Question Paper Preview

Question Paper Name: Metallurgy 12th May 2018 Shift 1
Subject Name: Metallurgy
Duration: 120

Metallurgy

Display Number Panel: Yes
Group All Questions: No

Question Number : 1 Question Id : 2203607201 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The product of eigen values of the square matrix $A=\begin{bmatrix} 1 & -1 & 2 \\ -1 & 2 & -1 \\ 2 & 1 & 1 \end{bmatrix}$ is

Options :

1. 4

2. -4

3. 2

4. -6

Question Number : 2 Question Id : 2203607202 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $A=\begin{bmatrix} 1 & 1 & 1 \\ 1 & -1 & -1 \\ 3 & 1 & 1 \end{bmatrix}$ then the homogeneous system of equations $AX=0$ has

Options :

1. no solution

2. unique solution

3. infinitely many solutions

4. three solutions

Question Number : 3 Question Id : 2203607203 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $x = r\cos\theta$, $y = r\sin\theta$, then the Jacobian $J\left(\frac{r,\theta}{x,y}\right) =$

Options :

1. $r\sin\theta$

2. $\tan^{-1} y/x$

3. $\frac{1}{\sqrt{x^2+y^2}}$

4. $\sqrt{x^2+y^2}$

Question Number : 4 Question Id : 2203607204 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The direction of maximum or minimum change in $T(x,y,z) = 2x^2yz$ at the point $P(1,1,1)$ is

Options :

1. $4\bar{\imath} + 2\bar{\jmath} + 2\bar{k}$

2. $\bar{\imath} + \bar{\jmath} + 2\bar{k}$

3. $\bar{\imath} - 2\bar{\jmath} + \bar{k}$

4. $4\bar{\imath} + \bar{\jmath} + \bar{k}$

Question Number : 5 Question Id : 2203607205 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Two functions $y_1 = \sin 2x$, $y_2 = \cos 2x$ are independent then the Wronskian of y_1 and y_2 is

Options :

1. -2
2. 2
3. $\frac{1}{2}$
4. 0

Question Number : 6 Question Id : 2203607206 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Laplace transform of te^{-t} is

Options :

1. $(s+1)^2$
2. $\frac{e^{-s}}{s^2}$
3. se^{-s}
4. $\frac{1}{(s+1)^2}$

Question Number : 7 Question Id : 2203607207 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The probability that A solving a certain problem is 0.4 and probability that B solving the same problem is 0.2, then the probability that at least one of them solves the problem is

Options :

1. 0.08

2. 0.6

3. 0.52

4. 1

Question Number : 8 Question Id : 2203607208 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If r_{yx} and r_{xy} are two regression coefficients between the random variables X and Y, then the correlation coefficient is

Options :

1. $\frac{1}{r_{yx}.r_{xy}}$

2. $r_{yx}.r_{xy}$

3. $\frac{r_{yx}}{r_{xy}}$

4. $(r_{yx}.r_{xy})^{\frac{1}{2}}$

Question Number : 9 Question Id : 2203607209 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Starting with $x_0 = 2$ the next approximate root of the function $f(x) = x^2 - 2x - 1$ by Newton- Raphson method is

Options :

1. 2.1

2. 2.416

3. 0.212

4. 2.5

Question Number : 10 Question Id : 2203607210 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

To apply Simpson $1/3^{rd}$ rule the number of subintervals are

Options :

1. unrestricted

2. odd number

3. multiples of three

4. even number

Question Number : 11 Question Id : 2203607211 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The minimum voltage required for continuous electrolysis is called

Options :

1. Over voltage

2. Cell voltage

3. Decomposition voltage

4. Positive voltage

Question Number : 12 Question Id : 2203607212 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the reaction $N_2 + 3H_2 \rightarrow 2NH_3 + 92.37$ KJ, the formation of NH_3 will be favoured by

Options :

1. low temperature

2. high temperature

3. low pressure and high temperature

4. low temperature and high pressure

Question Number : 13 Question Id : 2203607213 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In Ellingham diagram of oxides, following is not applicable

Options :

1. Reaction rate

2. Oxidation of metals

3. Formation of sulphides

4. Reduction of oxides

Question Number : 14 Question Id : 2203607214 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Alloy of Co, Al and Ni is used for making

Options :

