



(Papers) SSC Junior Engineer Exam Paper - 2017 "held on 01 March 2017 "Morning Shift (General Engineering)

QID : 801 -

The ratio $\frac{\text{surface convection resistance}}{\text{internal conduction resistance}}$ is known as _____.

$\frac{\text{सतह संवहन प्रतिरोध}}{\text{आंतरिक चालक प्रतिरोध}}$ का अनुपात क्या कहलाता है?

Options:

- 1) Grashoff number
- 2) Biot number
- 3) Stanton number
- 4) Prandtl number

Correct Answer: Biot number

QID : 802 - An ideal air compressor cycle (with clearance) on p-v diagram can be represented by _____ processes.

Options:

- 1) one adiabatic, two isobaric, and one constant volume
- 2) two adiabatic and two isobaric
- 3) two adiabatic, one isobaric, and one constant volume
- 4) one adiabatic, one isobaric, and two constant volume

Correct Answer: two adiabatic and two isobaric

QID : 803 - In a shell and tube heat exchanger, baffles are provided on the shell side to _____.

Options:

- 1) Prevent the stagnation of shell side fluid
- 2) Improve heat transfer

- 3) Provide support for tubes
- 4) All options are correct

Correct Answer: All options are correct

QID : 804 - The ratio of the thickness of thermal boundary layer to the thickness of hydrodynamic boundary layer is equal to $(Prandtl\ number)^n$, where n is _____.

Options:

- 1) - $1/3$
- 2) - $2/3$
- 3) 1
- 4) - 1

Correct Answer: - $1/3$

QID : 805 - In regarding nucleate boiling _____.

Options:

- 1) The temperature of the surface is greater than the saturation temperature of the liquid
- 2) Bubbles are created by expansion of entrapped gas or vapour at small cavities in the surface
- 3) The temperature is greater than that of film boiling
- 4) All options are correct

Correct Answer: The temperature is greater than that of film boiling

QID : 806 - Boundary layer is defined as _____.

Options:

- 1) A thin layer at the surface where gradients of both velocity and temperature are small
- 2) A thin layer at the surface where velocity and velocity gradients are large
- 3) A thick layer at the surface where velocity and temperature gradients are large
- 4) A thin layer at the surface where gradients of both velocity and temperature are large

Correct Answer: A thin layer at the surface where gradients of both velocity and temperature are large

QID : 807 - Two insulating materials of thermal conductivity K and $2K$ are available for lagging a pipe carrying a hot fluid. If the radial thickness of each material is the same _____.

Options:

- 1) Material with higher thermal conductivity should be used for the inner layer and one with lower thermal conductivity for the outer
- 2) Material with lower thermal conductivity should be used for the inner layer and one with higher thermal conductivity for the outer
- 3) It is immaterial in which sequence the insulating materials are used
- 4) None of these

Correct Answer: Material with lower thermal conductivity should be used for the inner layer and one with higher thermal conductivity for the outer

QID : 808 - Critical thickness of insulation for spheres is given by _____.

Options:

- 1) k/h
- 2) $k/4h$
- 3) $h/2k$
- 4) $2k/h$

Correct Answer: $2k/h$

QID : 809 - Which surface will have the least emissivity ?

Options:

- 1) Smooth glass
- 2) Plaster
- 3) Aluminium foil
- 4) Concrete

Correct Answer: Aluminium foil

QID : 810 - The process of heat transfer from one particle of the body to another without the actual motion of the particle, is known as _____.

Options:

- 1) Conduction
- 2) Convection
- 3) Radiation
- 4) All options are correct

Correct Answer: Conduction

QID : 811 - The process of heat transfer from a hot body to a cold body in a straight line, without affecting the intervening medium, is known as _____.

Options:

- 1) Conduction
- 2) Convection
- 3) Radiation
- 4) All options are correct

Correct Answer: Radiation

QID : 812 - Heat is transferred from an electric bulb by _____.

