

Id	1
Question	Which one of the following is the best heat and corrosion resistant material?
A	Metals
B	Ceramics
C	Polymers
D	Semi-Conductors

Id	2
Question	Polymers are used in the chemical industry because of their _____
A	Inert Nature
B	Light Weight
C	Low Cost
D	Easily Fabricated

Id	3
Question	Which of the following is not an application of nanomaterials?
A	TV and computer monitors
B	Cardiology
C	Magnetic Resonance Imaging (MRI)
D	Sunscreens and fuel cells

Id	4
Question	Which of the following property cannot be determined by a tensile test?
A	Yield strain
B	Yield stress
C	Elastic limit
D	Limit of proportionality

Id	5
Question	A metallic alloy in general as compared to their pure metal components is
A	More corrosion resistant
B	Having higher melting point
C	Having lower hardness, reactivity and fusibility
D	Having lower electrical conductivity

Id	6
Question	Which of the following will have the highest melting point?
A	Pig Iron
B	Wrought Steel
C	Mild Steel
D	High Carbon Steel

Id	7
Question	Which of the following is produced by addition polymerisation?
A	Polybutadiene
B	Phenol Formaldehyde
C	Urea-Formaldehyde
D	Darcon

Id	8
Question	Containers made of high silicon cast iron (14% Si) are not suitable for the storage of
A	Acetic Acid
B	Benzoic and boric acids
C	Phosphoric acid (95%) & sulphuric acid (95%)
D	Hydrochloric acid (concentrated)

Id	9
Question	Cast iron is
A	Used for making shock resisting parts
B	Manufactured in cupola and is brittle
C	Having compressive strength more than its tensile strength
D	All (a), (b) & (c)

Id	10
Question	Alinco, which is a aluminium-cobalt-nickel steel, is used for making
A	Surgical instruments
B	Powerful magnets
C	Chemical equipments
D	Boiler tubes

Id	11
Question	Maximum carbon content in cast iron is _____ percent.
A	3.8
B	5.2
C	4.8
D	4.3

Id	12
Question	Which of the following comprises of hydrocarbons?
A	Mica flakes
B	Glass
C	Rubber
D	None of these

Id	13
Question	The softest material just next to talc in the Mho's scale is
A	Quartz
B	Gypsum
C	Feldspar
D	Fluorite

Id	14
Question	_____ iron is produced, when molten pig iron is allowed to cool gradually.
A	White cast
B	Grey cast
C	wrought
D	None of these

Id	15
Question	Reduction in the grain size reduces the _____ of the material.
A	Fatigue resistance
B	Tensile strength
C	Creep resistance
D	All (a), (b) & (c)

Id	16
Question	Pick out the wrong statement.
A	The toughness of a material decreases, when it is heated
B	Crane hooks are normally made of wrought iron
C	Cold working of a metal decreases its fatigue strength
D	The temperature at which new grains are formed in a metal is known as the recrystallization temperature

Id	17
Question	Ferric stainless steels compared to austenitic stainless steels
A	Have lower corrosion resistance
B	Are harder to fabricate
C	Are less ductile and hence less suitable for cold pressing
D	All (a), (b) and (c)

Id	18
Question	The purpose of nitriding the steel is to
A	None of these
B	Improve its reliability
C	Soften its surface
D	Harden its surface

Id	19
Question	Shock Resisting steel should possess high
A	Wear resistance
B	Hardness
C	Toughness
D	Tensile strength

Id	20
Question	The impure iron that is tapped out from blast furnace contains about _____ percent carbon.
A	8
B	2
C	0.2
D	4

Id	21
Question	Which of the following is universally employed as the low expansion metal in the bimetallic thermometer, which is an iron-nickel alloy contains 36% nickel and has very low co-efficient of expansion?
A	Constantan
B	chromel
C	invar
D	Alumel

Id	22
Question	Ceramic recuperators are generally made of
A	Fireclay bricks
B	Silico carbide
C	Calcium carbide
D	High alumina bricks

Id	23
Question	Nickel (56%) and molybdenum (17%) alloys are called
A	bronzes
B	monel
C	Hatealloy C
D	inconel