1. Insulator

2. Magnet

3. Ceramic material

4. Abrasive

Question Number : 15 Question Id : 2203607215 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Second law of Thermodynamics is about

Options :

1. Conservation of energy

2. Amount of Energy

3. Rate of Energy

4. Energy transfer direction

Question Number : 16 Question Id : 2203607216 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pilling –Bedworth ratio for the protective oxide layer is

Options :

1. less than 0.5

2. Nearly one

3. Five

4. Ten

Question Number : 17 Question Id : 2203607217 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Passivity refers to

Options :

1. Cathodic protection of metals

2. Corrosion due to dissolution

3. No change in corrosion current

4. Further deterioration of metal

Question Number : 18 Question Id : 2203607218 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A system comprising of a single phase is called

Options :

1. Closed system

2. Open system

3. Isolated system

4. Homogeneous system

Question Number : 19 Question Id : 2203607219 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The variation of vapour pressure with temperature is given by

Options :

1. Van't Hoff equation

2. Clausius-Clapeyron equation

3. Ellingham diagram

4. Raoult's law

Question Number : 20 Question Id : 2203607220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The lowest Moh's scale of hardness

Options :

1. Diamond

2. Topaz

3. Corundum

4. Quartz

Question Number : 21 Question Id : 2203607221 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Cobalt -60 is used as a source of _____ rays.

Options :

1. Alpha

2. Beta

3. Gamma

4. X

Question Number : 22 Question Id : 2203607222 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Mollier diagram is a plot of

Options :

1. Temperature vs enthalpy

2. Temperature vs entropy

3. Entropy vs energy

4. Temperature vs internal energy

Question Number : 23 Question Id : 2203607223 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Movement of jogs can produce _____.

Options :

1. Vacancies

2. Interstitial

3. Grain boundary sliding

4. Grain boundary migration

Question Number : 24 Question Id : 2203607224 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

High stacking - fault energy metal exhibit

Options :

1. High work hardening

2. Low work hardening

3. Do not work harden

4. Moderate work hardening

Question Number : 25 Question Id : 2203607225 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Self diffusion in FCC metals occurs by one of the following mechanisms

Options :

1. Ring

2. Interstitial

3. Vacancy

4. Line

Question Number : 26 Question Id : 2203607226 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct statement

Options :

1. Burgers vector is parallel to an edge dislocation

2. Burgers vector is perpendicular to screw dislocation

3. Screw dislocation can undergo cross slip

4. Screw dislocation can undergo climb

Question Number : 27 Question Id : 2203607227 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Probable condition for twinning is

Options :

1. High temperature high strain rate

2. High temperature low strain rate

3. Low temperature high strain rate

4. Low temperature low strain rate

Question Number : 28 Question Id : 2203607228 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ductile-Brittle Transition Temperature (DBTT) can be determined using the following experimental technique

Options :

1. Tension test

2. Torsion test

3. Impact test

4. Fatigue test

Question Number : 29 Question Id : 2203607229 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fracture toughness, K_{IC}, decreases with

Options :

1. Increasing in temperature

2. Increasing in strain rate

3. Increase in yield strength

4. Increase in grain size

Question Number : 30 Question Id : 2203607230 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The first law of thermodynamics states _____.

Options :

1. Dulong and Petit's law

2. Chemical equilibrium of a system

3. Law of conservation of energy of system

4. System with environment

Question Number : 31 Question Id : 2203607231 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Absolute zero pressure will occur _____.

Options :

1. At sea level

2. At the center of the earth

3. When molecular moment of the system becomes zero

4. Under vacuum conditions

Question Number : 32 Question Id : 2203607232 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Carnot's cycle consists of _____.

Options :

1. Four isothermal steps

2. Four adiabatic steps

3. One isothermal and one adiabatic steps

4. Two isothermal and two adiabatic steps

Question Number : 33 Question Id : 2203607233 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ellingham diagram for metal-oxide system doesn't give idea about _____.

Options :

1. Kinetics of the oxidation reactions

2. Oxidation of metals

3. Reduction of metal oxides

4. Value of partial pressure of oxygen for the reactions

Question Number : 34 Question Id : 2203607234 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

All radiations in a black body are _____.

