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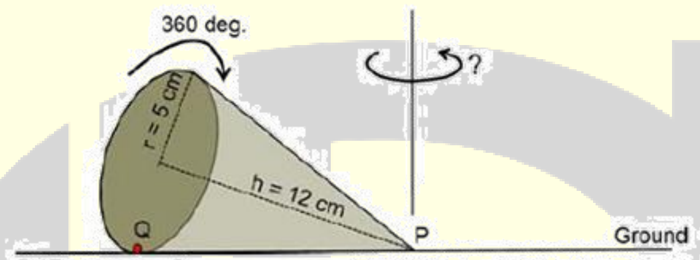
GENERAL APTITUDE

Q. No. 1 - 5 Carry One Mark Each

1. A right – angled cone (with base radius 5cm and height 12cm), as shown in the figure below, is rolled on the ground keeping the point P fixed until the point Q (at the base of the cone, as shown) touches the ground again.



By what angle (in radians) about P does the cone travel?

(A) $\frac{5\pi}{12}$ (B) $\frac{5\pi}{24}$ (C) $\frac{24\pi}{5}$ (D) $\frac{10\pi}{13}$

Answer: (D) **Click here to watch the video explanation**

2. In a company with 100 employees, 45 earn Rs. 20,000 per month, 25 earn Rs. 30,000, 20 earn Rs. 40,000,8 earn Rs. 60,000, and 2 earn Rs. 150,000. The median of the salaries is

(A) Rs. 20,000 (B) Rs.30,000 (C) Rs. 32,300 (D) Rs. 40,000

Answer: (B) **Click here to watch the video explanation**

3. As the two speakers became increasingly agitated, the debate became __________.

(A) lukewarm (B) poetic (C) forgiving (D) heated

Answer: (D) **Click here to watch the video explanation**

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4. P,Q, and R talk about S's car collection. P states that S has at least 3 cars. Q believes that S has less than 3 cars. R indicates that to his knowledge, S has at least one Car. Only one of P, Q and R is right the number cars owned by S is.

(A) 0 (B) 1 (C) 3 (D) Cannot be determined

Answer: (A) **Click here to watch the video explanation**

5. He was one of my best __________ and I felt his loss _________.

(A) friend, keenly (B) friends, keen (C) friend, keener (D) friends, keenly

Answer: (D) **Click here to watch the video explanation**

Q. No. 6- 10 Carry Two Marks Each

6. Two very famous sportsmen Mark and Steve happened to be brothers, and played for country K. Mark teased James, an opponent from country E, "There is no way you are good enough to play for your country.'' James replied, "Maybe not, but at least I am the best player in my own family."

Which one of the following can be inferred from this conversation?

(A) Mark was known to play better than James

(B) Steve was known to play better than Mark

(C) James and Steve were good friends

(D) James played better than Steve

Answer: (B) **Click here to watch the video explanation**

7. "Here, throughout the early 1820s, Stuart continued to fight his losing battle to allow his sepoys to wear their caste-marks and their own choice of facial hair on parade, being again reprimanded by the commander-in-chief. His retort that 'A stronger instance than this of European prejudice with relation to this country has never come under my observations' had no effect on his superiors."

According to this paragraph, which of the statements below is most accurate?

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(A) Stuart's commander – in chief was moved by this demonstration of his prejudice.

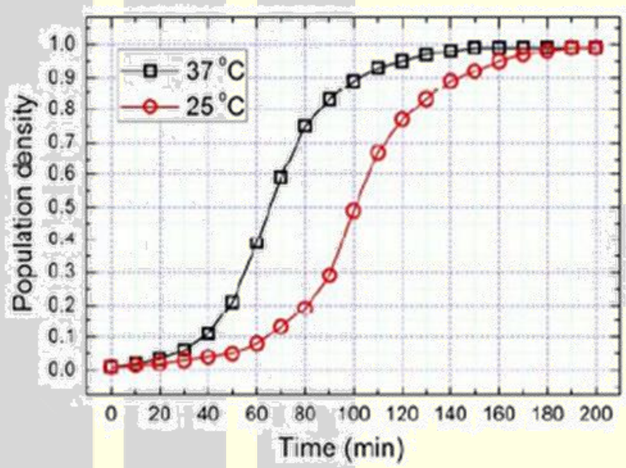
(B) The Europeans were accommodating of the sepoys' desire to wear their caste – marks.