Options:

- 1) Conduction
- 2) Convection
- 3) Radiation
- 4) All options are correct

Correct Answer: Radiation

QID : 813 - Assumption made in the Fourier's law is that the heat flow

- A. Is in steady state
- B. Through a solid medium in one dimension

Options:

- 1) Only (A)
- 2) Only (B)
- 3) Both (A) and (B)
- 4) None of these

Correct Answer: Both (A) and (B)

QID : 814 - If thermal conductivity of a material of wall varies as $K_0 (1 + \alpha t)$, then the temperature at the centre of the wall as compared to that in case of constant thermal conductivity, will be _____.

Options:

- 1) More
- 2) Less
- 3) Same
- 4) Depend on other factors

Correct Answer: More

QID : 815 - With increase in temperature, thermal conductivity of air _____.

Options:

- 1) Increases
- 2) Decreases
- 3) Remains the same
- 4) None of these

Correct Answer: Increases

QID : 816 - Liquid metal having highest thermal conductivity is of _____.

Options:

- 1) Sodium
- 2) Potassium
- 3) Lead
- 4) Mercury

Correct Answer: Sodium

Candidate Answer: Mercury

QID : 817 - Minimum thermal diffusivity is of _____.

Options:

- 1) Aluminium
- 2) Rubber
- 3) Iron
- 4) Lead

Correct Answer: Rubber

QID : 818 - Critical radius of a hollow cylinder is defined as _____.

Options:

- 1) Outer radius which gives maximum heat flow
- 2) Outer radius which gives minimum heat flow
- 3) Inner radius which gives minimum heat flow
- 4) Inner radius which gives maximum heat flow

Correct Answer: Outer radius which gives maximum heat flow

QID : 819 - Heat exchangers are used in

- A. Condensers and boilers in steam plants
- B. Radiators
- C. Intercoolers and preheaters
- D. Condensers and evaporators in refrigerators and air conditioners

Options:

- 1) Only A
- 2) Only B

- 3) Only C
4) A, B, C and D

Correct Answer: A, B, C and D

QID : 820 - Automobile radiator is a heat exchanger of _____ type.

Options:

- 1) Counter flow
2) Parallel flow
3) Cross flow
4) Regenerator

Correct Answer: Cross flow

QID : 821 - For a closed system, difference between the heat added to the system and work done by the gas, is equal to the change in _____.

Options:

- 1) Enthalpy
2) Entropy
3) Internal energy
4) Temperature

Correct Answer: Internal energy

QID : 822 - The sequence of process that eventually returns the working substance to its original state, is known as _____.

Options:

- 1) Event
2) Thermodynamic cycle
3) Thermodynamic property
4) None of these

Correct Answer: Thermodynamic cycle

QID : 823 - According to Kelvin-Planck's statement, a perpetual motion machine of _____.

Options:

- 1) First kind is possible
2) First kind is impossible
3) Second kind is impossible
4) Second kind is possible

Correct Answer: Second kind is impossible

QID : 824 - According to kinetic theory of gases, at absolute zero _____.

Options:

- 1) Specific heat of molecules reduces to zero
2) Kinetic energy of molecules reduces to zero
3) Volume of gas reduce to zero
4) Pressure of gas reduce to zero

Correct Answer: Kinetic energy of molecules reduces to zero

QID : 825 - According to Gay-Lussac's law for perfect gases, the absolute pressure of given mass varies directly as _____.

Options:

- 1) Temperature
2) Absolute temperature
3) Absolute temperature, if volume remains constant
4) Product of absolute temperature and volume

Correct Answer: Absolute temperature, if volume remains constant

QID : 826 - Three states of matter are distinguished with respect to molecules by the _____.

Options:

- 1) Atoms in molecules
2) Number
3) Orientation
4) Character of motion

Correct Answer: Character of motion

QID : 827 - Equal volume of all gases, at the same temperature and pressure, contain equal number of molecules. This is according to _____.

Options:

- 1) Charle's law
2) Avagardo's law
3) Joule's law
4) Gay Lussac law

Correct Answer: Avagardo's law

QID : 828 - Specific heat of a gas, $C_p = C_v$, at

Options:

- 1) Absolute zero
- 2) Critical temperature
- 3) Triple point
- 4) All temperatures

Correct Answer: Absolute zero

QID : 829 - The specific heat at constant volume of solids obeys Debye's T^3 law at _____.