Options :

1. Reflected

2. Refracted

3. Transmitted

4. Absorbed

Question Number : 35 Question Id : 2203607235 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In electric bulb, filament is made of the following

Options :

1. Molybdenum

2. Tungsten

3. Titanium

4. Iron

Question Number : 36 Question Id : 2203607236 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Monel metal is an alloy of copper and _____.

Options :

1. Tin

2. Zinc

3. Al

4. Ni

Question Number : 37 Question Id : 2203607237 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In transformer steel, the element which provide the required property is

Options :

1. Mn

2. Ni

3. Si

4. Cr

Question Number : 38 Question Id : 2203607238 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In Bayer's process _____ solution used for leaching.

Options :

1. Na_2CO_3

2. NH_4OH

3. HCl

4. NaOH

Question Number : 39 Question Id : 2203607239 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Mould used in continuous casting of steel is made of

Options :

1. Silicon carbide

2. Copper

3. Nickel alloy

4. Sand

Question Number : 40 Question Id : 2203607240 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Process used for Nickel extraction

Options :

1. Harris

2. Mond's

3. Hoope's

4. Pattison's

Question Number : 41 Question Id : 2203607241 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Roasted Zinc ore is leached with

Options :

1. Dilute H_2SO_4

2. Dilute HCl

3. Dilute HNO_3

4. Concentrated H_2SO_4

Question Number : 42 Question Id : 2203607242 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pidgeon process is meant for

Options :

1. Lead

2. Magnesium

3. Zinc

4. Tin

Question Number : 43 Question Id : 2203607243 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Conversion of coal into coke is done in

Options :

1. Reverberatory furnace

2. Coke oven

3. Glass tanks

4. Blast furnace

Question Number : 44 Question Id : 2203607244 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Maximum percentage of Carbon in steel is

Options :

1. 0.8%

2. 0.6%

3. 1.0%

4. 2.0%

Question Number : 45 Question Id : 2203607245 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hall - Heroult process is used for extraction of

Options :

1. Aluminum

2. Magnesium

3. Titanium

4. Zirconium

Question Number : 46 Question Id : 2203607246 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is closest to the purest form of iron?

Options :

1. Wrought iron

2. Pig iron

3. Mild steel

4. Grey cast iron

Question Number : 47 Question Id : 2203607247 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Dual-phase steel contains

Options :

1. Ferrite and pearlite

2. Tempered martensite

3. Ferrite and martensite

4. Ferrite and cementite

Question Number : 48 Question Id : 2203607248 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Blast furnace gas constitutes mainly of

Options :

1. N_2 & CH_4

2. N_2 & H_2

3. N_2 & CO

4. CH_4 & CO_2

Question Number : 49 Question Id : 2203607249 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Zirconium alloys are used in nuclear reactors as

Options :

1. Moderator

2. Fuel

3. Catalyst

4. Cladding material

Question Number : 50 Question Id : 2203607250 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Increase in alumina content of blast furnace slag

Options :

1. Increases its melting point, but decreases its viscosity

2. Increases both its melting point and viscosity

3. Decreases both its melting point but increases its viscosity

4. Does not affect its melting point but increases its viscosity

Question Number : 51 Question Id : 2203607251 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In Pidgeon process, the reducing agent used is

Options :

1. Carbon

2. Carbon monoxide

3. Hydrogen

4. Ferrosilicon

Question Number : 52 Question Id : 2203607252 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Galena is an ore of the following metal

Options :

1. Cu

2. Zn

3. Mg

4. Pb

Question Number : 53 Question Id : 2203607253 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the reducing agent in the Kroll's process to produce Titanium sponge?

Options :

1. C

2. Si

3. Na

4. Mg

Question Number : 54 Question Id : 2203607254 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The typical composition of C in pig iron

Options :

1. ~1 %

2. ~2 %

3. ~4 %

4. ~6 %

Question Number : 55 Question Id : 2203607255 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Scaffolding can occur inside blast furnace due to,

Options :

1. Increasing alkali oxides in the burden

2. Lower permeability of the burden to the glass flow

3. High quantity of the coke in the burden

4. Supplying blast with insufficient pressure through tuyers

Question Number : 56 Question Id : 2203607256 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Alloy steels are generally,

Options :

1. Rimmed steels

2. Semi killed steels

3. Killed steels

4. Oxidized steels

Question Number : 57 Question Id : 2203607257 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Microstructure of the center of the ingot consists of

Options :

1. Fine equiaxed grains

2. Coarse equiaxed grains

3. Columnar grains oriented normal to the ingot mold walls

4. Columnar grains oriented normal to the bottom of the ingot

Question Number : 58 Question Id : 2203607258 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The sizing of the particles may be achieved by _____.