(C) Stuart's losing battle' refers to his inability to succeed in enabling sepoys to wear caste-marks.

(D) The commander– in – Chief was exempt from the European preiudice that dictated how the sepoys were to dress.

Answer: (C) **Click here to watch the video explanation**

8. The growth of bacteria (lactobacillus) in milk leads to curd formation. A minimum bacterial population density of 0.8(in suitable units) is needed to form curd. In the graph below, the population density of lactobacillus in 1 litre of milk is plotted as a function of time, at two different temperatures, 25°C and 37°C.



Consider the following statements based on the data shown above:

(i) The growth in bacterial population stops earlier at 37°C as compared to 25°C

(ii) The time taken for curd formation at 25°C is twice the time taken at 37°C

Which one of the following options is correct?

(A) Only i (B) only ii (C) Both i and ii (D) Neither i nor ii

Answer: (A) **Click here to watch the video explanation**

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9. Let S_1 be the plane figure consisting of the points (x,y) given by the inequalities $|x-1| \le 2$ and $|y+2| \le 3$. Let S_2 be the plane figure given by the inequalities $x - y \ge -2, y \ge 1,$ and $x \le 3$ Let S be the union of S_1 and S_2. The area of S is.

(A) 26 (B) 28 (C) 32 (D) 34

Answer: (C) **Click here to watch the video explanation**

10. What is the sum of the missing digits in the subtraction problem below?

$$\begin{array}{r} 5\_\;\_\;\_\;\_ \\ -48\;\_\;8\;9 \\ \hline 1\;1\;1\;1 \end{array}$$

(A) 8 (B) 10 (C) 11 (D) Cannot be determined

Answer: (D) **Click here to watch the video explanation**

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MECHANICAL ENGINEERING

Q. No. 1 – 25 Carry One Mark Each

1. A motor driving a solid circular steel shaft transmits 40kW of power at 500 rpm. If the diameter of the shaft is 40 mm, the maximum shear stress in the shaft is ________MPa.

Answer: (D) **Click here to watch the video explanation**

2. Consider the following partial differential equation for u(x,y) with the constant c > 1 :

$$\frac{\partial u}{\partial y} + c\frac{\partial u}{\partial x} = 0$$

Solution of this equation is

(A) $u(x,y) = f(x+cy)$

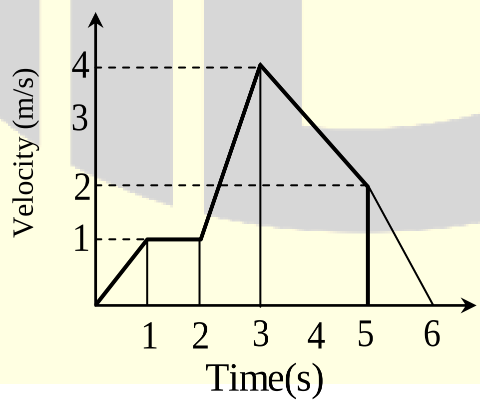
(B) $u(x,y) = f(x-cy)$

(C) $u(x,y) = f(cx+y)$

(D) $u(x,y) = f(cx-y)$

Answer: (B) **Click here to watch the video explanation**

3. The following figure shows the velocity- time plot for a particle traveling along a straight line. The distance covered by the particle fromt = 0 to t= 5 s is __________m.



Answer: (10 to 10) **Click here to watch the video explanation**

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4. The damping ratio for a viscously damped spring mass system, governed by the relationship $m\frac{d^2x}{dt^2}+C\frac{dx}{dt}+kx=F(t)$, is given by

(A) $\sqrt{\frac{c}{mk}}$ (B) $\frac{c}{2\sqrt{km}}$ (C) $\frac{c}{\sqrt{km}}$ (D) $\sqrt{\frac{c}{2mk}}$

Answer: (B) **Click here to watch the video explanation**

5. The differential equation $\frac{d^2y}{dx^2}+16y=0$ for $y(x)$ with the two boundary conditions $\left.\frac{dy}{dx}\right|_{x=0}=1$ and $\left.\frac{dy}{dx}\right|_{x=\frac{\pi}{2}}=-1$ has

(A) no solution (B) exactly two solutions

(C) exactly one solution (D) infinitely many solutions

Answer: (A) **Click here to watch the video explanation**

6. Metric threadof 0.8 mm pitch is to be cut on a lathe. Pitch of the lead screw is 1.5 mm. If the spindle rotates at 1500 rpm, the speed of rotation of the lead screw (rpm) will be __________

Answer: (800 to 800) **Click here to watch the video explanation**

7. The molar specific heat at constant volume of an ideal gas is equal to 2.5 times the universal gas constant (8.314 J/mol.K). When the temperature increases by 100K, the change in molar specific enthalpy is ________________ J/mol.

