Question Paper Preview

Question Paper Name: Metallurgy 12th May 2017 Shift 1
Subject Name: Metallurgy
Duration: 120

Metallurgy

Display Number Panel: Yes
Group All Questions: No

Question Number : 1 Question Id : 8711121081 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a square matrix $A=\begin{bmatrix} 3 & -2 & 2 \\ 0 & -2 & 1 \\ 0 & 0 & 1 \end{bmatrix}$ the eigen vector corresponding to the eigen value -2 is

Options :

1. $\begin{bmatrix} 2 \\ 5 \\ 1 \end{bmatrix}$

2. $\begin{bmatrix} 3 \\ -2 \\ 1 \end{bmatrix}$

3. $\begin{bmatrix} 1 \\ -2 \\ 3 \end{bmatrix}$

4. $\begin{bmatrix} 2 \\ 5 \\ 0 \end{bmatrix}$

Question Number : 2 Question Id : 8711121082 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The system of linear equations $x+y+z=3,\quad x+2y+3z=4, x+4y+kz=6$ has infinitely many solutions then k =

Options :

1. 5
2. 7
3. 0
4. 2

Question Number : 3 Question Id : 8711121083 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The series of positive terms $\sum_{n=1}^{\infty} \frac{n}{n^p+1}$ converges for

Options :

1. $p>1$
2. $p>2$
3. $p\geq 2$
4. $p<1$

Question Number : 4 Question Id : 8711121084 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The divergence of the vector field $\bar{F} = (x^2 - yz)\bar{\imath} + (y^2 - zx)\bar{\jmath} + (z^2 - xy)\bar{k}$ at the point $P(1,2,1)$ is

Options :

1. 12
2. 8
3. 1
4. 9

Question Number : 5 Question Id : 8711121085 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular integral of $(D^2 + 2D + 1)y = e^{-x}$ is

Options :

1. $\frac{e^{-x}}{5}$
2. 0

3. $\frac{x^2}{2}e^{-x}$

4. $5e^{-x}$

Question Number : 6 Question Id : 8711121086 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The integral factor of the differential equation $\frac{dy}{dx}+P(x)y=Q(x)$ is

Options :

1. Q

2. $\int Pdx$

3. P

4. $e^{\int P\,dx}$

Question Number : 7 Question Id : 8711121087 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the number of accidents per day is a Poisson distributed random variable with mean 2, then on a particular day the probability that there will be atleast one accident is

Options :

1. $1-\frac{1}{e^2}$

2. $\frac{1}{e^2}$

3. $\frac{1}{e}$

4. 1

Question Number : 8 Question Id : 8711121088 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the mean and variance of a binomially distributed random variable are 4 and 3 respectively, the probability distribution function is

Options :

1. $\binom{16}{x}\left(\frac{1}{4}\right)^{x}\left(\frac{3}{4}\right)^{16-x}$

2. $\binom{16}{x}\left(\frac{3}{4}\right)^{x}\left(\frac{1}{4}\right)^{16-x}$

3. $\binom{4}{x}\left(\frac{1}{3}\right)^{x}\left(\frac{2}{3}\right)^{4-x}$

4. $\binom{4}{x}\left(\frac{2}{3}\right)^{x}\left(\frac{1}{3}\right)^{4-x}$

Question Number : 9 Question Id : 8711121089 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following methods is an iterative method to solve a linear system of equations?

Options :

1. Gauss Elimination Method

2. Cramer Method

3. Gauss Seidal

4. Gauss Jordan Method

Question Number : 10 Question Id : 8711121090 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is a multi step numerical method to solve a first order ordinary differential equation?

Options :

1. Picard's method

2. Taylor's method

3. Euler's Method

4. Runge-Kutta method

Question Number : 11 Question Id : 8711121091 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hydrocyclone is an example of

Options :

1. Dryer

2. Filter

3. Crusher

4. Classifier

Question Number : 12 Question Id : 8711121092 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ is usually extracted from sea water.

Options :

1. $MgCO_3.CaCO_3$

2. $Al_2O_3.2H_2O$

3. Fe_2O_3

4. PbS

Question Number : 13 Question Id : 8711121093 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In leaching of Uranium ores _____ is most preferable.

Options :

1. H_2SO_4

2. HCl

3. HNO_3

4. H_3PO_4

Question Number : 14 Question Id : 8711121094 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Bleeder valves _____.