Options :

1. Screening

2. Crushing

3. Grinding

4. Electrostatic separator

Question Number : 59 Question Id : 2203607259 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process of steel making which is a combination of acidic Bessemer and basic open hearth is known as _____.

Options :

1. LD process

2. Duplex process

3. Open hearth process

4. Electric process

Question Number : 60 Question Id : 2203607260 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pearlite is a mixture of

Options :

1. Ferrite & cementite

2. Austenite & cementite

3. Ferrite & austenite

4. Delta iron and ferrite

Question Number : 61 Question Id : 2203607261 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Tempering is generally done to _____ steels.

Options :

1. Annealed

2. Normalized

3. Quenched

4. Plastically deformed

Question Number : 62 Question Id : 2203607262 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is thermo-mechanical treatment?

Options :

1. Subcritical annealing

2. Ausforming

3. Martempering

4. Quenching

Question Number : 63 Question Id : 2203607263 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Peritectic reaction among the following is

Options :

1. $L \xrightarrow{\text{Cooling}} \alpha + \beta$

2. $\gamma \xrightarrow{\text{Cooling}} \alpha + \beta$

3. $\alpha + L \xrightarrow{\text{Cooling}} \beta$

4. $\alpha + \gamma \xrightarrow{\text{Cooling}} \beta$

Question Number : 64 Question Id : 2203607264 Question Type : MCQ Option Shuffling : Yes 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 : 65 Question Id : 2203607265 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The formation of _____ results in soft structure.

Options :

1. Ferrite

2. Pearlite

3. Cementite

4. Martensite

Question Number : 66 Question Id : 2203607266 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Transformation of austenite to martensite occurs by

Options :

1. Lattice diffusion

2. Spinodal decomposition

3. Nucleating-and-growth

4. Diffusion less process

Question Number : 67 Question Id : 2203607267 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The primary purpose of micro-alloying in HSLA steels is to improve

Options :

1. Corrosion resistance

2. Refine grain size

3. Improve hardenability

4. Improve creep strength

Question Number : 68 Question Id : 2203607268 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The structure produced by austempering of steel is _____.

Options :

1. Bainite

2. Martensite

3. Troostite

4. Austenite

Question Number : 69 Question Id : 2203607269 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Compound formed during age hardening of duralumin is

Options :

1. CuAl

2. $CuAl_2$

3. Cu_2Al_3

4. Cu_3Al_2

Question Number : 70 Question Id : 2203607270 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The crystal structure of cementite is

Options :

1. BCC

2. Orthorhombic

3. CPH

4. FCC

Question Number : 71 Question Id : 2203607271 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Above the following line, liquid phase exist for all compositions in a phase diagram.

Options :

1. Tie-line

2. Liquidus

3. Solvus

4. Solidus

Question Number : 72 Question Id : 2203607272 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Melting point of copper in degree centigrade is

Options :

1. 660

2. 985

3. 1083

4. 1539

Question Number : 73 Question Id : 2203607273 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Stainless steel is so called because of its _____.

Options :

1. High strength

2. High corrosion resistance

3. High ductility

4. Brittleness

Question Number : 74 Question Id : 2203607274 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is used as reinforcement in advanced polymer matrix composite?

Options :

1. Glass-fiber reinforced

2. Carbon-fiber reinforced

3. Wood-fiber reinforced

4. Unidirectional-fiber reinforced

Question Number : 75 Question Id : 2203607275 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What happens when the stress applied to the body is increased beyond the maximum value and is removed after some time?

