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Section : **Mechanical Engineering**

Q.1 The thimble of screw gauge has 50 divisions. The spindle advances 1mm when the screw is turned through two revolutions .What is the least count of screw gauge?

A. 0.1 mm
B. 0.01mm
C. 0.001mm
D. 0.2mm

Ans ✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936116**

Q.2 What is the mass of air contained in a room of dimensions 10m x 10m x 9m if the pressure is 100kPa and the temperature is 27°C. Take Gas constant R = 0.3KJ/kg.K

A. 900kg
B. 1000kg
C. 100kg
D. 800kg

Ans ✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936085**

Q.3 The relation between the pitch of the chain (P) and pitch circle diameter of the sprocket (D) is given by the following equation, if T is the no. of teeth on the sprocket.

A. P= D sin (90^0/T)
B. P= D sin (120^0/T)
C. P= D sin (180^0/T)
D. P= D sin (360^0/T)

Ans ✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936107**

Q.4 A pipe connecting two reservoirs with a difference of 5cm in their surface elevations conveys discharge of $0.1m^3/sec$. If the pipe is replaced by another pipe of four times the diameter , then the discharge will be

A. $1.6cm^3/sec$

B. $3.2cm^3/sec$

C. $0.4cm^3/sec$

D. $0.2cm^3/sec$

Ans ✔ 1. A

✘ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936091**

Q.5 The metacentric height of a floating body is

A. The distance between metacenter and center of buoyancy

B. The distance between center of buoyancy and center of gravity

C. The distance between metacenter and center of gravity

D. None of the above

Ans ✘ 1. A

✘ 2. B

✔ 3. C

✘ 4. D

Question ID : **5834936089**

Q.6 A work study is concerned with

A. Motivation of workers

B. Improving production planning and control

C. Improving the production capability

D. Improve the method and finding standard time

Ans ✘ 1. A

✘ 2. B

✘ 3. C

✔ 4. D

Question ID : **5834936122**

Q.7 Between V-threads and Square threads transmitting power of ---threads are preferred.

A. Square

B. V-threads

C. both threads

D. None

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936141**

Q.8 Water flows at the rate of $0.147m^3/sec$ through a 150mm diameter orifice inserted in a 300mm diameter pipe. The pressure gauges fitted on upstream and downstream of the orifice plate have shown reading of $176.58KN/m^2$ and $88.29KN/m^2$. The value of manometric height

A. 10m of water

B. 12m of water

C. 9m of water

D. 1 m of water

Ans ✗ 1. A

✗ 2. B

✔ 3. C

✗ 4. D

Question ID : **5834936094**

Q.9 A perfect gas at 27 °C is heated at constant pressure till its volume is doubled. The final temperature is

A. 54°C

B. 327°C

C. 600°C

D. 654°C

Ans ✗ 1. A

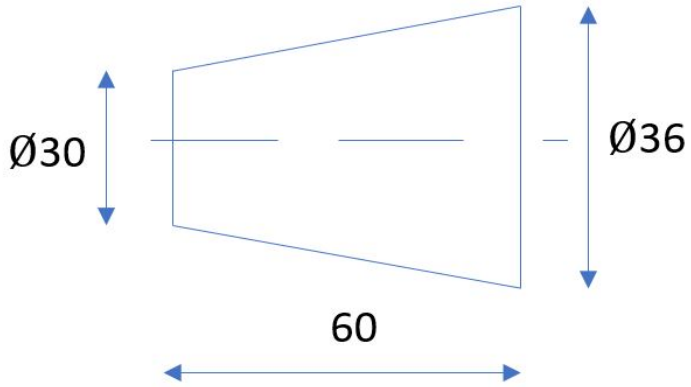
✔ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936082**

Q.10



What is the taper on shaft diameter for the above sketch ?