Options :

1. increase the production

2. decrease coke input

3. relieves extra pressure in the Blast Furnace

4. increase blast temperature

Question Number : 15 Question Id : 8711121095 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Roasting rate is lowest in _____ roaster.

Options :

1. hearth

2. flash

3. fluidized

4. sinter

Question Number : 16 Question Id : 8711121096 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The stopping of furnace operation at the end of its campaign is known as _____.

Options :

1. Tapping

2. Fanning

3. Blowing in

4. Blowing out

Question Number : 17 Question Id : 8711121097 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Sponge iron is porous mainly because of _____.

Options :

1. reduction with hydrogen

2. incomplete reduction

3. removal of oxygen atoms

4. light in weight

Question Number : 18 Question Id : 8711121098 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In continuous casting of steel the mould is subjected to vertical oscillation in order to

Options :

1. allow easy floatation of inclusion

2. production of homogenous casting

3. heat transfer rate from steel to mould

4. prevent the skin from sticking to mould

Question Number : 19 Question Id : 8711121099 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Segregation is more in steels when the following impurity is more in _____.

Options :

1. Carbon
2. Sulphur
3. Silicon
4. Manganese

Question Number : 20 Question Id : 8711121100 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Steel ingots that are practically free from blowholes and porosity are called _____.

Options :

1. Capped ingots
2. Rimmed ingots
3. Semi-killed ingots
4. Killed ingots

Question Number : 21 Question Id : 8711121101 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The term `Ingotism' refers to _____.

Options :

1. the formation of large steel ingots
2. the formation of shrinkage cavity at the top
3. the formation of mutually intersecting columnar grains giving weak planes
4. the formation of porosity on the surface of ingots

Question Number : 22 Question Id : 8711121102 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which is not a basic refractory?

Options :

1. Dolomite
2. Magnesite
3. Chrome magnesite
4. Silicon carbide

Question Number : 23 Question Id : 8711121103 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Panel Test determines the _____ of refractories.

Options :

1. Fusion Point

2. Spalling Resistance

3. Refractoryness under load

4. Porosity

Question Number : 24 Question Id : 8711121104 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Iron oxide with FeO as composition is known as _____.

Options :

1. Hematite

2. Wustite

3. Magnatite

4. Ferrite

Question Number : 25 Question Id : 8711121105 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ganister is a source of _____.

Options :

1. Periclase

2. Lime

3. Silica

4. Dolomite

Question Number : 26 Question Id : 8711121106 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

S/R route of iron making process is through _____.

Options :

1. Blast Furnace

2. Corex

3. Finnex

4. Hi Smelt

Question Number : 27 Question Id : 8711121107 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The third law of thermodynamics is not applicable to _____.

Options :

1. Crystalline solids
2. Liquids
3. Gases
4. Glass

Question Number : 28 Question Id : 8711121108 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The unit of fugacity is same as that of _____.

Options :

1. Concentration
2. Pressure
3. Energy
4. Temperature

Question Number : 29 Question Id : 8711121109 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The vapour pressure at two temperatures of a solid phase in equilibrium with its liquid phase are known, then the latent heat of fusion can be calculated by _____.

Options :

1. Maxwell's Equation
2. Claussius-Clayperon Equation
3. Gibbs-Duhem Equation
4. Nernst Heat Theorem

Question Number : 30 Question Id : 8711121110 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Gibbs free energies of a system in states 1 and 2 are denoted by G_1 and G_2 respectively. The system will go spontaneously from state 1 to state 2, if and only if

Options :

1. $G_1 - G_2 > 0$
2. $G_1 - G_2 = 0$
3. $G_1 - G_2 < 0$
4. $G_1 < 0$ and $G_2 < 0$

Question Number : 31 Question Id : 8711121111 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For an ideal gas $C_p - C_v$ is

Options :

1. R
2. –R
3. Zero
4. 1.5R

Question Number : 32 Question Id : 8711121112 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a first order chemical reaction the concentration of the reactant decreases _____ with time.

Options :

1. linearly
2. logarithmically
3. exponentially
4. inversely

Question Number : 33 Question Id : 8711121113 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Boudouard curve exhibits equilibrium condition of _____.

Options :

1. CO/CO_2
2. Fe-O-C
3. $Fe\text{-}O\text{-}H_2$
4. $Fe\text{-}H_2\text{-}O$

Question Number : 34 Question Id : 8711121114 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following forms of corrosion occurs in a component due to the difference in materials composition?

Options :

1. Uniform
2. Galvanic

3. Intergranular

4. Stress

Question Number : 35 Question Id : 8711121115 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Sintering is a process of _____.