Options :

1. The body will come back to its original position

2. The body will oppose the stress

3. The body becomes hot

4. The body cannot return to its original position

Question Number : 76 Question Id : 2203607276 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The oldest steel plant of India is

Options :

1. TISCO

2. TELCO

3. IISCO

4. VISCO

Question Number : 77 Question Id : 2203607277 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the temperature of the materials is increased, its

Options :

1. Strength and ductility increases

2. Strength and ductility decreases

3. Strength increases and ductility decreases

4. Strength decreases and ductility increases

Question Number : 78 Question Id : 2203607278 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Prior to rolling, ingots are heated in

Options :

1. Induction furnace

2. Soaking pit

3. Crucible furnace

4. Rotary kiln

Question Number : 79 Question Id : 2203607279 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The extrusion force doesn't depend on

Options :

1. Extrusion ratio

2. Type of extrusion

3. Speed of deformation

4. Die material

Question Number : 80 Question Id : 2203607280 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ is a gatter material.

Options :

1. Gold

2. Zirconium

3. Molybdenum

4. Aluminium

Question Number : 81 Question Id : 2203607281 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Temper brittleness of the steel is eliminated by the addition of

Options :

1. Mo

2. V

3. Cu

4. Cr

Question Number : 82 Question Id : 2203607282 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The most effective way of improving yield strength of mild steel is

Options :

1. Cold working

2. Precipitation

3. Solid solution

4. Grain refinement

Question Number : 83 Question Id : 2203607283 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An edge dislocation can move into a different slip plane by

Options :

1. Glide

2. Cross-slip

3. Cross-slip and climb

4. Climb

Question Number : 84 Question Id : 2203607284 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Flow stress of the material

Options :

1. Decreases with increase in strain rate

2. Always constant

3. Not dependent on strain rate

4. Increases with increase in strain rate

Question Number : 85 Question Id : 2203607285 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The dependence of the yield stress on loading path and direction is called

Options :

1. Cottrell effect

2. Bauschinger effect

3. Yield point phenomenon

4. Barba's effect

Question Number : 86 Question Id : 2203607286 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Superplastic behaviour is exhibited by certain metals and alloys at

Options :

1. Low temperature and high strain rate

2. High temperature and high strain rate

3. High temperature and low strain rate

4. Low temperature and low strain rate

Question Number : 87 Question Id : 2203607287 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Recovery process in cold worked metals can be studied by

Options :

1. Hardness

2. Resistivity

3. Fracture toughness

4. Young's modulus

Question Number : 88 Question Id : 2203607288 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fracture toughness, K_{IC}, decreases with

Options :

1. Increasing temperature

2. Increasing strain rate

3. Increase in yield strength

4. Increase in grain size

Question Number : 89 Question Id : 2203607289 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum working temperature is determined by

Options :

1. Melting point

2. Hot shortness temperature

3. Recrystallization temperature

4. Work-hardening

Question Number : 90 Question Id : 2203607290 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The fatigue resistance of materials is improved by the following technique.

Options :

1. Electroplating

2. Decarburizing

3. Soft coating

4. Shot peening

Question Number : 91 Question Id : 2203607291 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The yield point phenomenon observed in annealed low carbon steels is due to the presence of

Options :

1. Silicon

2. Chromium

3. Phosphorus

4. Carbon

Question Number : 92 Question Id : 2203607292 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a material has identical properties in all directions, it is called

Options :

1. elastic

2. plastic

3. isotropic

4. homogeneous

Question Number : 93 Question Id : 2203607293 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Resilience of a material is _____.

Options :

1. Its ability to absorb energy in the plastic range

2. Total area under the stress-strain curve

3. Its ability to absorb energy when deformed elastically range and return to its original position when unloaded.

4. Equal to the amount of work per unit volume which can be done on the material without causing it to failure.

Question Number : 94 Question Id : 2203607294 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Young's modulus of elasticity is equal to _____.

Options :

1. Strain divided by stress

2. Strain divided by stress and whole multiplied by hundred

3. Slope of the initial linear portion of the stress-strain curve

4. Slope of the plastic region of the stress-strain curve

Question Number : 95 Question Id : 2203607295 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Notch brittleness occurs in a metal bar at _____.

Options :

1. Corners

2. Point of stress concentration

3. Mid point of the specimen

4. A distance of one fourth of its length

Question Number : 96 Question Id : 2203607296 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Porosity means

Options :

1. Inoculation

2. Gas evolution and shrinkage

3. Temperature gradient and super-cooling

4. Density difference and convection currents

Question Number : 97 Question Id : 2203607297 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In general cast iron contain carbon % not less than

Options :

1. 0.8

2. 1.0

3. 1.5

4. 2.0

Question Number : 98 Question Id : 2203607298 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fluidity test of molten metal is done using

Options :

1. Sieve analysis

2. Flow meter

3. Spiral test

4. Clay content test

Question Number : 99 Question Id : 2203607299 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ is used to remove big lumps of sand and foreign particles from the foundry sand.

