. a, b, & c
- c. a. no strain hardening
- d. d. large deformations
- e. b. strengthening of sample
- f. a, c, & d

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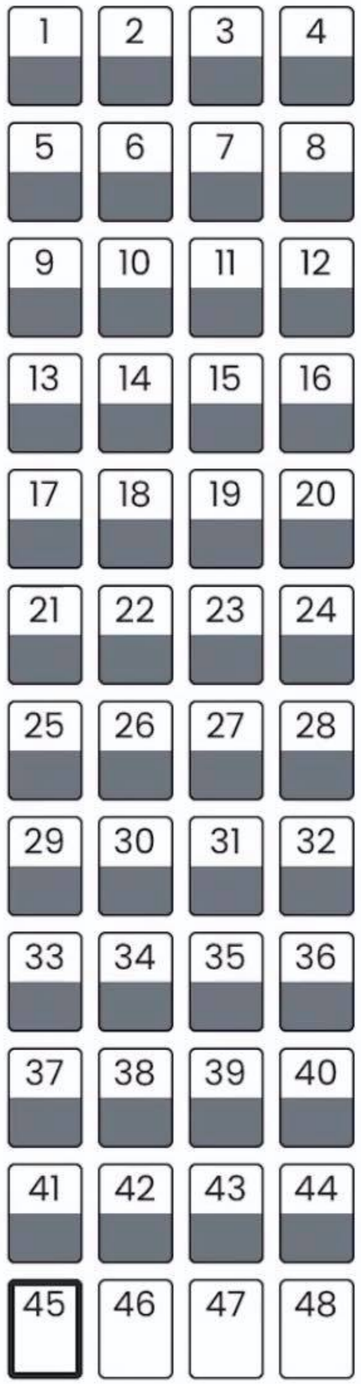

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Question 22

Not yet answered

Marked out of 1.00

Flag question

One reason why tempered martensite has higher ductility than martensite is:

a. More ferrite/cementite phase boundary area per unit volume

b. Smaller grain size

c. Slow cooling rate

d. All of them

e. Continuous ferrite phase matrix

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Question 29

Not yet answered

Marked out of 1.00

Flag question

Which of the following is the numerator of factor safety formula?

- a. Shear stress
- b. Tensile stress
- c. Ultimate stress
- d. Compression Stress
- e. None
- f. Working stress

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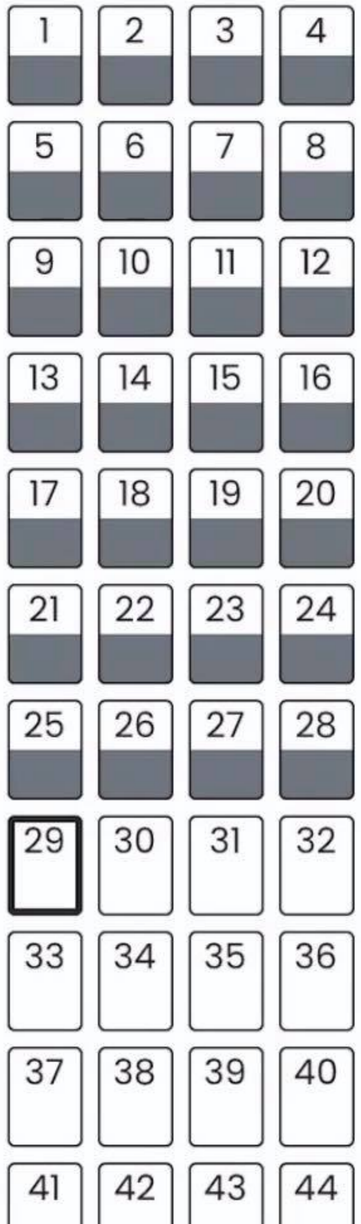

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Question 21

Not yet answered

Marked out of 1.00

Flag question

After which point is necking observed?

- a. Yield strength
- b. Elastic point
- c. Ultimate strength
- d. Fracture point
- e. Ductile point

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Question 42

Not yet answered

Marked out of 1.00

Flag question

The phase above eutectoid temperature for carbon steels is known as _____

a. Pearlite

b. Austentite

c. Cementite

d. Martensite

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Question 17

Not yet answered

Marked out of 1.00

Flag question

Which of the following is the most common type of mechanical failure in industry?

- a. None
- b. Fatigue
- c. Brittle fracture
- d. Stress Corrosion
- e. Ductile fracture
- f. Creep

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Question 17

Not yet answered

Marked out of 1.00

Flag question

Which of the following is the most common type of mechanical failure in industry?