Id	24
Question	Coke Oven regenerators are made of _____ bricks
A	Fire clay
B	silica
C	Low thermal conductivity
D	High electrical conductivity

Id	25
Question	Invar used in thermocouples is an alloy of nickel and
A	lead
B	copper
C	chromium
D	iron

Id	26
Question	Softness of silver can be converted into hardness by alloying it with small quantity of
A	Copper and nickel
B	zinc
C	aluminium
D	tin

Id	27
Question	Acetylene gas holder is made of
A	copper
B	Cast iron
C	steel
D	Monel metal

Id	28
Question	The addition of antimony in tin-based alloys improves its
A	Wear resistance
B	Rupture strength and hot hardness
C	Impact strength and bonding strength
D	Deformation resistance

Id	29
Question	The behaviour of visco-elastic material is time dependent. This behaviour is common in _____ materials.
A	crystalline
B	rubbery
C	On-crystalline organic polymeric
D	Non-crystalline solid

Id	30
Question	The malleability of a material is the property by virtue of which it can be rolled or hammered into thin sheets. Which of the following materials has the maximum malleability?
A	Wrought iron
B	aluminium
C	copper
D	lead

Id	31
Question	The hardest material just prior to diamond in Mho's scale is
A	topax
B	calcite
C	corrundum
D	carborundum

Id	32
Question	Percentage elongation of a material is a measure of its
A	brittleness
B	malleability
C	ductility
D	toughness

Id	33
Question	Hammers and railway rails are normally made of
A	Medium carbon steel
B	High carbon steel
C	Dead mild steel
D	Mild steel

Id	34
Question	Residual magnetism in steel for magnets is increased by the addition of
A	nickel
B	cobalt
C	tungsten
D	chromium

Id	35
Question	The main purpose of galvanising iron sheets is to
A	Prevent the action of water
B	Increase its glossiness and lusture
C	Prevent the action of oxygen
D	Harden the surface

Id	36
Question	Constituents of stellite are
A	Zinc, copper and nickel
B	Nickel, cobalt and vanadium
C	Zinc, aluminium and nickel
D	Cobalt, chromium and tungsten

Id	37
Question	Sulphur melting pit in the sulphuric acid plant is made of
A	Hard wood
B	Steel or cement-brick lined
C	Cast iron
D	Lead lined stainless steel

Id	38
Question	Austenitic manganese steel used for making jaws of crushing machines contains about _____ percent manganese
A	3.5-4.5
B	12 to 14
C	7 to 9
D	1.5 to 2

Id	39
Question	Chlorination of benzene is done to produce benzene hexachloride in a photochemical reactor lined with
A	Fire clay brick
B	karbate
C	Lead or glass
D	PVC

Id	40
Question	Heavy duty bearings are usually made of
A	White metal
B	Phosphorous bronze
C	zinc
D	monel

Id	41
Question	Cast irons are generally specified by their
A	Carbon content
B	Manufacturing process
C	hardness
D	Tensile strength

Id	42
Question	German silver is an alloy of
A	Copper, aluminium and silver
B	Silver, nickel and zinc
C	Copper, nickel and zinc
D	Silver, nickel and aluminium

Id	43
Question	Cermets are _____ materials
A	Fully matallic
B	refractory
C	reinforced
D	abrasive

Id	44
Question	A suitable material of construction to use with fuming sulphuric acid is
A	monel
B	nickel
C	Stainless steel type 304
D	Carbon steel

Id	45
Question	Which of the following crystal structure characterizes the austenitic stainless steel
A	Body centered cubic
B	Simple hexagonal
C	None of these
D	Face centered cubic

Id	46
Question	Galvanized iron is
A	harder
B	None of these
C	Alumina coated iron
D	Protected from rusting

Id	47
Question	White cast iron is not
A	Whitish in color
B	brittle
C	malleable
D	Strong and hard

Id	48
Question	Which of the following stainless steel is non-magnetic?
A	ferritic
B	martensitic
C	austenitic
D	None of these

Id	49
Question	18/8 steel is a/an _____ stainless steel.
A	astenic
B	ferritic
C	martensitic
D	None of these