Options :

1. Swab

2. Riddle

3. Trowel

4. Cleaner

Question Number : 100 Question Id : 2203607300 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In Nishiyama process, mold becomes hardened due to addition of

Options :

1. Bentonite

2. Ferrosilicon

3. Phenol formaldehyde

4. Wax

Question Number : 101 Question Id : 2203607301 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Purpose of Sweep pattern in molding is to get _____ shape.

Options :

1. Elliptical

2. Uniform symmetrical

3. Rectangular

4. complicated

Question Number : 102 Question Id : 2203607302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is an exclusively cold working process

Options :

1. Rolling

2. Extrusion

3. Deep drawing

4. Spinning

Question Number : 103 Question Id : 2203607303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Microporsity of castings is due to

Options :

1. Eutectic freezing

2. Short range freezing

3. Long range freezing

4. Peritectic freezing

Question Number : 104 Question Id : 2203607304 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is non consumable electrode process

Options :

1. GMAW

2. GTAW

3. SAW

4. FCAW

Question Number : 105 Question Id : 2203607305 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Material easy to weld with resistance welding

Options :

1. Low Carbon steel

2. Brass

3. Aluminium

4. Stainless steel

Question Number : 106 Question Id : 2203607306 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The binding materials for cementite carbide tools is

Options :

1. Iron

2. Chromium

3. Cobalt

4. Nickel

Question Number : 107 Question Id : 2203607307 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Both the filler metal and the base metal melt in

Options :

1. Fusion welding

2. Brazing

3. Soldering

4. Metal arc welding

Question Number : 108 Question Id : 2203607308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A straight dark line in the center of the film of a weld cap would probably be

Options :

1. Porosity

2. Weld cut

3. Inclusions

4. A linear crack

Question Number : 109 Question Id : 2203607309 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Center burst in extruded products is caused by

Options :

1. Tensile stress

2. Compressive stress

3. Shear stress

4. Impact stress

Question Number : 110 Question Id : 2203607310 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following tool is manufactured by powder metallurgy?

Options :

1. High speed steel

2. Sintered carbides

3. High carbon steel

4. Low carbon steel

Question Number : 111 Question Id : 2203607311 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Flange wrinkling is the defect found in

Options :

1. Rolling

2. Deep drawing

3. Extrusion

4. Forging

Question Number : 112 Question Id : 2203607312 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process used for making collapsible shaving cream tubes is _____.

Options :

1. Forging

2. Rolling

3. Indirect extrusion

4. Impact extrusion

Question Number : 113 Question Id : 2203607313 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a solid state welding process

Options :

1. TIG

2. SAW

3. Friction Stir Process

4. Stud arc

Question Number : 114 Question Id : 2203607314 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Sweep pattern is used for molding parts having _____ shape.

Options :

1. Elliptical

2. Uniform symmetrical

3. Rectangular

4. Complicated

Question Number : 115 Question Id : 2203607315 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ process is used for casting dental alloys

Options :

1. Shell moulding

2. investment Casting

3. True centrifugal

4. Dry sand

Question Number : 116 Question Id : 2203607316 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following pattern is used to produce same type of casting in large number?

Options :

1. Split

2. Skeleton

3. Match plate

4. Gated

Question Number : 117 Question Id : 2203607317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is binder used in the CO_2 moulding?

Options :

1. Graphite

2. Sodium silicate

3. Clay

4. Calcium hydrate

Question Number : 118 Question Id : 2203607318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fatigue strength for non-ferrous materials in defined at _____ stress cycles

Options :

1. 10^3

2. 10^5

3. 10^7

4. 10^9

Question Number : 119 Question Id : 2203607319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For melting steel in foundry, _____ furnace is used.

Options :

1. Cupola

2. Rocking arc

3. Induction

4. Blast

Question Number : 120 Question Id : 2203607320 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In two high reversing mill, _____ rolls are used.

Options :

1. Two horizontal

2. Four horizontal

3. Two vertical

4. Four vertical