Options :

1. Smelting

2. Agglomeration

3. Mineral beneficiation

4. Panning

Question Number : 36 Question Id : 8711121116 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Convective heat transfer plays a major role in _____.

Options :

1. Muffle furnace

2. Salt bath furnace

3. Tempering furnace

4. Sintering furnace

Question Number : 37 Question Id : 8711121117 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Diffusion of _____ is faster in steel.

Options :

1. Carbon

2. Magnesium

3. Silicon

4. Phosphorous

Question Number : 38 Question Id : 8711121118 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The calorific value of Blast furnace gas in kCal /Cu.m is

Options :

1. 700 - 900

2. 4200 - 4700

3. 3200 - 3500

4. 8000

Question Number : 39 Question Id : 8711121119 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fick's law is the relationship between _____.

Options :

1. Mass Transfer And Flux

2. Flux And Mole Fraction

3. Flux And Concentration Gradient

4. Flux And Temperature Gradient

Question Number : 40 Question Id : 8711121120 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What measures a material resistance to flow?

Options :

1. Matter

2. Temperature

3. Volume

4. Viscosity

Question Number : 41 Question Id : 8711121121 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which statement is true for an electro chemical cell?

Options :

1. Oxidation occurs at anode only

2. Reduction occurs at anode only

3. Oxidation occurs at both anode and cathode

4. Reduction occurs at both anode and cathode

Question Number : 42 Question Id : 8711121122 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process by which electricity is used to bring about a chemical change is called

Options :

1. Corrosion

2. Electrolysis

3. Voltage

4. Oxidation

Question Number : 43 Question Id : 8711121123 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process of isothermal transformation to form Bainite in steels is known as _____.

Options :

1. Austempering

2. Austenising

3. Powder Metallurgy

4. Polymerization

Question Number : 44 Question Id : 8711121124 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following will have least carbon percentage?

Options :

1. High Ductility Wires

2. Connecting Rods

3. Dies and Punches

4. Paper Knives

Question Number : 45 Question Id : 8711121125 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a ferromagnetic material?

Options :

1. Aluminum

2. Copper

3. Gold

4. Nickel

Question Number : 46 Question Id : 8711121126 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is weak bond?

Options :

1. Ionic Bonds
2. Covalent Bonds
3. Metallic Bonds
4. Vander Waal Bonds

Question Number : 47 Question Id : 8711121127 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fiber reinforced plastic is a/an _____.

Options :

1. Alloy
2. Ceramic
3. Polymer
4. Composite

Question Number : 48 Question Id : 8711121128 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The recrystallisation temperature of a cold worked material decreases with

Options :

1. increase in the degree of deformation
2. increase in the initial grain size
3. increase in the temperature of cold working
4. the presence of impurity

Question Number : 49 Question Id : 8711121129 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of lattice parameters required to define a unit cell of martensite in plain carbon steel is

Options :

1. One
2. Two
3. Three
4. Four

Question Number : 50 Question Id : 8711121130 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Thermosets are polymers which _____ .

Options :

1. readily melt on heating
2. harden on heating
3. soften on heating
4. are long chains held by vanderwaals forces

Question Number : 51 Question Id : 8711121131 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Muntz metal is an alloy of _____ .

Options :

1. Cu and Zn
2. Cu and Al
3. Al and Cu
4. Pb and Sn

Question Number : 52 Question Id : 8711121132 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Example of a naturally available composite materials is _____.

Options :

1. Sand
2. Bone
3. Coal
4. Limestone

Question Number : 53 Question Id : 8711121133 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following metals has the highest thermal conductivity?

Options :

1. Aluminum
2. Gold
3. Silver
4. Copper

Question Number : 54 Question Id : 8711121134 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a semiconductor material?

Options :

1. Aluminum
2. Silicon
3. Iron
4. Copper

Question Number : 55 Question Id : 8711121135 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The shortest wave length of X-rays emitted from a X-ray tube depends upon the _____.

Options :

1. current in the tube
2. voltage applied to the tube
3. nature of gas on the tube
4. atomic number of target materials

Question Number : 56 Question Id : 8711121136 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The most widely used soldering material is

Options :

1. Pb - Sn
2. Pb - Cu
3. Pb – Zn
4. Pb - Au

Question Number : 57 Question Id : 8711121137 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A peritectic reaction in a binary alloy system is given by _____.