Options:

- 1) High temperatures
- 2) Low temperatures
- 3) High pressures
- 4) All temperatures

Correct Answer: All temperatures

QID : 830 - A reversible process _____.

Options:

- 1) Must pass through a continuous series of equilibrium states
- 2) Leaves no history of the events in surroundings
- 3) Must pass through the same states on the reversed path as on the forward path
- 4) All options are correct

Correct Answer: All options are correct

QID : 831 - In Red Wood Viscometer _____.

Options:

- 1) Absolute value of viscosity is determined
- 2) Part of the head of fluid is utilised in overcoming friction
- 3) Fluid discharges through orifice with negligible velocity
- 4) Comparison of viscosity is done

Correct Answer: Absolute value of viscosity is determined

QID : 832 - A rotameter is a device used to measure _____.

Options:

- 1) Velocity of fluid in pipes
- 2) Velocity of gauges
- 3) Vortex flow
- 4) Flow of fluids

Correct Answer: Flow of fluids

QID : 833 - Steady flow occurs when _____.

Options:

- 1) Pressure does not change along the flow
- 2) Velocity does not change
- 3) Conditions change gradually with time
- 4) Conditions do not change with time at any point

Correct Answer: Conditions do not change with time at any point

QID : 834 - If the particles of a fluid attain such velocities that vary from point to point in magnitude and direction as well as from instant, the flow is _____.

Options:

- 1) Uniform flow
- 2) Steady flow
- 3) Turbulent flow
- 4) Laminar flow

Correct Answer: Turbulent flow

QID : 835 - Flow occurring in a pipeline when a valve is being opened is _____.

Options:

- 1) Steady
- 2) Unsteady
- 3) Laminar
- 4) Vortex

Correct Answer: Unsteady

QID : 836 - For measuring flow by a Venturimeter, it should be installed in _____.

Options:

- 1) Vertical line
- 2) Horizontal line
- 3) Inclined line with upward flow
- 4) In any direction and in any location

Correct Answer: In any direction and in any location

QID : 837 - A streamline is defined as the line _____.

Options:

- 1) Parallel to central axis flow
- 2) Parallel to outer surface to pipe
- 3) Of equal velocity in a flow
- 4) Along with the pressure drop is uniform

Correct Answer: Of equal velocity in a flow

QID : 838 - The purpose of surge tank in a pipe line is to _____.

Options:

- 1) Smoothen the flow of water
- 2) Compensate friction losses in pipe
- 3) Prevent occurrence of hydraulic jump
- 4) Relieve pressure due to water hammer

Correct Answer: Compensate friction losses in pipe

QID : 839 - The resultant upward pressure of a fluid on a floating body is equal to the weight of fluid displaced by the body. This definition is according to _____.

Options:

- 1) Buoyancy
- 2) Equilibrium of a floating body
- 3) Archimedes' principle
- 4) Bernoulli's theorem

Correct Answer: Buoyancy

QID : 840 - A balloon lifting in air follows the _____.

Options:

- 1) Law of gravitation
- 2) Archimedes principle
- 3) Principle of buoyancy
- 4) All options are correct

Correct Answer: All options are correct

QID : 841 - Hydraulic grade line as compared to the centre line of conduct _____.

Options:

- 1) Should be always above
- 2) Should be always below
- 3) Should always be parallel
- 4) May be above or below

Correct Answer: Should be always above

QID : 842 - A Piezometer cannot be used for pressure measurement in pipes when _____.

Options:

- 1) Pressure difference is low
- 2) Velocity is high
- 3) Fluid in the pipe is a gas
- 4) Fluid is highly viscous

Correct Answer: Fluid in the pipe is a gas

QID : 843 - A Hot Wire Anemometer is used for the measurement of _____.

Options:

- 1) Pressure of gases
- 2) Velocity of gases
- 3) Viscosity of gases
- 4) Viscosity of liquids

Correct Answer: Velocity of gases

QID : 844 - Friction drag is generally larger than the pressure drag in _____.