Id	50
Question	18-4-1 high speed steel contains 18%, 4% and 1% respectively of
A	Vanadium chromium and tungsten
B	Tungsten chromium and vanadium
C	Chromium tungsten and vanadium
D	Tungsten vanadium and chromium

Id	51
Question	Aluminium as a material of construction suffers from the disadvantage of
A	Scarce availability
B	Very low strength to weight ratio
C	Rather low tensile strength
D	Very high cost

Id	52
Question	Cast iron has very high
A	Compressive strength
B	ductility
C	Shock resistance
D	Resistance to brittleness

Id	53
Question	Liquid ammonia is shipped in _____ containers.
A	glass
B	Lead lined
C	steel
D	aluminium

Id	54
Question	Babbit metal used for bearings is a _____ base alloy.
A	copper
B	lead
C	aluminium
D	tin

Id	55
Question	Brass is an alloy of
A	Nickel and tin
B	Copper and zinc
C	Tin and lead
D	Copper nickel and zinc

Id	56
Question	Locomotive boiler tubes are made of _____ alloys.
A	nickel
B	aluminium
C	magnesium
D	Arsenic copper

Id	57
Question	Interchain forces are the weakest in case of
A	plastics
B	fibres
C	elastomers
D	Both rubber and elastomers

Id	58
Question	Which of the following materials may prove unsuitable for handling acetic acid (glacial and anhydrous) at 40 C?
A	Silicone rubber, teflon, porcelain and wood
B	Nickel, monel, stainless steel and graphite
C	Aluminium, copper, high silicon iron
D	Brass, cast iron, mild steel and tin

Id	59
Question	Slow and progressive deformation of a material with time under constant stress is called
A	creep
B	erosion
C	resilience
D	None of these

Id	60
Question	_____ possesses viscoelastic properties.
A	glass
B	graphite
C	rubber
D	cork

Id	61
Question	Addition of _____ to the steel helps in increasing the residual magnetism in steel used for making magnets.
A	chromium
B	tungsten
C	nickel
D	cobalt

Id	62
Question	Zinc is not used
A	For producing zinc based die casting alloys
B	As an alloying element in the various bronzes
C	In its oxide form as pigments
D	As anode for corrosion prevention in boiler

Id	63
Question	Cast iron has
A	High ductility
B	Very high tensile strength
C	Elastic limit close to ultimate breaking strength
D	High malleability

Id	64
Question	Addition of _____ in steel can help in increasing the depth of hardness.
A	chromium
B	nickel
C	vanadium
D	tungsten

Id	65
Question	Steel tower used for storage of oleum
A	Is lined with acid-proof bricks
B	Is lined with rubber
C	Need not to be lined
D	Is lined with lead

Id	66
Question	Refined acetic acid storage are made of
A	High carbon steel
B	copper
C	aluminium
D	nikel

Id	67
Question	Which of the following has the highest compressive strength?
A	Wrought iron
B	High carbon steel
C	Cast iron
D	Mild steel

Id	68
Question	Constantan is an alloy of
A	Pt (95%) & Rh (10%)
B	Fe (80%) & Ni (20%)
C	Cu (55%) & Ni (45%)
D	Cu (55%) & Sn (45%)

Id	69
Question	Carbon percentage in medium carbon steel is around
A	0.1 to 0.35
B	0.35 to 0.5
C	1 to 1.5
D	0.8 to 1.4

Id	70
Question	Thermal shield used in high powered nuclear reactor to protect the walls of the reactor from radiation damage is made of
A	concrete
B	steel
C	zircalloy
D	graphite

Id	71
Question	The preferred material of construction for storage tanks for 98% sulphuric acid is
A	lead
B	aluminium
C	Stainless steel 316
D	Mild steel

Id	72
Question	An elastic behavior of materials is expressed in terms of
A	Hysterisis loop area
B	Stress-strain curve
C	Relaxation time
D	None of these

Id	73
Question	Which of the following heat treatment processes is used for softening the hardened material?
A	annealing
B	tempering
C	normalising
D	None of these

Id	74
Question	A hardened steel essentially contains
A	None of these
B	troostite
C	sorbite
D	martensite