Answer: (2908 to 2911) **Click here to watch the video explanation**

8. A particle of unit mass is moving on a plane. Its trajectory, in polar coordinates, is given by $r(t) = t^2$, $\theta(t)=t$, where t is time. The kinetic energy of the particle at time t = 2 is

(A) 4 (B) 12 (C) 16 (D) 24

Answer: (C) **Click here to watch the video explanation**

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9. The Poisson's ratio for a perfectly incompressible linear elastic material is

(A) 1 (B) 0.5 (C) 0 (D) infinity

Answer: (B) **Click here to watch the video explanation**

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10. A heat pump absorbs 10 kW of heat from outside environment at 250 K while absorbing 15 kW of work. It delivers the heat to a room that must be kept warm at 300K. The Coefficient of Performance (COP) of the heat pump is ___________.

Answer: (1.66 to 1.70) **Click here to watch the video explanation**

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11. Which one of the following is NOT a rotating machine?

(A) Centrifugal pump (B) Gear pump

(C) Jet pump (D) Vane pump

Answer: (C) **Click here to watch the video explanation**

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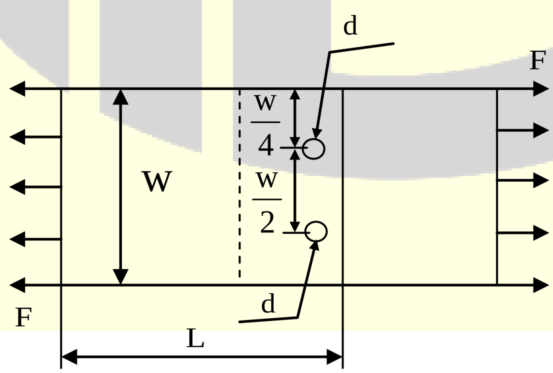
12. Consider the schematic of a riveted lap joint subjected to tensile load F, as shown below. Let *d*be the diameter of the rivets, and S_f be the maximum permissible tensile stress in the plates. What should be the minimum value for the thickness of the plates to guard against tensile failure of the plates? Assume the plates to be identical.



(A) $\frac{F}{S_f(W-2d)}$ (B) $\frac{F}{S_f W}$ (C) $\frac{F}{S_f(W-d)}$ (D) $\frac{2F}{S_f W}$

Answer: (A) **Click here to watch the video explanation**

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13. Water (density $=1000 kg/m^3$) at ambient temperature flows through a horizontal pipe of uniform cross section at the rate of 1 kg/s. If the pressure drop across the pipe is 100 kPa, the minimum power required to pump the water across the pipe, in watts, is _______.

Answer: (100 to 100) **Click here to watch the video explanation**

14. For steady flow of a viscous incompressible fluid through a circular pipe of constant diameter, the average velocity in the fully developed region is constant. Which one of the following statements about the average velocity in the developing region is TRUE?

(A) It increases until the flow is fully developed.

(B) It is constant and is equal to the average velocity in the fully developed region.

(C) It decreases until the flow is fully developed.

(D) It is constant but always lower than the average velocity in the fully developed region.

Answer: (B) **Click here to watch the video explanation**

15. Cylindrical pins of diameter $15^{\pm 0.020}$ mm are being produced on a machine. Statistical quality control tests show a mean of 14.995 mm and standard deviation of 0.004mm. The process capability index C_p is

(A) 0.833 (B) 1.667 (C) 3.333 (D) 3.750

Answer: (B) **Click here to watch the video explanation**

16. The product of Eigenvalues of the matrix P is $P = \begin{bmatrix} 2 & 0 & 1 \\ 4 & -3 & 3 \\ 0 & 2 & -1 \end{bmatrix}$

(A) – 6 (B) 2 (C) 6 (D) –2

Answer: (B) **Click here to watch the video explanation**

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17. Match the processes with their characteristics.