Options:

- 1) Flow past a sphere
- 2) Flow past a cylinder
- 3) Flow past an airfoil
- 4) Flow past a thin sheet

Correct Answer: Flow past a cylinder

QID : 845 - If one of the wall moves in the direction of flow with uniform velocity while the other wall is stationary, then the resulting flow between parallel walls is called _____.

Options:

- 1) Plug flow
- 2) Stoke's flow
- 3) Couette flow
- 4) Euler's flow

Correct Answer: Plug flow

QID : 846 - The ratio of the energy absorbed by the body to total energy falling on it is called _____.

Options:

- 1) absorptive power
- 2) emissive power
- 3) emissivity
- 4) None of these

Correct Answer: absorptive power

QID : 847 - In a flow field, at the stagnation point _____.

Options:

- 1) Pressure is zero
- 2) velocity of fluid is zero
- 3) Pressure head is equal to velocity
- 4) All the velocity head is converted into pressure head

Correct Answer: velocity of fluid is zero

QID : 848 - Viscosity is the most important property in the _____.

Options:

- 1) Travel of a bullet through air
- 2) Water jet issuing from a fire air
- 3) Formation of soap bubbles
- 4) Flow of castor oil through a tube

Correct Answer: Formation of soap bubbles

QID : 849 - If pressure at any point in the liquid approaches the vapor pressure, liquid starts vaporising and creates pockets or bubbles of dissolved gases and vapours. This phenomenon is _____.

Options:

- 1) Surface tension
- 2) Adhesion
- 3) Vaporisation
- 4) Cavitation

Correct Answer: Surface tension

QID : 850 - The fluid forces considered in the Navier-Stokes equation are _____.

Options:

- 1) Gravity, pressure and viscous
- 2) Gravity, pressure and turbulent
- 3) Pressure, viscous and turbulent
- 4) Gravity, viscous and turbulent

Correct Answer: Gravity, pressure and viscous

QID : 851 - Hydraulic grade line for any flow system as compared to energy line is _____.

Options:

- 1) Above
- 2) Below
- 3) At same level
- 4) Uncertain

Correct Answer: Below

QID : 852 - To avoid vaporisation in the pipe line, the pipe line over the ridge is laid such that it is not more than _____.

Options:

- 1) 2.4 m above the hydraulic gradient
- 2) 6.4m above the hydraulic gradient
- 3) 10.0 m above the hydraulic gradient
- 4) 5.0 m above the hydraulic gradient

Correct Answer: 2.4 m above the hydraulic gradient

QID : 853 - The locus of elevations that water will rise in a series of pitot tube is called _____.

Options:

- 1) Hydraulic grade line
- 2) Pressure head
- 3) Energy grade line
- 4) Head loss

Correct Answer: Energy grade line

QID : 854 - Pressure in Pascals at a depth of 1 m below the free surface of a body of water will be equal to _____.

Options:

- 1) 1 Pa
- 2) 98.1 Pa
- 3) 981 Pa
- 4) 9810 Pa

Correct Answer: 9810 Pa

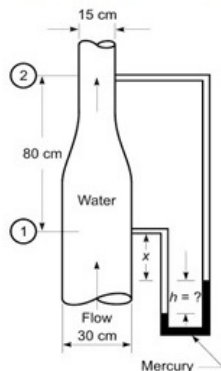
QID : 855 -

Water flows up a tapered pipe as shown in the figure. What is the magnitude of the deflection h of the differential mercury manometer corresponding to a discharge of 126 L/s?

The friction in the pipe can be completely neglected.

दर्शाई गई आकृति के अनुसार जल शुंडित नली (टेपेड पाइप) से प्रवाहित हो रहा है। 126 L/s निर्वहन के संगत डिफरेंशियल मर्करी मनोमीटर के डिफ्लेक्सन h का परिमाण क्या होगा ?