Id	75
Question	Which of the following alloys does not contain nickel?
A	incone1
B	monel
C	Chlorinet – 2 alloy
D	Babbit metal

Id	76
Question	The range of Mho's scale of hardness is from
A	0 to 10
B	1 to 10
C	1 to 8
D	1 to 15

Id	77
Question	Which of the following would not be a suitable material of construction for handling aqueous hydrofluoric acid (HF) at 100 C ?
A	monel
B	Stainless steel
C	graphite
D	Kel-F and teflon

Id	78
Question	Which of the following has least percentage of carbon?
A	Low carbon steel
B	Wrought iron
C	Mild steel
D	White cast iron

Id	79
Question	Which of the following pairs of elements may form an alloy?
A	Platinum and mercury
B	None of these
C	Iron and mercury
D	Iron and carbon

Id	80
Question	The fermentor used for the production of ethyl alcohol from molasses is made of
A	porcelain
B	Copper bearing steel
C	concrete
D	wood

Id	81
Question	Which of the following is not a copper based alloy with nickel?
A	German silver
B	Monel metal
C	incone1
D	constantan

Id	82
Question	Mercury is transported in metal containers made of
A	iron
B	nickel
C	aluminium
D	lead

Id	83
Question	Pure nickel is
A	Ferromagnetic at room temperature
B	Non resistant to oxidation at high temperature
C	Having h.c.p. Crystal lattice
D	Ferromagnetic above its curie point (i.e. 415 C)

Id	84
Question	Bronze is an alloy of
A	Copper and zinc
B	Copper and tin
C	Copper, tin and zinc
D	None of these

Id	85
Question	Manganese is added in low carbon steel to
A	Make the steel tougher and harder
B	Raise the yield point
C	Make the steel ductile
D	All of the above

Id	86
Question	The percentage of carbon in low carbon steel is
A	0.05
B	0.15
C	0.3
D	0.5

Id	87
Question	The following element can't impart strength at elevated temperature
A	manganese
B	magnesium
C	nickel
D	silicon

Id	88
Question	The temperature required for full annealing in hypereutectoid steel is
A	30 to 50 degree C above upper critical temperature
B	30 to 50 degree C below upper critical temperature
C	30 to 50 degree C above lower critical temperature
D	30 to 50 degree C below lower critical temperature

Id	89
Question	Which is the false statement about wrought iron?
A	High resistance to rusting and corrosion
B	High ductility
C	Ability of hold protective coating
D	Uniform strength in all directions

Id	90
Question	Which of the following display properties similar to that of steel?
A	Blackheart cast iron
B	Whiteheart cast iron
C	Both (A) and (B)
D	None of these

Id	91
Question	When low carbon steel is heated upto lower critical temperature
A	There is no change in grain size
B	The average grain size is minimum
C	The grain size increases very rapidly
D	The grain size first increases and then decreases very rapidly

Id	92
Question	The lower critical temperature
A	Decreases as the carbon content in steel increases
B	Increases as the carbon content in steel increases
C	Is same for all steels
D	Depends upon the rate of heating

Id	93
Question	Pig iron name is given to the
A	Raw material for blast furnace
B	Product of blast furnace made by reduction of iron ore
C	Iron containing huge quantities of carbon
D	Iron in molten form in the ladles

Id	94
Question	Which of the following impurities in the cast iron promotes graphite module formation and increases the fluidity of the molten metal?
A	silicon
B	sulphur
C	manganese
D	phosphorus

Id	95
Question	Wrought iron is
A	hard
B	High n strength
C	Highly resistant to corrosion
D	Heat treated to change its properties

Id	96
Question	Which of the following alloy does not have copper as one of the constituents?
A	Delta metal
B	Monel metal
C	consantan
D	nichrome

Id	97
Question	Surveying tapes are made of materials having low coefficient of expansion and enough strength. The alloy used is
A	Silver metal
B	duralumin
C	hastelloy
D	invar

Id	98
Question	The compressive strength of cast iron is _____ that of its tensile strength.
A	Equal to
B	Less than
C	More than
D	None of these