Options :

1. $\alpha + \beta = \gamma$
2. $L+\alpha +\beta =\gamma$
3. $L + \alpha = \beta$
4. $L_1+ L_2= \beta$

Question Number : 58 Question Id : 8711121138 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The sharp rails used for changing the tracks of trains is made of _____.

Options :

1. Wrought iron
2. Martensitic steels
3. Hadfield Steel
4. Stainless Steels

Question Number : 59 Question Id : 8711121139 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Steel stampings used in an electric transformer are made of _____.

Options :

1. Stainless Steels
2. Nickel alloys
3. Copper Alloys
4. Silicon Steels

Question Number : 60 Question Id : 8711121140 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one the following constituent is seen as mixture of phases in the microstructure?

Options :

1. Cementite
2. Bainite
3. Martensite
4. Pearlite

Question Number : 61 Question Id : 8711121141 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The strengthening mechanism in duralumin is by _____.

Options :

1. Precipitation hardening
2. Grain boundary refinement
3. Cold working
4. Fibre strengthening

Question Number : 62 Question Id : 8711121142 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Embrittlement in alloy steels can be suppressed by adding _____.

Options :

1. 0.5% Nickel
2. 0.5% Manganese
3. 0.5% Chromium
4. 0.5% Molybdenum

Question Number : 63 Question Id : 8711121143 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is the best method to obtain localized nitriding on some parts of surface area?

Options :

1. High nitrogen gas
2. High carbon paste
3. Tin paste
4. Lead paste

Question Number : 64 Question Id : 8711121144 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The wear resistance of gear teeth is preferably enhanced by _____.

Options :

1. Martempering
2. Austempering
3. Carburizing
4. Flame hardening

Question Number : 65 Question Id : 8711121145 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ceramic materials have _____.

Options :

1. High strength and high stiffness
2. High strength and low stiffness

3. Low strength and high stiffness

4. Low strength and low stiffness

Question Number : 66 Question Id : 8711121146 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The toughness of Ceramic Matrix Composites is increased by _____.

Options :

1. Whiskers

2. Fibers

3. Particulates

4. Alloys

Question Number : 67 Question Id : 8711121147 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Glass products are based primarily on which one of the following minerals?

Options :

1. Al_2O_3

2. SiC

3. MgO

4. SiO_2

Question Number : 68 Question Id : 8711121148 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the convertor is over blown _____ phenomena takes place.

Options :

1. Phosphorous reversal

2. Carbon boil

3. Desulphurization

4. Silicon reversal

Question Number : 69 Question Id : 8711121149 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The area under the stress-strain curve is representative of the _____.

Options :

1. Tensile strength

2. Elastic strain energy

3. Toughness

4. Malleability

Question Number : 70 Question Id : 8711121150 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the relation $\sigma = K \varepsilon^n$,

Options :

1. σ is the engineering stress, ε is the engineering strain and 'n' is the strain hardening coefficient

2. σ is the true stress, ε is the true strain and 'n' is the strain hardening coefficient

3. σ is the load, ε is the extension and 'n' is the dislocation density

4. σ is the true stress, ε is the true strain and 'n' is Poisson's ratio

Question Number : 71 Question Id : 8711121151 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Deformation of pure lead at room temperature is called 'Hot Working' because _____.

Options :

1. lead becomes very hot during working

2. the recrystallization temperature of lead is below room temperature

3. lead does not work harden at room temperature

4. lead has a very high creep rate

Question Number : 72 Question Id : 8711121152 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fatigue strength of a steel shaft is not improved by _____ process.

Options :

1. Careful annealing for long periods

2. Shot peening

3. Cold working the surface

4. Surface hardening such as nitriding

Question Number : 73 Question Id : 8711121153 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The S-N diagram in fatigue testing exhibits a clear fatigue limit _____.

Options :

1. in all materials
2. only in ferrous materials
3. only in non-ferrous materials
4. only in ceramic materials

Question Number : 74 Question Id : 8711121154 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ductile to brittle transition temperature can be determined from _____ test.

Options :

1. Creep
2. Fatigue
3. Impact
4. Wear

Question Number : 75 Question Id : 8711121155 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ease with which the metal can be formed by rolling and drawing operations is determined by its _____.

Options :

1. Yield strength
2. Stiffness
3. Hardness
4. Creep strength

Question Number : 76 Question Id : 8711121156 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Sponge iron is produced at a temperature of _____.

Options :

1. 1000° C
2. 1500° C
3. 1800° C
4. 500° C

Question Number : 77 Question Id : 8711121157 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The primary stage in creep of metals is characterized by _____.