पाइप में होने वाले घर्षण को पूर्णतः नगण्य माना जा सकता है।



Options:

- 1) 16.28 cm
- 2) 17.28 cm
- 3) 19.28 cm
- 4) 25.28 cm

Correct Answer: 19.28 cm

QID : 856 - If a pump is handling water and is discharging a certain flow Q at a constant total dynamic head requiring a definite B.H.P., the same pump when handling a liquid of specific gravity 0.75 and viscosity nearly same as of water would discharge

Options:

- 1) same quantity of liquid
- 2) $0.75Q$
- 3) $Q/0.75$
- 4) $1.5Q$

Correct Answer: same quantity of liquid

QID : 857 - A 20 cm diameter pipe 5000 metres long conveys 0.05 cumec of water which is to be pumped through a height of 6 metres. What is the horse power required by the pump, if its efficiency is 75 % ? (take $4f = 0.006$)

Options:

- 1) 74.2 HP
- 2) 74 HP
- 3) 75 HP
- 4) 50 HP

Correct Answer: 74.2 HP

QID : 858 - For laminar flow in a pipe, V is equal to

Options:

- 1) U_{max}
- 2) $0.5 U_{max}$
- 3) $0.25 U_{max}$
- 4) $2 U_{max}$

Correct Answer: 0.5 U_{max}

QID : 859 - Water at 20° C flowing through a 20 cm diameter pipe. Take kinematic viscosity of water at 20°C is equal to 0.0101 stoke. Assume that the changes from laminar to turbulent at Re = 2320. The critical velocity will be _____.

Options:

- 1) 1.117 cm/sec
- 2) 11.17 cm/sec
- 3) 111.7 cm/sec
- 4) 1.117 m/sec

Correct Answer: 1.117 cm/sec

QID : 860 - Surge wave is an example of _____.

Options:

- 1) Steady uniform flow
- 2) Steady non-uniform flow
- 3) Unsteady uniform flow
- 4) Unsteady non-uniform flow

Correct Answer: Unsteady non-uniform flow

QID : 861 - Quick return mechanism is an inversion of _____.

Options:

- 1) Four bar chain
- 2) Single slider crank chain
- 3) Double slider crank chain
- 4) Crossed slider crank chain

Correct Answer: Single slider crank chain

QID : 862 - In gears, interference takes place when _____.

Options:

- 1) Tip of a tooth of a mating gear digs into the portion between base and root circles
- 2) Gears do not move smoothly in the absence of lubrication
- 3) Pitch of the gear is not same
- 4) Gear teeth are undercut

Correct Answer: Tip of a tooth of a mating gear digs into the portion between base and root circles

QID : 863 - In a multiple V belt drive, when a single belt is damaged, it is preferable to change the complete set to _____.

Options:

- 1) Reduce vibration
- 2) Reduce slip
- 3) Ensure uniform loading
- 4) Ensure proper alignment

Correct Answer: Ensure proper alignment

QID : 864 - The centre of gravity of the coupler link in a 4-bar mechanism would experience _____.

Options:

- 1) No acceleration
- 2) Only linear acceleration
- 3) Only angular acceleration
- 4) Both linear and angular accelerations

Correct Answer: Both linear and angular accelerations

QID : 865 - The amplitude of underdamping a small damping varies with time as _____.

Options:

- 1) Linearly
- 2) Arithmetically
- 3) Geometrically
- 4) Exponentially

Correct Answer: Exponentially

QID : 866 - Whirling speed of a shaft coincide with the natural frequency of the _____.

Options:

- 1) Longitudinal vibration
- 2) Transverse vibration
- 3) Torsional vibration
- 4) Coupled between torsional vibration

Correct Answer: Transverse vibration

QID : 867 - A mass of 1 kg is attached to the end of a spring with stiffness 0.7 N/mm. The critical damping coefficient of this system is _____.

Options:

- 1) 1.40 Ns/m
- 2) 18.522 Ns/m
- 3) 52.92 Ns/m
- 4) 529.20 Ns/m

Correct Answer: 52.92 Ns/m

QID : 868 - Rankine's theory of failure is applicable for which of the following type of materials?

Options:

- 1) Brittle
- 2) Ductile
- 3) Elastic
- 4) Plastic

Correct Answer: Brittle

QID : 869 - The shock absorbing capacity of a bolt can be increased by _____.