Id	99
Question	Chromium when added to steel _____ the tensile strength.
A	Does not effect
B	decreases
C	increases
D	None of these

Id	100
Question	Shock resistant steels should have
A	Low wear resistance
B	Low hardness
C	Low tensile strength
D	toughness

Id	101
Question	White metal contains
A	63 to 67% nickel and 30% copper
B	88% copper and 10% tin and rest zinc
C	Alloy of tin, lead and cadmium
D	Silver and chromium

Id	102
Question	The purpose of heat treatment is to
A	Relieve the stresses set up in the material after hot or cold working
B	Modifying the structure of the material
C	Change grain size
D	Any one of these

Id	103
Question	The tensile strength of wrought iron is maximum
A	Along the lines of slag distribution
B	Perpendicular to the lines of slag distribution
C	Uniform in all directions
D	None of the above

Id	104
Question	Connecting rod is, usually, made from
A	Low carbon steel
B	High carbon steel
C	Medium carbon steel
D	High speed steel

Id	105
Question	A small percentage of boron is added to steel in order to
A	Increase hardenability
B	Reduce machinability
C	Increase wear resistance
D	Increase endurance strength

Id	106
Question	Steel contains
A	80% or more iron
B	50% or more iron
C	Alloying elements like chromium, tungsten, nickel and copper
D	Elements like phosphorous, sulphur, silicon in varying quantities

Id	107
Question	Brass is an alloy of
A	Copper and zinc
B	Copper and tin
C	Copper, tin and zinc
D	None of these

Id	108
Question	The silic on steel is widely used for
A	Connecting rods
B	Cutting tools
C	Generators and transformers in the form of laminated cores
D	Motor car crankshafts

Id	109
Question	When the steel is normalized, its
A	Yield point increases
B	Ductility decreases
C	Ultimate tensile strength increases
D	All of these

Id	110
Question	Cast iron is manufactured in
A	Blast furnace
B	cupola
C	Open hearth furnace
D	Bessemer converter

Id	111
Question	Which of the following pipes is least corrosion resistant?
A	brass
B	Mild steel
C	Cast iron
D	Wrought iron

Id	112
Question	The property of material essential for spring material is
A	stiffness
B	ductility
C	resilience
D	plasticity

Id	113
Question	Grey cast iron has
A	Carbon in the form of free graphite
B	High tensile strength
C	Low compressive strength
D	All of these

Id	114
Question	Disulphuric acid is handled in the vessel made of
A	Stainless steel
B	brass
C	lead
D	Cast iron

Id	115
Question	Phosphoric acid is handled in
A	Glass lined vessels
B	Aluminium vessels
C	Brass vessels
D	Stainless steel vessels

Id	116
Question	A bio-degradable detergent is one which
A	Is manufactured using bio-technology
B	Contains straight chain alkyl benzenes
C	Contains branch chain benzenes
D	Is easily decomposed by micro-organisms

Id	117
Question	For SO ₂ /SO ₃ service at 400 degree C the recommended material for construction is
A	Stainless steel
B	Carbon steel
C	Cast steel
D	monel

Id	118
Question	For handling concentrated hydrochloric acid a suitable material of construction is
A	aluminium
B	hastelloy
C	Stainless steel
D	Cast iron

Id	119
Question	For NH3 reactors the material of construction is
A	Carbon steel
B	5 Cr ½ Mo steel
C	Cast steel
D	Stainless steel

Id	120
Question	A suitable material of construction to use with fuming sulfuric acid is
A	Carbon steel
B	Stainless steel 304
C	nickel
D	monel

Id	121
Question	Which of the following does not combines with fiber to give composites?
A	metals
B	ceramics
C	non-metals
D	polymers

Id	122
Question	What is the aspect ratio?
A	Length to diameter ratio
B	Length to depth ratio
C	Depth to length ratio
D	Diameter to length ratio

Id	123
Question	Which of the following type of composites is not classified under the category of number of layers?
A	Unidirectional fibre reinforced
B	laminar
C	Sandwich panels
D	Glass-fibre reinforced