Options :

1. increasing strain rate
2. decreasing strain rate
3. decrease in deformation mechanism
4. constant strain rate

Question Number : 78 Question Id : 8711121158 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Low K_{IC} is exhibited by _____.

Options :

1. Beryllium
2. Copper
3. Nickel
4. Aluminum

Question Number : 79 Question Id : 8711121159 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Compression test is preferred for testing in case of which of the following materials?

Options :

1. Aluminum
2. Copper
3. Cast iron
4. Iron.

Question Number : 80 Question Id : 8711121160 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hardness of a strip is preferably examined by _____ tester.

Options :

1. Scratch hardness
2. Brinell hardness
3. Rockwell superfacial hardness
4. Rebound hardness

Question Number : 81 Question Id : 8711121161 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a tensile test, necking starts at

Options :

1. at lower yield stress
2. at upper yield stress
3. at ultimate tensile stress
4. just before fracture

Question Number : 82 Question Id : 8711121162 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Air is blown from the bottom of convertor in _____ process.

Options :

1. LD convertor
2. Kaldo
3. Bessemer
4. Open hearth

Question Number : 83 Question Id : 8711121163 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Dramatic variation in fracture mode with temperature is seen in case of _____.

Options :

1. FCC alloys
2. BCC alloys
3. HCP alloys
4. SCC alloys

Question Number : 84 Question Id : 8711121164 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Microhardness is measured by _____.

Options :

1. BHN
2. RHN
3. VHN
4. Mohs' scale

Question Number : 85 Question Id : 8711121165 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Tertiary creep is associated with _____.

Options :

1. Recovery
2. Strain hardening
3. Necking
4. Recrystallization

Question Number : 86 Question Id : 8711121166 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Grain boundary sliding becomes prominent at _____.

Options :

1. room temperature
2. below equicohesive temperature
3. above equicohesive temperature
4. melting temperature

Question Number : 87 Question Id : 8711121167 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Effect of grain size on yielding in materials is given by _____.

Options :

1. Hume-Rothery rules
2. Hall-petch equation
3. Hall equation
4. Henry law

Question Number : 88 Question Id : 8711121168 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ has minimum modulus of elasticity.

Options :

1. Carbon steels
2. Stainless steels
3. Aluminum base alloys
4. Copper base alloys

Question Number : 89 Question Id : 8711121169 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In rolling, at the neutral point _____.
(where Vr = Surface velocity of roll and V = Velocity of the sheet)

Options :

1. $Vr = V$
2. $Vr > V$
3. $Vr < V$
4. $Vr = V^2$

Question Number : 90 Question Id : 8711121170 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is a secondary fuel?

Options :

1. Coke
2. Pulverized coal
3. Lignite
4. Natural Gas

Question Number : 91 Question Id : 8711121171 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Indirect compression type metal working process is known as _____.

Options :

1. Cold forging
2. Hot forging
3. Extrusion
4. Rolling

Question Number : 92 Question Id : 8711121172 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Most common NDT method used to examine an internal crack in a steel forged product is _____.

Options :

1. Ultrasonic test
2. Radiography
3. Dye penetrant test

4. Acoustic emission

Question Number : 93 Question Id : 8711121173 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An appropriate pattern for moulding a pipe bend may be _____.

Options :

1. Skeleton pattern

2. Match plate pattern

3. Sweep pattern

4. Split plate pattern

Question Number : 94 Question Id : 8711121174 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Blow holes are _____ defects.

Options :

1. Welding

2. Casting

3. Forging

4. Rolling

Question Number : 95 Question Id : 8711121175 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The melting furnace most commonly used in foundries is _____.

Options :

1. Reverbaratory furnace

2. Induction furnace

3. Muffle furnace

4. Rotary furnace

Question Number : 96 Question Id : 8711121176 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Temper rolling is done to _____.

Options :

1. increase the length of specimen

2. increase yield strength

3. decrease yield point phenomenon

4. increase hardness of specimen

Question Number : 97 Question Id : 8711121177 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Flash is a _____ defect.

Options :

1. Rolling

2. Forging

3. Wire drawing

4. Extrusion

Question Number : 98 Question Id : 8711121178 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which welding process is mostly used to join 100 mm thick steel plates?

Options :

1. Oxyfuel gas welding

2. Shielded metal arc welding

3. Submerged arc welding

4. Tungsten inert gas welding

Question Number : 99 Question Id : 8711121179 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Alternating current is preferred in TIG welding of aluminum alloys, because _____.

