Telangana State Council Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Metallurgical Engineering 4th Aug 2022 Shift 2
Subject Name :	Metallurgical Engineering
Creation Date :	2022-08-04 16:46:59
Duration :	120
Total Marks :	120
Display Marks:	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No

Show Progress Bar :	No

Metallurgical Engineering

Group Number :	1
Group Id :	34058055
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	120
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics

Section Id :	340580101
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	340580101

Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 3405806481 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The sum of eigen values of $\begin{bmatrix} 4 & -3 & 2 \\ 2 & -3 & 4 \\ -3 & 2 & 4 \end{bmatrix}$ is

Options :

34058025921. ✖ 3

34058025922. ✖ 4

34058025923. ✔ 5

34058025924. ✖ 6

Question Number : 2 Question Id : 3405806482 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The rank of the matrix $\begin{bmatrix} 1 & 1 & 1 & 0 \\ 1 & -1 & 1 & 2 \\ 1 & 0 & 1 & 2 \\ 3 & 1 & 3 & 2 \end{bmatrix}$ is

Options :

34058025925. ✖ 1

34058025926. ✖ 2

34058025927. ✔ 3

34058025928. ✖ 4

Question Number : 3 Question Id : 3405806483 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\vec{F} = xy\vec{i} + \left(y^2 + 1\right)\vec{j}$, P = (0, 0, 0), Q = (1, 1, 0) and if C is the line segment from P to Q then $\int_C \vec{F}.d\vec{r} =$

Options :

34058025929. ✖ $\frac{5}{6}$

34058025930. ✖ $\frac{5}{2}$

34058025931. ✔ $\frac{5}{3}$

34058025932. ✖ $\frac{3}{2}$

Question Number : 4 Question Id : 3405806484 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\vec{r}$ is the position vector of a point in three dimensional space, then $\nabla^2(\log|\vec{r}|) =$

Options :

34058025933. ✖ $\frac{1}{|\vec{r}|}$

34058025934. ✔ $\frac{1}{|\vec{r}|^2}$

34058025935. ✖ $\frac{1}{|\vec{r}|^3}$

34058025936. ✖ $\frac{1}{|\vec{r}|^4}$

Question Number : 5 Question Id : 3405806485 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x\to 0}\frac{a^x-b^x}{c^x-d^x} =$$

Options :

34058025937. ✔ $\frac{\log(a/b)}{\log(c/d)}$

34058025938. ✖ $\frac{\log(c/d)}{\log(a/b)}$

34058025939. ✖ $\frac{\log(a/c)}{\log(b/d)}$

34058025940. ✖ $\frac{\log(b/d)}{\log(a/c)}$

Question Number : 6 Question Id : 3405806486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\sum_{n=1}^{\infty} \frac{1}{n(n+1)(n+2)} =$$

Options :

34058025941. ✖ $\frac{1}{2}$

34058025942. ✖ $\frac{1}{3}$

34058025943. ✔ $\frac{1}{4}$

34058025944. ✖ $\frac{1}{6}$

Question Number : 7 Question Id : 3405806487 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The series $\sum_{n=1}^{\infty} \frac{n^n}{3^n n!}$ is

Options :

34058025945. ✔ Convergent

34058025946. ✖ Divergent

34058025947. ✖ Converges to e

34058025948. ✖ Converges to e^2

Question Number : 8 Question Id : 3405806488 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$z = \tan^{-1}\left(\frac{y}{x}\right) \Rightarrow \frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} =$

Options :

34058025949. ✔ 0

34058025950. ✖ 1

34058025951. ✖ z

34058025952. ✖ 2z

Question Number : 9 Question Id : 3405806489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $xy'' - xy' + y = 0$ is

Options :

34058025953. ✖ $y(x) = \frac{a}{x} + bx \log x$

34058025954. ✖ $y(x) = \frac{a}{x^2} + bx \log x$

34058025955. ✖ $y(x) = \frac{a}{x^3} + bx \log x$

34058025956. ✔ $y(x) = ax + bx \log x$

Question Number : 10 Question Id : 3405806490 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $P(A) = \frac{1}{5}, P(B) = \frac{1}{4}$ and $P(A \cup B) = \frac{1}{3}$, then $P(A \mid B) + P(B \mid A) =$

Options :

34058025957. ✖ $\frac{9}{11}$

34058025958. ✖ $\frac{18}{20}$

34058025959. ✖ 1

34058025960. ✔ $\frac{21}{20}$

Metallurgical Engineering

Section Id :	340580102
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	340580102
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 3405806491 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Heating of an ore below its melting point in the absence of air is known as ___