Options:

- 1) Tightening it properly
- 2) Increasing shank diameter
- 3) Grinding the shank
- 4) Using washer

Correct Answer: Grinding the shank

QID : 870 - Which if the following key is under compression rather than in being shear when under load?

Options:

- 1) Saddle
- 2) Barth
- 3) Feather
- 4) Kennedy

Correct Answer: Barth

QID : 871 - Shaft is subjected to which of the following stresses?

Options:

- 1) Bending
- 2) Torsional
- 3) Both bending and torsional
- 4) None of these

Correct Answer: Both bending and torsional

QID : 872 - Which of the following is self-aligning bearing?

Options:

- 1) Conical
- 2) Spherical
- 3) Rectangular
- 4) None of these

Correct Answer: Spherical

QID : 873 - Which of the following is Trapezoidal thread?

Options:

- 1) Acme
- 2) Square
- 3) Buttress
- 4) All options are correct

Correct Answer: Acme

QID : 874 - The efficiency of self-locking screw is _____.

Options:

- 1) More than 50%
- 2) Less than 50%
- 3) Equal to 50%
- 4) None of these

Correct Answer: Less than 50%

QID : 875 - The most suitable bearing for carrying very heavy loads with slow speed is _____.

Options:

- 1) Hydrodynamic bearing
- 2) Ball bearing
- 3) Roller bearing
- 4) Hydrostatic bearing

Correct Answer: Hydrostatic bearing

QID : 876 - The outside diameter of a hollow shaft is twice its inside diameter. The ratio of its torque carrying capacity to that of a solid shaft of the same material and the same outside diameter is _____

Options:

- 1) 15/16
- 2) 3/4
- 3) 1/2
- 4) 1/16

Correct Answer: 15/16

QID : 877 - A solid shaft can resist a bending moment of 3 kNm and a twisting moment of 4 kNm together, then the maximum torque that can be applied is _____.

Options:

- 1) 7.0 kNm
- 2) 3.5 kNm
- 3) 4.5 kNm
- 4) 5.0 kNm

Correct Answer: 5.0 kNm

QID : 878 - Under torsion, brittle materials generally fail _____.

Options:

- 1) Along a plane perpendicular to its longitudinal axis
- 2) In the direction of minimum tension
- 3) Along surfaces forming a 45° angle with the longitudinal axis
- 4) Not in any specific manner

Correct Answer: Along surfaces forming a 45° angle with the longitudinal axis

QID : 879 - The shear stress distribution over a rectangular cross-section of a beam follows _____.

Options:

- 1) A straight line path
- 2) A circular path
- 3) A parabolic path
- 4) An elliptical path

Correct Answer: A parabolic path

QID : 880 - When two mutually perpendicular principal stresses are unequal but alike, the maximum shear stress is represented by _____.

Options:

- 1) The diameter of the Mohr's circle
- 2) Half the diameter of the Mohr's circle
- 3) One-third the diameter of the Mohr's circle
- 4) One-fourth the diameter of the Mohr's circle

Correct Answer: Half the diameter of the Mohr's circle

QID : 881 - The plane of maximum shear stress has normal stress that is _____.

Options:

- 1) Maximum
- 2) Minimum
- 3) Zero
- 4) None of these

Correct Answer: Zero

QID : 882 - Consider the following theories of failure:

- A. Maximum stress theory
 - B. Maximum strain theory
 - C. Maximum shear stress theory
 - D. Maximum energy or distortion theory
- The most suitable for ductile material is

Options:

- 1) A and B
- 2) A and C
- 3) A and D
- 4) C and D

Correct Answer: C and D

QID : 883 - For ductile materials, the most appropriate failure theory is _____.

Options:

- 1) Maximum shear stress theory
- 2) Maximum principal stress theory

- 3) Maximum principal strain theory
- 4) Shear strain energy theory

Correct Answer: Maximum shear stress theory

QID : 884 - All the failure theories give nearly the same result _____.