Process	Characteristics
P: Electrical Discharge machining	1. No residual stress
Q: Ultrasonic machining	2. Machining of electrically conductive materials
R: Chemical machining	3. Machining of glass
S: Ion Beam Machining	4. Nano-machining

(A) P – 2, Q – 3, R – 1, S – 4
(B) P – 3, Q – 2, R – 1, S – 4
(C) P – 3, Q – 2, R – 4, S – 1
(D) P – 2, Q – 4, R – 3, S – 1

Answer: (A) **Click here to watch the video explanation**

18. The Value of $\lim_{x\to 0} \frac{x^3 - \sin(x)}{x}$ is

(A) 0 (B) 3 (C) 1 (D) -1

Answer: (D) **Click here to watch the video explanation**

19. In an arc welding process, welding speed is doubled. Assuming all other process parameters to be constant, the cross sectional area of the weld bead will

(A) Increase by 25%
(B) Increase by 50%
(C) Reduce by 25%
(D) Reduce by 50%

Answer: (D) **Click here to watch the video explanation**

20. A six-face fair dice is rolled a large number of times. The mean value of the outcomes is ______.

Answer: (3.5 to 3.5) **Click here to watch the video explanation**

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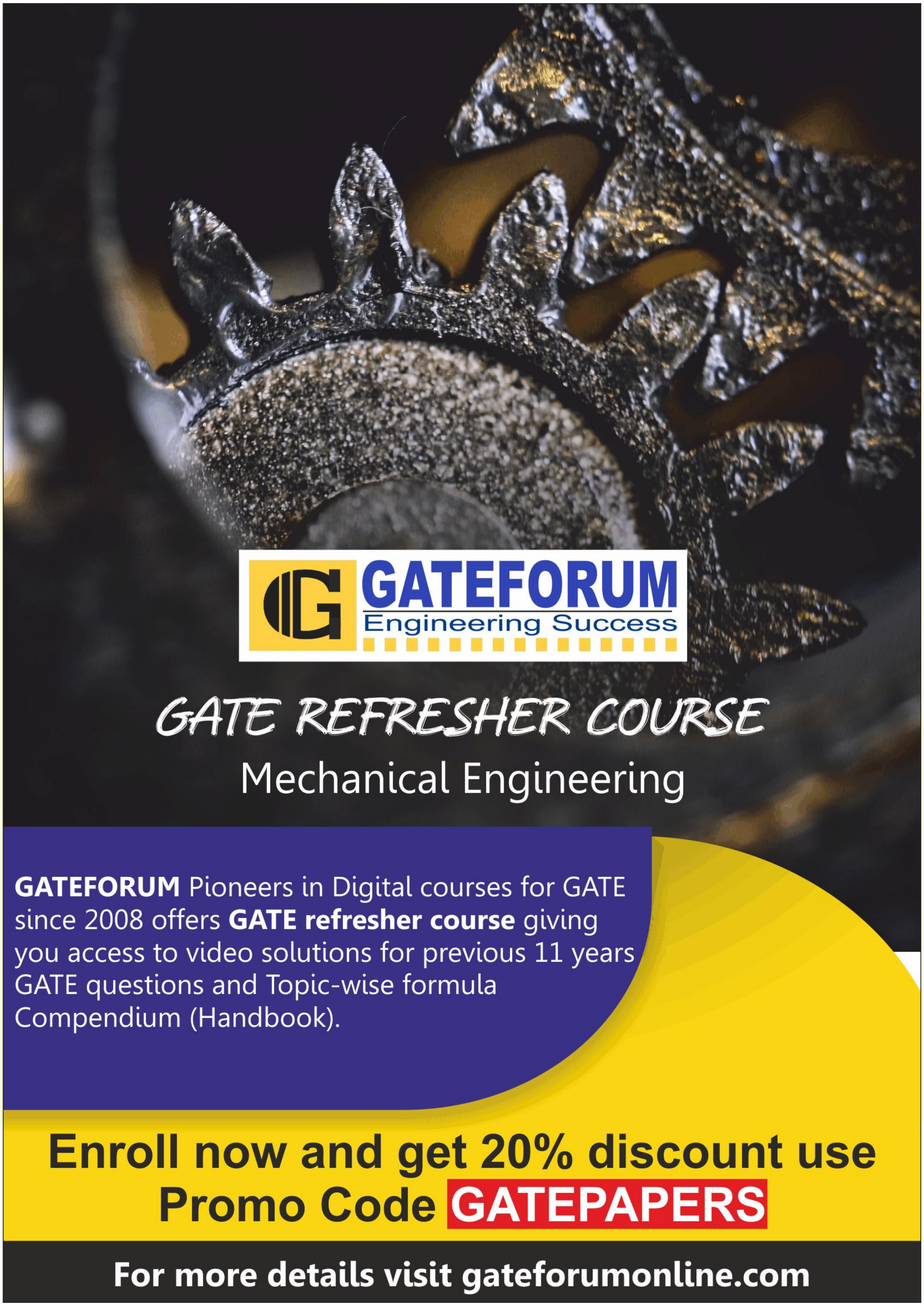