Options :

34058025961. ✖

Leaching

34058025962. ✖ Roasting

34058025963. ✔ Calcination

34058025964. ✖ Smelting

Question Number : 12 Question Id : 3405806492 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The hottest region of a blast furnace is _____

Options :

34058025965. ✖ Throat

34058025966. ✖ Stack

34058025967. ✔ Bosh

34058025968. ✖ Hearth

Question Number : 13 Question Id : 3405806493 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Dephosphorization of hot metal in steelmaking is favored by _____

Options :

34058025969. ✔ Oxidizing and basic slag

34058025970. ✖ Reducing and basic slag

34058025971. ✖ Oxidizing and neutral slag

34058025972. ✖ Oxidizing and acidic slag

Question Number : 14 Question Id : 3405806494 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Most of the phosphorous present in the blast furnace charge goes into _____

Options :

34058025973. ✖ Slag

34058025974. ✔ Pig iron

34058025975. ✖ Flue gas

34058025976. ✖ Refractory lining

Question Number : 15 Question Id : 3405806495 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The conditions favorable for producing low-silicon pig iron are _____

Options :

34058025977. ✔ Lower temperature and higher slag basicity

34058025978. ✖ Lower temperature and lower slag basicity

34058025979. ✖ Higher temperature and higher slag basicity

34058025980. ✖ Higher temperature and lower slag basicity

Question Number : 16 Question Id : 3405806496 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The primary source of sulfur in blast furnace charge is _____

Options :

34058025981. ✖ Iron ore

34058025982. ✖ Sinter

34058025983. ✖ Flux

34058025984. ✔ Coke

Question Number : 17 Question Id : 3405806497 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The mold for continuous casting of steel is made of water-cooled _____

Options :

34058025985. ✖ Alumina

34058025986. ✖ Silicon carbide

34058025987. ✔ Copper

34058025988. ✖ Tungsten

Question Number : 18 Question Id : 3405806498 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Zinc is commercially extracted from _____

Options :

34058025989. ✔ Sphalerite

34058025990. ✖ Ilmenite

34058025991. ✖ Bauxite

34058025992. ✖ Chalcopyrite

Question Number : 19 Question Id : 3405806499 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Titanium is produced by reacting _____

Options :

34058025993. ✖ Titanium tetrachloride with carbon

34058025994. ✔ Titanium tetrachloride with magnesium

34058025995. ✖ Titanium dioxide with sodium

34058025996. ✖ Titanium dioxide with carbon

Question Number : 20 Question Id : 3405806500 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is produced by carbonyl process

Options :

34058025997. ✖ Aluminum

34058025998. ✖ Magnesium

34058025999. ✖ Zirconium

34058026000. ✔ Nickel

Question Number : 21 Question Id : 3405806501 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Seawater is a virtually unlimited source of _____

Options :

34058026001. ✔ Mg

34058026002. ✖ Sn

34058026003. ✖ Pb

34058026004. ✖ Zn

Question Number : 22 Question Id : 3405806502 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Sieverts' law states that _____

Options :

34058026005. ✖ The solubility of a diatomic gas in a metal is inversely proportional to the square root of the partial pressure of the gas in thermodynamic equilibrium

34058026006. ✖ The solubility of a diatomic gas in a metal is inversely proportional to the partial pressure of the gas in thermodynamic equilibrium

34058026007. ✔ The solubility of a diatomic gas in a metal is directly proportional to the square root of the partial pressure of the gas in thermodynamic equilibrium

34058026008. ✖ The solubility of a diatomic gas in a metal is directly proportional to the partial pressure of the gas in thermodynamic equilibrium

Question Number : 23 Question Id : 3405806503 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A body is said to be in thermodynamic equilibrium if it in_____

Options :

34058026009. ✔ Thermal, chemical, and mechanical equilibrium

34058026010. ✖ Thermal and mechanical equilibrium

34058026011. ✖ Thermal and chemical equilibrium

34058026012. ✖ Chemical and mechanical equilibrium

Question Number : 24 Question Id : 3405806504 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Relative efficiency or efficiency ratio is the ratio of

Options :

34058026013. ✔ Actual thermal efficiency to air –standard efficiency

34058026014. ✖ Air – standard efficiency to actual thermal efficiency

34058026015. ✖ Break power to indicated power

34058026016. ✖ Indicated power to break power

Question Number : 25 Question Id : 3405806505 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not an intensive property

Options :

34058026017. ✖ Viscosity

34058026018. ✖ Temperature

34058026019. ✔ Helmholtz energy

34058026020. ✖ Chemical potential

Question Number : 26 Question Id : 3405806506 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Configurational entropy of a binary solution A-B approaches the following value as concentration of $B \rightarrow 1$

Options :

34058026021. ✔ 0

34058026022. ✖ R

34058026023. ✖ 1

34058026024. ✖ 0.5R

Question Number : 27 Question Id : 3405806507 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

'a' amount of benzene and 'b' amount of toluene are mixed to form a solution.