A. 1/10

B. 1/20

C. 1/15

D. 1/5

Ans

✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936121**

Q.11 The equation $(P + an^2/V^2) (V-nb) = nRT$ is known as

A. Real gas equation

B. Ideal gas equation

C. Vander Waals equation

D. Avogadro's equation

Ans

✗ 1. A

✗ 2. B

✔ 3. C

✗ 4. D

Question ID : **5834936081**

Q.12 In a flat belt drive, Driver pulley of 200mm diameter running at 1000RPM drives another pulley of 100mm diameter with a total slip of 2%. Then speed of Driven pulley is

A. 2000 RPM

B. 1960 RPM

C. 1850 RPM

D. 2010 RPM

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936079**

Q.13 For a CNC machine command, S3820 means

A. Feed rate of 3820 mm per hour

B. Spindle speed of 3820 rpm

C. Move present tool to X+ direction by 38.20 mm

D. Change over to tool no. 38 from 20

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936138**

Q.14 A liquid at 0°C is poured in as beaker of volume 500 cm^3 to fill completely. Then the beaker is heated to100°C how much liquid will over flow assume $\gamma_{liquid} = 2x10^{-4}/°C$, $\gamma_{glass} = 4x10^{-5}/°C$

A. 2 cm^3

B. 8 cm^3

C. 10 cm^3

D. 12 cm^3

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936129**

Q.15 For u.d.l acting on a beam of cantilever, the shear force diagram shows the following.

A. Straight Line

B. Parabolic curve

C. Hyperbolic curve

D. Inclined straight line

Ans

✗ 1. A

✗ 2. B

✗ 3. C

✓ 4. D

Question ID : **5834936102**

Q.16 Sodium Carbonate is a salt because of

A. Weak acid, strong base

B. Weak base, strong acid

C. Strong acid, strong base

D. Weak acid, weak base

Ans

✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936131**

Q.17

If $A=\begin{bmatrix}2 & 3 & 1\\ 1 & 4 & 1\end{bmatrix}$ *and* $B=\begin{bmatrix}6 & 1\\ 0 & 3\\ 5 & 2\end{bmatrix}$ find $A^T B^T$

A. $\begin{bmatrix}13 & 3 & 12\\ 3 & 12 & 2\\ 12 & 23 & 7\end{bmatrix}$

B. $\begin{bmatrix}13 & 22 & 1\\ 3 & 12 & 3\\ 12 & 23 & 5\end{bmatrix}$

C. $\begin{bmatrix}13 & 3 & 12\\ 3 & 1 & 23\\ 12 & 3 & 17\end{bmatrix}$

D. $\begin{bmatrix}13 & 3 & 12\\ 22 & 12 & 23\\ 7 & 3 & 7\end{bmatrix}$

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936127**

Q.18

A reversible polytropic process can be described by

A. $PV^n = \text{constant}$

B. $(PV)^n = \text{constant}$

C. $(P/V)^n = \text{constant}$

D. $PV^{-n} = \text{constant}$

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936080**

Q.19 The mechanism becomes structure when its degree of freedom is equal to

A. 1

B. 3

C. 0

D. 2

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936075**

Q.20 A toothed wheel of module 6mm and 60 teeth rotates at 100 rpm. Find the peripheral speed of the gear wheel in m/sec

A. 0.6π

B. 6000π

C. 6π

D. 100π

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936113**

Q.21 For an object of solid hemisphere with radius ‘r’ then what is the C.G from its base.

A. (3/8) r

B. (8/3) r

C. 3r

D. 8r

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936098**

Q.22 A flywheel is rotating at angular speed of 6rad/s and its moment of inertia is 2500kg-m^2. Kinetic energy possessed by flywheel is

A. 50 kJ

B. 45 kJ

C. 15 kJ

D. 40 kJ

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936077**

Q.23 Roughness values (0.2 to 0.8) microns is indicated by which symbol

A. One triangle

B. Three triangle

C. Two triangle

D. Approximation

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936119**

Q.24

Monthly wage	Number of workers
700	2
800	8
900	8
1000	2

Find the arithmetic mean of the above case

A.850

B.600

C.800

D.900

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936117**

Q.25 The observed time for an element is 0.7 minutes .The rating factor is 90%. All the allowances put together are 20% of normal time .Calculate the Standard time in minutes.