Options :

1. direct current results in erratic arc

2. it helps improving ductility of welds

3. it helps removing aluminum oxide

4. it reduces cost

Question Number : 100 Question Id : 8711121180 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Generally which of the following type of patterns is used for producing the large size bell shaped articles?

Options :

1. Solid pattern

2. Two piece pattern

3. Sweep pattern

4. Skelton pattern

Question Number : 101 Question Id : 8711121181 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Thermit welding is a form of _____.

Options :

1. Arc welding

2. Fusion welding

3. Gas welding

4. Resistance welding

Question Number : 102 Question Id : 8711121182 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Weld decay in austenitic stainless steel is observed when the _____.

Options :

1. Carbon content is high

2. Carbon content is low

3. Carbides are absent

4. Welded at low temperature

Question Number : 103 Question Id : 8711121183 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A weldment consists of _____ .

Options :

1. Fused part

2. Fused part and heat effected zone

3. Fused part, heat effected zone and base metal

4. Heat effected zone

Question Number : 104 Question Id : 8711121184 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The non-destructive testing of a 50 cm thick steel billet is done by using _____ test.

Options :

1. X-ray Radiography
2. Ultrasonic
3. Magnetic particles
4. Eddy current

Question Number : 105 Question Id : 8711121185 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Mass production of cast iron pipes can be done by _____.

Options :

1. Investment casting
2. Centrifugal casting
3. Die casting
4. Shell mould casting

Question Number : 106 Question Id : 8711121186 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Self lubricating bearings are made by the process of _____ .

Options :

1. Centrifugal casting
2. Powder metallurgy
3. Forging
4. Extrusion

Question Number : 107 Question Id : 8711121187 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When the power of an eye lens is 10X and objective lens is 20X, the magnification is _____ times.

Options :

1. 2
2. 20
3. 200
4. 2000

Question Number : 108 Question Id : 8711121188 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Frenkel defect is _____.

Options :

1. Missing of one ion
2. Missing of pair of ions
3. Inclusion
4. Substitutional

Question Number : 109 Question Id : 8711121189 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ionic solids are not used for structural applications because of _____.

Options :

1. Ductility
2. Weak bonds
3. High elastic modulus
4. Brittleness

Question Number : 110 Question Id : 8711121190 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Grain size determination using X-ray diffraction is based on _____.

Options :

1. Debye rings
2. Line broadening
3. Extra lines
4. Lattice parameter

Question Number : 111 Question Id : 8711121191 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Slag granulation is done with _____ .

Options :

1. Air
2. Nitrogen
3. Hydrogen
4. Water

Question Number : 112 Question Id : 8711121192 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Resolution in an electron microscope is of the order of

Options :

1. mm
2. μm
3. A°
4. cm

Question Number : 113 Question Id : 8711121193 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Strengthening of micro-alloyed steels is mainly due to _____.

Options :

1. Grain boundary pinning
2. Work hardening
3. Dispersion hardening
4. Precipitation Hardening

Question Number : 114 Question Id : 8711121194 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Austempering treatment is aimed at obtaining _____.

Options :

1. Pearlite
2. Ferrite
3. Austenite
4. Bainite

Question Number : 115 Question Id : 8711121195 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Diamond and Silicon are brittle because of _____.

Options :

1. absence of dislocations
2. non-crystallinity
3. high stress to move dislocations
4. very few dislocations

Question Number : 116 Question Id : 8711121196 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

After recrystallization, grain growth is due to _____.

Options :

1. Grain boundary curvature
2. Internal energy
3. Vacancies
4. Dislocations

Question Number : 117 Question Id : 8711121197 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Two solids above the reaction temperature can be seen in _____ reaction.

Options :

1. Monotectic
2. Eutectic
3. Eutectiod
4. Peritectic

Question Number : 118 Question Id : 8711121198 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Temperature of transition from ferromagnetic to the paramagnetic material is named _____ .

Options :

1. Weiss
2. Curie
3. Neel
4. Debye

Question Number : 119 Question Id : 8711121199 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Element which stabilizes austenite phase in steels is _____.

Options :

1. Molybdenum
2. Nitrogen
3. Vanadium

4. Tungsten

Question Number : 120 Question Id : 8711121200 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Formation of Kikuchi lines are related to _____.

Options :

1. XRD

2. Optical microscopy

3. Neutron diffraction

4. Electron diffraction