The volume of the resulting solution 'V' will be _____

Options :

34058026025. ✖ $V > a + b$

34058026026. ✔ $V = a + b$

34058026027. ✖ $V < a + b$

34058026028. ✖ $V = a - b$

Question Number : 28 Question Id : 3405806508 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The heat loss per hour through 1 Square meter of a furnace wall 50cm thick is 1000 W. What will be outside temperature of the wall, if inside surface temperature is 1000^0C and an average thermal conductivity is 0.5 W/m.K

Options :

34058026029. ✖ 500^0C

34058026030. ✖ 250^0C

34058026031. ✔ 0^0C

34058026032. ✖ 1000^0C

Question Number : 29 Question Id : 3405806509 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is an equilibrium defect

Options :

34058026033. ✔ Vacancy

34058026034. ✖ Dislocation

34058026035. ✖ Stacking fault

34058026036. ✖ Grain boundary

Question Number : 30 Question Id : 3405806510 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For the same final volume, the work done in an adiabatic process is _____

Options :

34058026037. ✖ Two times higher than the work done in an isothermal process

34058026038. ✖ Three times higher than the work done in an isothermal process

34058026039. ✔ Lower than the work done in an isothermal process

34058026040. ✖ The same as the work done in an isothermal process

Question Number : 31 Question Id : 3405806511 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The relation between Gibbs' free energy 'G' and Helmholtz free energy 'A' is_____

Options :

34058026041. ✖ $A = PV - G$

34058026042. ✖ $A = PV + G$

34058026043. ✔ $A = G - PV$

34058026044. ✖ $A = -PV - G$

Question Number : 32 Question Id : 3405806512 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The viscosity of _____ decreases with increase in strain rate

Options :

34058026045. ✖ Dilatant fluids

34058026046. ✔ Pseudoplastic fluids

34058026047. ✖ Bingham plastics

34058026048. ✖ Newtonian fluids

Question Number : 33 Question Id : 3405806513 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A material with a Biot number (Bi) of less than 0.1 is known as a _____ material

Options :

34058026049. ✖ Thermally active

34058026050. ✖ Thermally passive

34058026051. ✖ Thermally thick

34058026052. ✔ Thermally thin

Question Number : 34 Question Id : 3405806514 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The ratio of convective mass transfer and diffusive mass transfer is given by_____

Options :

34058026053. ✖ Fourier Number

34058026054. ✖ Rayleigh Number

34058026055. ✖ Nusselt Number

34058026056. ✔ Sherwood Number

Question Number : 35 Question Id : 3405806515 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equation of continuity is simply a _____ balance of a fluid flowing through a stationary volume element

Options :

34058026057. ✖ Momentum

34058026058. ✔ Mass

34058026059. ✖ Mass and momentum

34058026060. ✖ Mass, momentum, and thermal

Question Number : 36 Question Id : 3405806516 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Poiseuille flow, when the flow is fully developed and laminar, the velocity profile is _____

Options :

34058026061. ✖ Circular

34058026062. ✖ Hyperbolic

34058026063. ✔ Parabolic

34058026064. ✖ Linear

Question Number : 37 Question Id : 3405806517 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Plate martensite is observed in_____

Options :

34058026065. ✖ Pure iron

34058026066. ✖ Low carbon steels

34058026067. ✔ High carbon steels

34058026068. ✖ Steels alloyed with aluminum

Question Number : 38 Question Id : 3405806518 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Cross-slip occurs easily in materials with _____

Options :

34058026069. ✖ Low stacking fault energy

34058026070. ✔ High stacking fault energy

34058026071. ✖ Low grain boundary energy

34058026072. ✖ High grain boundary energy

Question Number : 39 Question Id : 3405806519 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is related to radiation atom heat transfer

Options :

34058026073. ✖ Fourier's law

34058026074. ✖ Fick's law

34058026075. ✖ Newton's law

34058026076. ✔ Stefan Boltzman law

Question Number : 40 Question Id : 3405806520 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ has no effect on the hardenability of a steel

Options :