A.0.756

B.0.856

C.0.5

D.2.0

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936123**

Q.26 Stroke length of ram in shaper can be increased by

A. Increasing radial distance of crank pin

B. Decreasing radial distance of crank pin

C. Decreasing slotted lever length.

D. Increasing distance between fixed centres.

Ans
✔ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936066**

Q.27 A flywheel is in the form of uniform circular disc of diameter 10 cm & mass 10 kg is rotating about its own axis calculate the kinetic energy when rotating at 1200 rpm

A. $100\pi^2$ J

B. $10\pi^2$ J

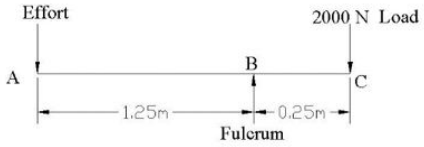
C. $\pi^2/10$ J

D. $\pi^2/100$ J

Ans
✗ 1. A
✔ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936130**

Q.28 What is the value of effort from the following free body diagram.



A. 200 N

B. 400 N

C. 600 N

D. 1000 N

Ans
✗ 1. A
✔ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936099**

Q.29 A hole is being drilled by 10mm drill bit at a feed rate of 0.6mm per revolution and with spindle speed of 700RPM. Energy consumption rate for the work piece material is given as 0.5 J/mm^3 of material removed. Power required is

A. 550 W
B. 336 W
C. 125 W
D. 275 W

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936067**

Q.30 Determine the depth of the strongest beam that can be cutout of a cylindrical log of wood whose diameter is 400mm.

A. 32.66 cm
B. 23.09 cm
C. 31.76 cm
D. 33.26 cm

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936103**

Q.31 Most commonly employed Welding process for joining locomotive rails is

A. Thermit welding
B. Arc welding
C. Gas welding
D. Electron beam welding

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936062**

Q.32 In a compound belt drive, an engine pulley A of dia.750mm rotating at 150RPM drives pulley B of dia. 450mm.Pulley C of dia.900mm keyed to the same shaft of pulley B drives dynamo pulley of dia.150mm. Speed of dynamo pulley is

A. 1200 RPM

B. 1300 RPM

C. 1500 RPM

D. 1800 RPM

Ans ✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936076**

Q.33 In the following system, Steel grades are designated in En series

A. Indian standard steel designation system

B. American Iron & Steel institute (AISI)

C. British standard designation system

D. DIN standards

Ans ✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936074**

Q.34 Dimensional formula of Stefan Boltzmann constant

A. $M^1 L^0 T^{-3} K^{-4}$

B. $M^1 L^3 T^{-3} K^{-4}$

C. $M^{-2} L^2 T^{-3} K^{-4}$

D. $M^{-1} L^0 T^{-3} K^{-4}$

Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936128**

Q.35 At room temperature, crystal structure of Platinum is

A. FCC

B. BCC

C. HCP

D. SC

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936073**

Q.36 Calculate the pressure exerted by 5kg of Nitrogen gas at a temperature of 27°C if the volume is $0.1m^3$. Molecular weight of Nitrogen gas is 28. Assume Ideal gas laws applicable.

A. $4.4\ N/mm^2$

B. $44\ N/mm^2$

C. $4.4\ N/cm^2$

D. $44\ N/cm^2$

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936095**

Q.37 Calculate the HCV &LCV of a coal specimen from the following data per kg of coal

Carbon 70%; Hydrogen6%; Oxygen8%; Sulphur 5% and remaining is ash

A. 31323 kJ/kg &29992 kJ/kg

B. 33319 kJ/kg &25789 kJ/kg

C. 32689 kJ/kg &25687 kJ/kg

D. 32896 kJ/kg &25876 kJ/kg

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936133**

Q.38 What is the safe tensile load for a M36x4 bolt of mild steel having yield stress of 280 MPa and a factor of safety 2.