Options:

- 1) When one of the principal stresses at a point is larger in comparison to the other
- 2) When shear stresses act
- 3) When both the principal stresses are numerically equal
- 4) For all situations of stress

Correct Answer: When one of the principal stresses at a point is larger in comparison to the other

QID : 885 - From the hypothesis given by Rankine, the criteria for failure of brittle material is _____.

Options:

- 1) Maximum principal stress
- 2) Maximum strain energy
- 3) Maximum shear stress
- 4) Maximum shear strain energy

Correct Answer: Maximum principal stress

QID : 886 - In a closed helical spring subjected to an axial load, other quantities remaining the same, if the wire diameter is doubled and mean radius of the coil is also doubled, then stiffness of spring when compared to original one will become _____.

Options:

- 1) Twice
- 2) Four times
- 3) Eight times
- 4) Sixteen times

Correct Answer: Twice

QID : 887 - The Poisson's ratio for most of the materials is close to _____.

Options:

- 1) 1 : 2
- 2) 1 : 3
- 3) 1 : 4
- 4) 1 : 5

Correct Answer: 1 : 3

QID : 888 - True stress represents the ratio of _____.

Options:

- 1) Average load and average area
- 2) Average load and maximum area
- 3) Maximum load and maximum area
- 4) Instantaneous load and instantaneous area

Correct Answer: Instantaneous load and instantaneous area

QID : 889 - For an element under the effect of biaxial state of normal stress, the normal stresses are on a 45° plane is equal to _____.

Options:

- 1) Difference of normal stresses
- 2) Sum of normal stresses
- 3) Half of the sum of normal stresses
- 4) Half of the difference of normal stresses

Correct Answer: Half of the sum of normal stresses

QID : 890 - For a thin spherical shell subjected to internal pressure, the ratio of volumetric strain to diametrical strain is _____.

Options:

- 1) 5 : 4
- 2) 3 : 2
- 3) 2 : 1
- 4) 3 : 1

Correct Answer: 3 : 1

QID : 891 - Stud and projection welding belong to the following category of welding _____.

Options:

- 1) gas welding
- 2) arc welding

- 3) resistance welding
- 4) pressure welding

Correct Answer: resistance welding

QID : 892 - Electrode gets consumed in the following welding process _____.

Options:

- 1) gas
- 2) resistance
- 3) thermit
- 4) arc

Correct Answer: arc

QID : 893 - The strength of a properly welded joint as compared to base metal would be _____.

Options:

- 1) same
- 2) more
- 3) less
- 4) unpredictable

Correct Answer: more

QID : 894 - Oxygen to acetylene ratio in case of carburising flame is _____.

Options:

- 1) 0.5 : 1
- 2) 0.9 : 1
- 3) 1 : 1
- 4) 1 : 1.2

Correct Answer: 0.9 : 1

QID : 895 - For steel castings, the following type of sand is better _____.

Options:

- 1) fine-grain
- 2) coarser-grain
- 3) medium grain
- 4) fine-grain, coarser-grain and medium grain all are equally good

Correct Answer: coarser-grain

QID : 896 - Hot tear refers to _____.

Options:

- 1) casting defect
- 2) process of fabrication
- 3) process of heat treatment
- 4) weathering of non-ferrous materials

Correct Answer: casting defect

QID : 897 - Slick in a foundry shop is used to _____.

Options:

- 1) make and repair corners in a mould
- 2) thoroughly mix up moulding sand
- 3) make venting holes in the mould
- 4) prepare gates

Correct Answer: make and repair corners in a mould

QID : 898 - Which of the following processes would produce best components?

Options:

- 1) die casting
- 2) hot rolling
- 3) extrusion
- 4) forging

Correct Answer: die casting

QID : 899 - A sprue hole is _____.

Options:

- 1) a casting defect
- 2) a hold made for riveting
- 3) a blind hole in jigs
- 4) an opening in mould for pouring molten metal

Correct Answer: an opening in mould for pouring molten metal

QID : 900 - Coining is the operation of _____.

Options:

- 1) cold forging
- 2) hot forging
- 3) cold extrusion
- 4) piercing

Correct Answer: cold forging