34058026077. ✖ Carbon content

34058026078. ✖ Alloy content

34058026079. ✖ Grain size

34058026080. ✔ Cold work

Question Number : 41 Question Id : 3405806521 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is commonly used as a sacrificial anode to provide cathodic protection to steel

Options :

34058026081. ✖ Aluminum

34058026082. ✔ Magnesium

34058026083. ✖ Nickel

34058026084. ✖ Chromium

Question Number : 42 Question Id : 3405806522 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ boundary can be described as an array of screw dislocations

Options :

34058026085. ✖ Tilt

34058026086. ✖ Twin

34058026087. ✔ Twist

34058026088. ✖ Grain

Question Number : 43 Question Id : 3405806523 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Heat treatment process of annealing is used to

Options :

34058026089. ✖ Limit the hardness of steel

34058026090. ✖ Change the crystalline structure

34058026091. ✖ Reduce carbon percentage

34058026092. ✔ Soften the steel for manufacturing

Question Number : 44 Question Id : 3405806524 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Annealing twins are generally observed in _____ metals

Options :

34058026093. ✖ Body centered cubic

34058026094. ✔ Face centered cubic

34058026095. ✖ Hexagonal close packed

34058026096. ✖ Simple cubic

Question Number : 45 Question Id : 3405806525 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ can be added for preventing undesirable chromium carbide precipitation in austenitic stainless steels

Options :

34058026097. ✔ Ti and Nb

34058026098. ✖ Ti and Al

34058026099. ✖ Mo and W

34058026100. ✖ Co and Ni

Question Number : 46 Question Id : 3405806526 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ acts as a strong graphitiser in Fe-C alloys

Options :

34058026101. ✖ Niobium

34058026102. ✖ Molybdenum

34058026103. ✔ Silicon

34058026104. ✖ Chromium

Question Number : 47 Question Id : 3405806527 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is added to minimize temper embrittlement in high-strength steels

Options :

34058026105. ✔ Molybdenum

34058026106. ✖ Nickel

34058026107. ✖ Aluminum

34058026108. ✖ Manganese

Question Number : 48 Question Id : 3405806528 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following has the lowest melting point

Options :

34058026109. ✖ Pure iron

34058026110. ✖ Mild steel

34058026111. ✖ Stainless steel

34058026112. ✔ Cast iron

Question Number : 49 Question Id : 3405806529 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Homogenization of an ingot is done to eliminate_____

Options :

34058026113. ✖ Macrosegregation

34058026114. ✔ Microsegregation

34058026115. ✖ Porosity

34058026116. ✖ Inclusions

Question Number : 50 Question Id : 3405806530 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is most ductile

Options :

34058026117. ✖ Bainite

34058026118. ✔ Ferrite

34058026119. ✖ Martensite

34058026120. ✖ Pearlite

Question Number : 51 Question Id : 3405806531 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following heat treatments involves rapid cooling from high temperatures

Options :

34058026121. ✗ Annealing

34058026122. ✗ Stress relieving

34058026123. ✗ Tempering

34058026124. ✓ Solution treatment

Question Number : 52 Question Id : 3405806532 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In titanium alloys, _____ is an isomorphous beta stabilizer

Options :

34058026125. ✓ Mo

34058026126. ✗ Cr

34058026127. ✗ Fe

34058026128. ✖ Ni

Question Number : 53 Question Id : 3405806533 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ alloys are precipitation hardenable

Options :

34058026129. ✖ Cu-Zn

34058026130. ✔ Cu-Be

34058026131. ✖ Cu-Sn

34058026132. ✖ Cu-Si

Question Number : 54 Question Id : 3405806534 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is an interstitial solute in iron

Options :

34058026133. ✖ Cobalt

34058026134. ✖ Aluminum

34058026135. ✔ Nitrogen

34058026136. ✖ Silicon

Question Number : 55 Question Id : 3405806535 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In steels, transformation of austenite to _____ does not involve diffusion

Options :

34058026137. ✖ Ferrite

34058026138. ✔ Martensite

34058026139. ✖ Bainite

34058026140. ✖ Pearlite

Question Number : 56 Question Id : 3405806536 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following metals does not exhibit allotropy

Options :

34058026141. ✖ Iron

34058026142. ✔ Copper

34058026143. ✖ Titanium

34058026144. ✖ Cobalt

Question Number : 57 Question Id : 3405806537 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ are responsible for precipitation hardening in nickel-base superalloys

Options :

34058026145. ✔ Ti and Al

34058026146. ✖ Fe and Mo

34058026147. ✖ Ta and W

34058026148. ✖ Cr and Co

Question Number : 58 Question Id : 3405806538 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is added for enhancing pitting corrosion resistance of austenitic stainless steels