A. 142.56 kN

B. 242.56 kN

C. 342.56 kN

D. 442.56 kN

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936112**

Q.39 In an experimental test conducted on hoisting machine, it was found that an effort of 40kN was applied to lift a load of 180kN. An effort of 32kN was required to lift a load of 140kN. As per law of machine, effort required to lift 15kN load is

A. 15 kN

B. 10 kN

C. 7 kN

D. 2 kN

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936078**

Q.40 Find the equation of a straight line passing through the point (-2,1) and perpendicular to the line 2x+3y=10

A. 3x+2y-4= 0

B. 2x-3y+7= 0

C. 3x-2y+8= 0

D. 3x+2y+4= 0

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936126**

Q.41 If a gas of volume 6000cm^3 and pressure of 100Kpa is compressed quasistatically according to PV^2 = constant until the volume becomes 2000cm^3 .Determine the final pressure.

A. 600Kpa
B. 800Kpa
C. 900Kpa
D. 300Kpa

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936083**

Q.42 A Plate at a distance of 1mm from a fixed plate moves at 60cm/sec and requires a force of 2N per unit area i.e. 2N/m^2 to maintain speed. Determine fluid viscosity between the plates.

A. 3.3 x 10^{-3} N.s/m^2
B. 0.33 x 10^{-3} N.s/m^2
C. 3.3 x 10^{-2} N.s/m^2
D. 3.3 x 10^{-5} N.s/m^2

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936093**

Q.43 Wet bulb temperature at 100% RH is _____ dry bulb temperature

A. equal to
B. lower than
C. higher than
D. inverse of

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936134**

Q.44 A reversible Engine has an ideal thermal efficiency of 75%. The direction of the cycle is reversed and converted in to refrigerator. The coefficient of performance will be

A. 2/3

B. 4/3

C. 1/3

D. 3/2

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936084**

Q.45 In a laboratory test on shaper, feed, depth of cut and length of stroke are 2mm/stroke,4mm and 300mm respectively. If specific power consumption is 0.05KW/cm^3 per minute and number of working strokes per minute is 20, Power consumption is

A. 4.5 kW

B. 2.0 kW

C. 2.4 kW

D. 1.2 kW

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936069**

Q.46 Minimum percentage of carbon in cast iron is

A. 1.0%

B. 2.0%

C. 0.8%

D. 4.4%

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936071**

Q.47 A Monoatomic ideal gas ($\gamma = 1.67$ Molecular weight = 40) is compressed adiabatically from 0.1Mpa 300K to 0.2Mpa. The universal gas constant is 8.314KJ/kg.K. The work of the compression of gas in KJ/kg is. (Take $(2)^{\gamma-1/\gamma} = 1.32$)

A. 29.7

B. 19.9

C. 13.3

D. Zero

Ans ✔ 1. A

✘ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936087**

Q.48 Tool materials in the increasing order of red hardness is

A. HSS, Plain carbon steel, Carbides, Ceramics

B. Carbides, HSS, Ceramics, Plain carbon steel

C. Plain carbon steel, HSS, Carbides, Ceramics

D. Ceramics, Plain carbon steel, Carbides, HSS

Ans ✘ 1. A

✘ 2. B

✔ 3. C

✘ 4. D

Question ID : **5834936068**

Q.49 A reversible engine has ideal thermal efficiency of 25%. When it is used as a refrigerating machine with all other conditions unchanged, the coefficient of performance will be

A. 0.25

B. 4.0

C. 4.33

D. 3.0

Ans ✘ 1. A

✘ 2. B

✘ 3. C

✔ 4. D

Question ID : **5834936135**

Q.50 Compression ratio for an engine with clearance volume of 120 cm^3 and swept volume of 600 cm^3 is_____

A. 6
B. 5
C. 7.2
D. 4.8

Ans ✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936137**

Q.51 A power screw of 32mm nominal diameter and 5mm pitch is acted upon by an axial load of 12 kN with permissible thread bearing pressure is 6 MPa. Considering bearing action between the threads in engagement, what is the number of threads in engagement with the screw.