Id	124
Question	One of the most popular type of core material used is _____
A	Metal foam
B	honeycomb
C	glass
D	plastic

Id	125
Question	When fibres are used as a dispersed phase for the reinforcement of matrices, the resultant composites are known as _____
A	Glass-fibre reinforced
B	Carbon-fibre reinforced
C	Wood-fibre reinforced
D	Unidirectional-fibre reinforced

Id	126
Question	Which of the following is not a characteristic of glass-fiber reinforced composites?
A	Low density
B	Low impact resistance
C	High tensile strength
D	Excellent chemical and corrosion resistance

Id	127
Question	Which of the following is an application of glass-fiber reinforced composites?
A	adhesives
B	Conveyor belts
C	Design of ships
D	Automotive parts

Id	128
Question	Composite materials are classified based on:
A	Type of matrix
B	Size-and-shape of reinforcement
C	both
D	none

Id	129
Question	Major load carrier in dispersion-strengthened composites
A	Matrix
B	Fiber
C	Both
D	Can't define

Id	130
Question	Usually softer constituent of a composite is
A	matrix
B	reinforcement
C	Both are of equal strength
D	Can't define

Id	131
Question	Usually stronger constituent of a composite is
A	Matrix
B	Reinforcement
C	Both are of equal strength
D	Can't define

Id	132
Question	Last constituent to fail in fiber reinforced composites
A	matrix
B	fiber
C	Both fails at same time
D	Can't define

Id	133
Question	Size range of dispersoids used in dispersion strengthened composites
A	0.01-0.1 μm
B	0.01-0.1 nm
C	0.01-0.1 mm
D	None

Id	134
Question	Rule-of-mixture provides _____ bounds for mechanical properties of particulate composites.
A	lower
B	upper
C	both
D	none

Id	135
Question	Al-alloys for engine/automobile parts are reinforced to increase their
A	strength
B	Wear resistance
C	Elastic modulus
D	Density

Id	136
Question	Mechanical properties of fiber-reinforced composites depend on
A	Properties of constituents
B	Interface strength
C	Fiber length, orientation, and volume fraction
D	All of the above

Id	137
Question	Longitudinal strength of fiber reinforced composite is mainly influenced by
A	Fiber strength
B	Fiber orientation
C	Fiber volume fraction
D	Fiber length

Id	138
Question	The following material can be used for filling in sandwich structures
A	polymers
B	cement
C	wood
D	All of the above

Id	139
Question	Not an example for laminar composite
A	wood
B	bimetallic
C	Coatings/paints
D	claddings

Id	140
Question	Aluminium bronze contains aluminium and copper in the ratio of
A	50:50:00
B	41:00:00
C	60:40:00
D	11:30:00 AM

Id	141
Question	An example of amorphous material is
A	zinc
B	lead
C	silver
D	glass

Id	142
Question	Steel made from phosphate iron is
A	brittle
B	hard
C	ductile
D	tough

Id	143
Question	The alloying element which reduces the formation of iron sulphide in steel is
A	chromium
B	nickel
C	vanadium
D	manganese

Id	144
Question	Permalloy is a
A	Kind of stainless steel
B	None ferrous alloy
C	polymer
D	Nickel and iron alloy having high permeability

Id	145
Question	The material in which the atoms are arranged regularly in some directions but not in others, is called
A	Amorphous material
B	Mesomorphous material
C	Crystalline material
D	None of these

Id	146
Question	Which of the following is an amorphous material?
A	mica
B	silver
C	lead
D	glass

Id	147
Question	The usual composition of a soldering alloy is
A	Tin, lead and small percentage of antimony
B	Tin and lead
C	Tin, lead and silver
D	Tin and copper

Id	148
Question	Hematite iron ore contains iron about _____ %
A	30
B	45
C	55
D	70

Id	149
Question	Induction hardening is basically a
A	Carburising process
B	Surface hardening process
C	Core hardening process
D	None of these

Id	150
Question	Free carbon in iron makes the metal
A	Soft and gives coarse grained crystalline structure
B	Soft and gives a fine grained crystalline structure
C	Hard and gives a coarse grained crystalline structure
D	Hard and gives a fine grained crystalline structure