Options :

34058026149. ✖ Manganese

34058026150. ✖ Silicon

34058026151. ✔ Molybdenum

34058026152. ✖ Titanium

Question Number : 59 Question Id : 3405806539 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ are susceptible to hydrogen embrittlement

Options :

34058026153. ✔ Steels

34058026154. ✖ Nickel-base superalloys

34058026155. ✖ Copper alloys

34058026156. ✖ Aluminum alloys

Question Number : 60 Question Id : 3405806540 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In white cast iron, carbon is present in the form of

Options :

34058026157. ✔ Cementite

34058026158. ✖ Graphite flakes

34058026159. ✖ Graphite nodules

34058026160. ✖ Graphite rods

Question Number : 61 Question Id : 3405806541 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Constant stress on metal resulting slow plastic deformation is known as

Options :

34058026161. ✖ Strength

34058026162. ✔ Creep

34058026163. ✖ Endurance

34058026164. ✖ Fatigue

Question Number : 62 Question Id : 3405806542 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Increase in surface hardness after case carburizing is due to _____

Options :

34058026165. ✔ Formation of high-carbon martensite

34058026166. ✖ Formation of hard carbides

34058026167. ✖ Formation of a cementite layer

34058026168. ✖ Formation of fine grains

Question Number : 63 Question Id : 3405806543 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

German silver is an alloy of _____

Options :

34058026169. ✖ Cu-Ni-Al

34058026170. ✔ Cu-Ni-Zn

34058026171. ✖ Cu-Ag-Ni

34058026172. ✖ Cu-Ag-Zn

Question Number : 64 Question Id : 3405806544 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pure copper precipitation can be utilized for strengthening in _____

Options :

34058026173. ✔ Stainless steels

34058026174. ✖ Nickel alloys

34058026175. ✖ Silver alloys

34058026176. ✖ Gold alloys

Question Number : 65 Question Id : 3405806545 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Bonding due to transfer of electrons from one atom to another is known as__

Options :

34058026177. ✖ Metallic bonding

34058026178. ✖ Covalent bonding

34058026179. ✔ Ionic bonding

34058026180. ✖ Van der Waals bonding

Question Number : 66 Question Id : 3405806546 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Peritectic reaction is defined as _____

Options :

34058026181. ✔ A solid and a liquid reacting to a form another solid

34058026182. ✖ Two solids reacting to form a liquid

34058026183. ✖ Two liquids reacting to form a solid

34058026184. ✖ Two solids reacting to form a third solid

Question Number : 67 Question Id : 3405806547 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Spheroidized carbides are found in _____

Options :

34058026185. ✖ Rail steels

34058026186. ✔ Bearing steels

34058026187. ✖ Weathering steels

34058026188. ✖ Maraging steels

Question Number : 68 Question Id : 3405806548 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following exhibits the highest thermal conductivity

Options :

34058026189. ✖ Silicon dioxide

34058026190. ✖ Silicon nitride

34058026191. ✔ Silicon carbide

34058026192. ✖ Sialon

Question Number : 69 Question Id : 3405806549 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following exhibit highest specific strength

Options :

34058026193. ✔ Ti alloys

34058026194. ✖ Al alloys

34058026195. ✖ Mg alloys

34058026196. ✖ Ni-base superalloys

Question Number : 70 Question Id : 3405806550 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is widely used in cutting tools

Options :

34058026197. ✖ Chromium carbide

34058026198. ✖ Titanium carbide

34058026199. ✔ Tungsten carbide

34058026200. ✖ Silicon carbide

Question Number : 71 Question Id : 3405806551 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is widely used in paints for improved weather resistance

Options :

34058026201. ✔ TiO_2

34058026202. ✖ SiO_2

34058026203. ✖ ZrO_2

34058026204. ✖ Al_2O_3

Question Number : 72 Question Id : 3405806552 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following can produce spherical powders

Options :

34058026205. ✖ Solid-state reduction

34058026206. ✔ Gas atomization

34058026207. ✖ Electrolysis

34058026208. ✖ Ball milling

Question Number : 73 Question Id : 3405806553 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Transmission electron microscopy (TEM) provides much higher resolution than light microscopy because _____

Options :

34058026209. ✔ Electrons have a much smaller wavelength as compared to visible light

34058026210. ✖ Electrons have a much larger wavelength as compared to visible light

34058026211. ✖ We use very thin specimens in TEM

34058026212. ✖ TEM can achieve much higher magnification

Question Number : 74 Question Id : 3405806554 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Why scanning electron microscopy (SEM) is better suited for fracture surface examination as compared to light microscopy