A. 5
B. 9
C. 14
D. 17

Ans ✘ 1. A
✔ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936108**

Q.52 In a simply supported beam carrying an u.d.l w per unit length, then the point of contra flexure.

A. Lies in the centre of the beam
B. Lies at the ends of the beam
C. Depends up on length of beam
D. Does not exist.

Ans ✘ 1. A
✘ 2. B
✘ 3. C
✔ 4. D

Question ID : **5834936100**

Q.53 The rate of change of bending moment at any section is equal to

A. Shear force at that section

B. Deflection at that section

C. Loading at that section

D. Net moment

Ans
✔ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936096**

Q.54 A machine element is subjected to the biaxial state of stress σ_x= 80MPa, σ_y= 20 MPa and τ_{xy}= 40 MPa. If the shear strength of the material is 100 MPa then factor of safety as per maximum shear stress theory is.

A. 1

B. 2

C. 2.5

D. 3.3

Ans
✗ 1. A
✔ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936114**

Q.55 ---------- is a drawing giving details about size tolerances, heat treatment etc.

A. Exploded drawing

B. Production drawing

C. Assembly drawing

D. Machine drawing

Ans
✗ 1. A
✔ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936120**

Q.56 Which of the following is correct with respect to the following equations?

Y=-2x+10 and 2y-x=12

A. lines are parallel

B. lines are passing through origin

C. lines will intersect at 90°

D. lines will intersect at 45°

Ans

✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936125**

Q.57 A mixture of gases expands from 0.03m^3 to 0.06 m^3 at a constant pressure of 1MPa and absorbs 84KJ of heat during the process. The change in Internal energy of the mixture is

A. 30KJ

B. 84KJ

C. 54KJ

D. 64KJ

Ans

✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936086**

Q.58 One of which NDT method is used to detect internal weld defects.

A. Radiographic testing

B. Magnetic particle testing

C. Liquid penetration testing

D. None of the above

Ans

✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936097**

Q.59 In Three-piece moulding flask, top middle & bottom pieces are called as

A. Cope, drag& Cheek

B. Cope, Cheek& Drag

C. Drag, Cope& Gate

D. Cope, Gate& Drag

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936065**

Q.60

Euler's number is the ratio of

A. Inertia force to pressure force

B. Inertia force to elastic force

C. Inertia force to gravity force

D. Pressure force to elastic force

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936090**

Q.61 The amount of inertia of a surface about an axis through its centroid is 4200 mm^4. If the area of the surface is 100 mm^2 what will be the moment of inertia about a parallel axis 6mm distance from the centroid.

A. 4200 mm^4

B. 7800 mm^4

C. 3600 mm^4

D. 6000 mm^4

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936105**

Q.62 Argon gas is generated due to decay of which among the following isotope

A. K-40

B. Ca-40

C. Ca-48

D. K-41

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936132**

Q.63 Total pressure produced by fan in air handling unit is _____.

A. Static pressure + Velocity pressure

B. Static pressure + atmospheric pressure

C. Static pressure – atmospheric pressure

D. (Static pressure x volumetric efficiency) + Atmospheric pressure

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936136**

Q.64 The Moment of Inertia of a beam section 500mm deep is $25x10^7 mm^4$. Find the longest span over which a beam of this section, when simply supported, could carry a uniformly distributed load of 720 kN per metre run. The stress in the material is not to exceed 90 MPa.