- a. None
- b. Fatigue
- c. Brittle fracture
- d. Stress Corrosion
- e. Ductile fracture
- f. Creep

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Question 40

Not yet answered

Marked out of 1.00

Flag question

A measure of Rockwell hardness is the

- a. Depth of penetration of indenter
- b. Surface area of indentation
- c. Projected area of indentation
- d. Height of rebound
- e. width of penetration of indenter
- f. all of them

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Question 46

Not yet answered

Marked out of 1.00

Flag question

Which is the most tough among the steels given their carbon composition?

- a. 6.76 %
- b. 0.2%
- c. 1.5%
- d. 0.1%
- e. 2.5%

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Question 16

Not yet answered

Marked out of 1.00

Flag question

Which of the following element is added to steel to form stainless steel?

- a. Copper
- b. Boron
- c. Chromium
- d. Titanium
- e. Silica

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Question 26

Not yet answered

Marked out of 1.00

Flag question

At room temperature which is the most stable form of iron?

- a. Martensite
- b. a-iron
- c. Pearlite
- d. Ledeburite
- e. at Room Temperature ALL of them

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PROPERTIES OF ENGINEERING MATERIALS

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Question 31

Not yet answered

Marked out of 1.00

Flag question

% C in medium carbon steels ranges from _____.

(d) None

- a. 0.3 – 0.6
- b. None
- c. 0.3 – 0.4
- d. 0.3 – 0.5

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Question 15

Not yet answered

Marked out of 1.00

Flag question

How is brittleness related to impact strength?

- a. Brittleness is directly proportional to impact strength
- b. Brittleness is directly proportional to a square of impact strength
- c. Brittleness is inversely proportional to a square of impact strength
- d. Brittleness is inversely proportional to impact strength
- e. All of them are valid

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Question 30

Not yet answered

Marked out of 1.00

Flag question

A first solid phase results in a second solid phase another third solid phase on cooling during _____ reaction.

- a. Eutectic
- b. None
- c. Eutectoid
- d. Peritectoid
- e. Peritectic

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Question 39

Not yet answered

Marked out of 1.00

Flag question

Compositions right and left of 0.8% C of Pearlite are called _____

a. Ledeburite

b. Ferrite

c. Hyper and Hypoeutectoid steel

d. Cast iron

e. Laminar structure pearlite

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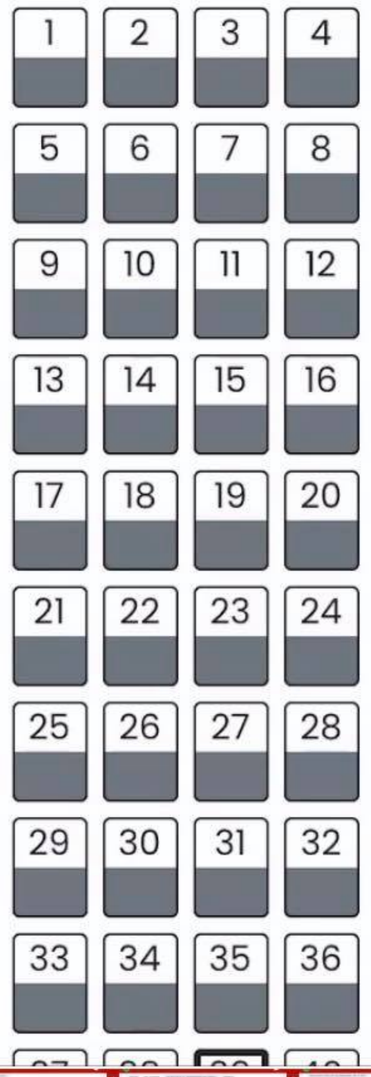

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Question 37

Not yet answered

Marked out of 1.00

Flag question

The driving force for spheroidite formation is:

- a. Carbon diffusion
- b. Reduction of ferrite/cementite phase boundary area
- c. The difference in internal energy between plastically strained and unstrained material
- d. Minimizing the cementite in the alloy
- e. None

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PROPERTIES OF ENGINEERING MATERIALS

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Question 18

Not yet answered

Marked out of 1.00

Flag question

Arrange the following in increasing order of hardness: talc, gypsum, topaz and diamond.

- a. Talc, topaz, gypsum, diamond
- b. Diamond, topaz, talc, gypsum
- c. Gypsum, topaz, talc, diamond
- d. Topaz, gypsum, talc, diamond
- e. None

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