Options :

34058026213. ✖ In SEM, specimen is held in a vacuum chamber to minimize contamination

34058026214. ✔ SEM has a higher depth of focus

34058026215. ✖ SEM doesn't require any sample preparation

34058026216. ✖ SEM can be used for examining even non-conductive materials

Question Number : 75 Question Id : 3405806555 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is a sharp break in the dislocation line and remains in the slip plane

Options :

34058026217. ✖ Jog

34058026218. ✖ Kink

34058026219. ✔ Dislocation loop

34058026220. ✖ Frank-read Source

Question Number : 76 Question Id : 3405806556 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following elements is used to fix sulfur in steels

Options :

34058026221. ✖ Cr

34058026222. ✔ Mn

34058026223. ✖ Ni

34058026224. ✖ Si

Question Number : 77 Question Id : 3405806557 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Thick steel plates may exhibit poor ductility in thickness direction due to____

Options :

34058026225. ✖ Poor bonding between grains

34058026226. ✖ Formation of martensite in the plate center

34058026227. ✔ Excessive sulfide and silicate inclusions

34058026228. ✖ Unfavorable grain orientation

Question Number : 78 Question Id : 3405806558 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

How many grains can be countered per square inch at a magnification of 100X in a material with an ASTM grain size number of 5

Options :

34058026229. ✖ 32

34058026230. ✔ 16

34058026231. ✖ 5

34058026232. ✖ 500

Question Number : 79 Question Id : 3405806559 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following can increase the strength of a metallic material without affecting its ductility

Options :

34058026233. ✖ Precipitation hardening

34058026234. ✖

Dispersion hardening

34058026235. ✔ Grain refinement

34058026236. ✖ Work hardening

Question Number : 80 Question Id : 3405806560 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following elements is capable of diffusion in steel at room temperature

Options :

34058026237. ✔ Hydrogen

34058026238. ✖ Oxygen

34058026239. ✖ Nitrogen

34058026240. ✖ Carbon

Question Number : 81 Question Id : 3405806561 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The unit of diffusivity is _____

Options :

34058026241. ✖ m^2sec^1

34058026242. ✔ m^2sec^{-1}

34058026243. ✖ $m^{-2}sec^{-1}$

34058026244. ✖ $m^{-2}sec^1$

Question Number : 82 Question Id : 3405806562 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Ductile-to-brittle transition temperature of a steel can be lowered by_____

Options :

34058026245. ✖ Increasing the carbon content

34058026246. ✖ Increasing the grain size

34058026247. ✖ Increasing the amount of cold work

34058026248. ✔ Reducing the grain size

Question Number : 83 Question Id : 3405806563 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What process is necessary to improve fatigue performance by inducing surface compressive forces

Options :

34058026249. ✔ Shot peening

34058026250. ✖ Annealing

34058026251. ✖ Rolling

34058026252. ✖ Case hardening

Question Number : 84 Question Id : 3405806564 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Body Centered Cubic (BCC) crystal has a coordination number of _____

Options :

34058026253. ✖ 16

34058026254. ✔ 12

34058026255. ✖ 8

34058026256. ✖ 4

Question Number : 85 Question Id : 3405806565 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Slip occurs on _____

Options :

34058026257. ✖ Non-close-packed planes in non-close-packed directions

34058026258. ✖ Non-close-packed planes in close-packed directions

34058026259. ✔ Close-packed planes in close-packed directions

34058026260. ✖ Close-packed planes in non-close-packed directions

Question Number : 86 Question Id : 3405806566 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During tertiary creep, voids nucleate _____

Options :

34058026261. ✖ Within the grains over the entire volume of the material

34058026262. ✖ On the grain boundaries that are parallel to the tensile stress axis

34058026263. ✔ On the grain boundaries that are perpendicular to the tensile stress axis

34058026264. ✖ On all the grain boundaries over the entire volume of the material

Question Number : 87 Question Id : 3405806567 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Fracture toughness increases with _____

Options :

34058026265. ✖ Decrease in temperature

34058026266. ✖ Decrease in yield stress

34058026267. ✔ Decrease in strain rate

34058026268. ✖ Increase in grain size

Question Number : 88 Question Id : 3405806568 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Paris' law relates fatigue crack growth rate to _____

Options :

34058026269. ✖ Stress amplitude

34058026270. ✖ Stress range

34058026271. ✔ Stress intensity factor

34058026272. ✖ Stress ratio

Question Number : 89 Question Id : 3405806569 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During cyclic loading, which of the following cannot be zero