A. 500 mm

B. 600 mm

C. 1000 mm

D. 700 mm

Ans ✗ 1. A

✗ 2. B

✔ 3. C

✗ 4. D

Question ID : **5834936104**

Q.65 The success of precision measurement by slip gauge depends on phenomenon called

A. Rubbing of slip gauges

B. Wringing of slip gauges

C. Sliding of slip gauge

D. Rotation of slip gauge

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936115**

Q.66 If T be the torque transmitted by a splined shaft 'n' splines at a mean radius of R, then shear force on each spline is

A. T/R

B. T/(nR)

C. (Tn)/R

D. T/(2nR)

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936106**

Q.67 One Tesla is equal to_____

A. 1 webers per sec

B. 1 webers per sqm

C. 100 webers

D. 100 gauss

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936139**

Q.68 A ball bearing is characterized by basic static capacity is 11000N and dynamic capacity is 18000N. This bearing is subjected to equivalent static load of 5500 N. What is the life in million revolutions.

A. 52

B. 35.05

C. 10.1

D. 4.1

Ans

✗ 1. A

✓ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936111**

Q.69 Given that K is coefficient, V is mean velocity and f -Darcy-weishbach friction factor and D diameter of pipe. If the head loss in a pipe bend is given by $h_L = KV^3/2g$, the equivalent length of the pipe is

A. Kf/D

B. KD/f

C. f/KD

D. Df/K

Ans

✗ 1. A

✓ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936092**

Q.70 The ability of material to exhibit large plastic deformation prior to fracture under tensile loading conditions is called

A. Malleability

B. Ductility

C. Hardenability

D. Machinability

Ans

✗ 1. A

✓ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936072**

Q.71 Annual production is 1800 units .Procurement cost is Rs 450/-

Manufacturing cost is Rs 45/-.

Inventory cost is 10 % per item.

Calculate the total number of orders based on EOQ.

A. 3

B. 2

C. 6

D. 4

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936124**

Q.72 A shaft of 10mm in diameter whose maximum shear stress is 32 N/mm² can transmit a maximum torque in Nmm is equal to

A. 2000 π

B. 1000 π

C. 4000 π

D. 8000 π

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936110**

Q.73 When air is compressed, the enthalpy is increases from 100KJ/kg to 200KJ/kg. Heat lost during this compression is 50KJ/kg. Neglecting Potential and Kinetic energies, the power required for a mass flow of 2kg/sec of air through compressor will be

A. 300KW

B. 200KW

C. 100KW

D. 50KW

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936088**

Q.74 The permissible stress in a fillet weld is 100 MPa and the fillet size is 15mm.
Then allowable shearing load on weldment per cm length of the weld is

A. 22.5 kN
B. 15.0 kN
C. 10.6 kN
D. 07.5 kN

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936109**

Q.75 A cantilever beam of rectangular cross section is subjected to a load 'W' at its free end.
If the depth of the beam is doubled and the load is halved, the deflection of free end as compared to original deflection will be

A. Half
B. One eight
C. One sixteenth
D. Double

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936101**

Q.76 Melting point of pure iron in degree centigrade is

A. 2001
B. 2010
C. 1539
D. 1469

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936070**

Q.77 The length: width in case of an arrow head is

A. 1:1

B. 2:1

C. 3:1

D. 1:3

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936118**

Q.78 Which of the following tool is not used in Forging operations?

A. Swage block

B. Tong

C. Anvil

D. Auger

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936063**

Q.79 More Shrinkage allowance is considered in pattern making for casting of

A. Aluminium

B. Lead

C. Copper

D. Gunmetal

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936140**

Q.80 Slip gauges are used for

A. Verification of accuracy of micro meters.

B. Measurement of slip of belts

C. Measurement of pitch of threads

D. Verification of sensitivity of governor.

Ans

✔ 1. A

✘ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936064**