Options :

34058026273. ✖ Mean stress

34058026274. ✖ Maximum stress

34058026275. ✖ Minimum stress

34058026276. ✔ Stress range

Question Number : 90 Question Id : 3405806570 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ testing is commonly used for determining the ductile-to-brittle transition temperature

Options :

34058026277. ✖ Tensile

34058026278. ✔ Impact

34058026279. ✖ Bend

34058026280. ✖ Shear

Question Number : 91 Question Id : 3405806571 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During tensile testing, the specimen undergoes uniform elongation over the entire gauge length until reaching _____

Options :

34058026281. ✖ Elastic limit

34058026282. ✖ Yield stress

34058026283. ✔ Ultimate tensile stress

34058026284. ✖ Fracture stress

Question Number : 92 Question Id : 3405806572 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In forward extrusion, the speed of the extruded product is _____

Options :

34058026285. ✖ Lower than the speed of the ram

34058026286. ✔ Higher than the speed of the ram

34058026287. ✖ Same as the speed of the ram

34058026288. ✖ Independent of the speed of the ram

Question Number : 93 Question Id : 3405806573 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The provision of gutters are required in

Options :

34058026289. ✖ Spinning

34058026290. ✖ Extrusion

34058026291. ✔ Closed die forging

34058026292. ✖ Explosive forming

Question Number : 94 Question Id : 3405806574 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Yield point phenomenon is observed in _____

Options :

34058026293. ✖ Pure iron

34058026294. ✖ High carbon steels

34058026295. ✔ Low carbon steels

34058026296. ✖ Stainless steels

Question Number : 95 Question Id : 3405806575 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ stainless steels are magnetic

Options :

34058026297. ✖ Austenitic

34058026298. ✖ Ferritic

34058026299. ✖ Martensitic

34058026300. ✔ Ferritic and martensitic

Question Number : 96 Question Id : 3405806576 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Cold worked copper shows _____

Options :

34058026301. ✖ Reduced tensile strength

34058026302. ✔ Reduced electrical conductivity

34058026303. ✖ Reduced specific heat

34058026304. ✖ Reduced density

Question Number : 97 Question Id : 3405806577 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Duplex stainless steels contain _____

Options :

34058026305. ✔ Austenite + ferrite

34058026306. ✖ Austenite + martensite

34058026307. ✖ Martensite + ferrite

34058026308. ✖ Austenite + bainite

Question Number : 98 Question Id : 3405806578 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ hardness test method is based on depth of indentation

Options :

34058026309. ✖ Brinell

34058026310. ✖ Vickers

34058026311. ✖ Knoop

34058026312. ✔ Rockwell

Question Number : 99 Question Id : 3405806579 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Thermo-mechanically treated (TMT) bars used for concrete reinforcement consist of _____ microstructure

Options :

34058026313. ✖ Pearlitic case + ferritic core

34058026314. ✔ Martensitic case + ferritic core

34058026315. ✖ Bainitic case + pearlitic core

34058026316. ✖ Ferritic case + martensitic core

Question Number : 100 Question Id : 3405806580 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Addition of _____ to the flux improves the slag detachability in shielded metal arc welding

Options :

34058026317. ✖ Cao

34058026318. ✖ MgO

34058026319. ✔ TiO_2

34058026320. ✖ CaF_2

Question Number : 101 Question Id : 3405806581 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In which casting process , molten metal is forced into the mould cavity under high pressure

Options :

34058026321. ✔ Die casting

34058026322. ✖ Investment casting

34058026323. ✖ Centrifugal casting

34058026324. ✖ Shell-mold casting

Question Number : 102 Question Id : 3405806582 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Alloys with _____ exhibit higher susceptibility to solidification cracking during fusion welding

Options :

34058026325. ✖ Higher melting point

34058026326. ✖ Lower melting point

34058026327. ✖ Narrower freezing range

34058026328. ✔ Wider freezing range

Question Number : 103 Question Id : 3405806583 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following casting process is used to cast statues

Options :

34058026329. ✔ Slush casting

34058026330. ✖ Centrifugal casting

34058026331. ✖ Sand casting

34058026332. ✖ Centrifuging

Question Number : 104 Question Id : 3405806584 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ can only be used for welding in flat or down-hand position

Options :

34058026333. ✖ Shielded metal arc welding

34058026334. ✖ Gas metal arc welding

34058026335. ✖ Plasma arc welding

34058026336. ✔ Submerged arc welding

Question Number : 105 Question Id : 3405806585 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The use of the sand muller in sand casting is for

Options :

34058026337. ✖ Sand ramming

34058026338. ✖ Sand mixing

34058026339. ✖ Making vent holes

34058026340. ✔ Core making

Question Number : 106 Question Id : 3405806586 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Use of steel fasteners for joining stainless steel plates can cause_____

Options :

34058026341. ✖ Galvanic corrosion of stainless steel plates

34058026342. ✔ Galvanic corrosion of steel fasteners

34058026343. ✖ Intergranular corrosion of stainless steel plates

34058026344. ✖ Intergranular corrosion of steel fasteners

Question Number : 107 Question Id : 3405806587 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

To improve directional solidification in casting _____ is provided

Options :

34058026345. ✖ Chaplets

34058026346. ✖ Core print

34058026347. ✔ Chills

34058026348. ✖ Spruce

Question Number : 108 Question Id : 3405806588 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is widely used as a brazing filler

Options :

34058026349. ✖ Cu-Al

34058026350. ✔ Cu-Ag

34058026351. ✖ Cu-Ni

34058026352. ✖ Cu-Cr

Question Number : 109 Question Id : 3405806589 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Thread rolling is used for

Options :

34058026353. ✔ Ductile materials

34058026354. ✖ Brittle materials

34058026355. ✖ Hard materials

34058026356. ✖ Composite materials

Question Number : 110 Question Id : 3405806590 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ is a suitable technique for monitoring fatigue crack growth

Options :

34058026357. ✔ Acoustic emission

34058026358. ✖ Radiographic inspection

34058026359. ✖ Magnetic particle inspection

34058026360. ✖ Liquid penetrant testing

Question Number : 111 Question Id : 3405806591 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Wrinkling defect is generally observed in

Options :

34058026361. ✖ Rolled components

34058026362. ✔ Deep drawing components

34058026363. ✖ Forged components

34058026364. ✖ Extruded components

Question Number : 112 Question Id : 3405806592 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ alloys are not well-suited for high-pressure die casting

Options :

34058026365. ✖ Al

34058026366. ✖ Mg

34058026367. ✔ Ti

34058026368. ✖ Zn

Question Number : 113 Question Id : 3405806593 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Invar is known for its _____

Options :

34058026369. ✔ Very low coefficient of thermal expansion

34058026370. ✖ Very low thermal conductivity

34058026371. ✖ Very high creep strength

34058026372. ✖ Very high toughness

Question Number : 114 Question Id : 3405806594 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ alloys are commonly used for casting

Options :

34058026373. ✖ Al-Cu

34058026374. ✖ Al-Mn

34058026375. ✖ Al-Mg

34058026376. ✔ Al-Si

Question Number : 115 Question Id : 3405806595 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Laser surface hardening works most effectively for _____

Options :

34058026377. ✖ Cu-Ni alloys

34058026378. ✖ Austenitic stainless steels

34058026379. ✔ Steels

34058026380. ✖ Al-Cu alloys

Question Number : 116 Question Id : 3405806596 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ steels are commonly used for steam tubing in thermal power plants

Options :

34058026381. ✔ Cr-Mo

34058026382. ✖ C-Mn

34058026383. ✖ Ni-Mo

34058026384. ✖ Si

Question Number : 117 Question Id : 3405806597 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Dual phase steels are specifically developed for _____

Options :

34058026385. ✖ Marine applications

34058026386. ✖ Electronic applications

34058026387. ✔ Automotive applications

34058026388. ✖ Biomedical applications

Question Number : 118 Question Id : 3405806598 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Stress formed in the work piece due to different process are given below,

Match them

Metal forming process	Type of stress
A) Wire Drawing	P) Tensile
B) Blanking	Q) Tensile and compressive
C) Deep drawing	R) Shear

Options :

34058026389. ✖ A-P, B-Q, C-R

34058026390. ✖ A-Q, B-R, C-P

34058026391. ✔ A-P, B-R, C-Q

34058026392. ✖ A-Q, B-P, C-R

Question Number : 119 Question Id : 3405806599 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Ship impellers are commonly made of _____

Options :

34058026393. ✖ Manganese bronze

34058026394. ✖ Phosphor bronze

34058026395. ✖ Silicon bronze

34058026396. ✔ Nickel aluminum bronze

Question Number : 120 Question Id : 3405806600 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

_____ technique can be used for measuring residual stress in metallic components

Options :

34058026397. ✔ X-ray diffraction

34058026398. ✖ Optical emission spectroscopy

34058026399. ✖ Electron microscopy

34058026400. ✖ Electron back-scattered diffraction