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21. Consider the twodimensional velocity field given by $\vec{V} = (5 + a_1x + b_1y)\hat{i} + (4 + a_2x + b_2y)\hat{j}$, wher a_1, b_1, a_2 and b_2 are constants. Which one of the following conditions needs to be satisfied for the flow to be incompressible?

(A) $a_1 + b_1 = 0$ (B) $a_1 + b_2 = 0$ (C) $a_2 + b_2 = 0$ (D) $a_2 + b_1 = 0$

Answer: (B) **Click here to watch the video explanation**

22. Consider a beam with circular cross-section of diameter *d*. The ratio of the second moment of area about the neutral axis to the section modulus of the area is.

(A) $\frac{d}{2}$ (B) $\frac{\pi d}{2}$ (C) d (D) πd

Answer: (A) **Click here to watch the video explanation**

23. Saturated steam at 100°C condenses on the outside of a tube. Cold fluid enters the tube at 20° C and exists at 50°C. The value of the Log Mean Temperature Difference (LMTD) is ________°C.

Answer: (63.5 to 64) **Click here to watch the video explanation**

24. In a metal forming operation when the material has just started yielding, the principal stresses are $\sigma_1 = +180\text{ MPa}, \sigma_2 = -100\text{ MPa}, \sigma_3 = 0.$ Following Von Mises criterion, the yield stress is ________ MPa.

Answer: (245 to 246) **Click here to watch the video explanation**

25. In the engineering stress-strain curve for mild steel, the Ultimate Tensile Strength (UTS) refers to

(A) Yield stress (B) Proportional limit

(C) Maximum stress (D) Fracture stress.

Answer: (C) **Click here to watch the video explanation**

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Q. No. 26 to 55 Carry Two Marks Each

26. A parametric curve defined by $x = \cos\left(\frac{\pi u}{2}\right), y = \sin\left(\frac{\pi u}{2}\right)$ in the range $0 \le u \le 1$ is rotated about the X – axis by 360 degrees. Area of the surface generated is.

(A) $\frac{\pi}{2}$ (B) π (C) 2π (D) 4π

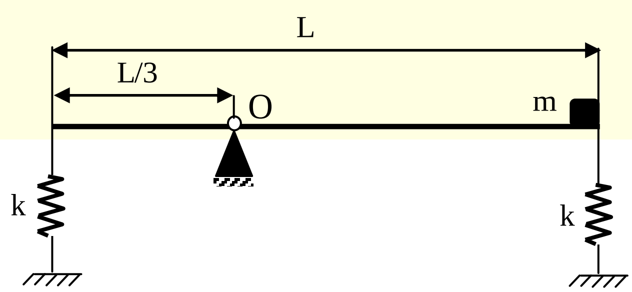
Answer: (C) **Click here to watch the video explanation**

27. Assume that the surface roughness profile is triangular as shown schematically in the figure. If the peak to valley height is $20\,\mu m$, The central line average surface roughness R_a (in μm) is

(A) 5 (B) 6.67 (B) 10 (D) 20

Answer: (A) **Click here to watch the video explanation**

28. A thin uniform rigid bar of length L and mass M is hinged at point O, located at a distance of $\frac{L}{3}$ from one of its ends. The bar is further supported using springs, each of stiffness k, located at the two ends. A particle of mass $m = \frac{M}{4}$ is fixed at one end of the bar, as shown in the figure. For small rotations of the bar about O, the natural frequency of the systems is



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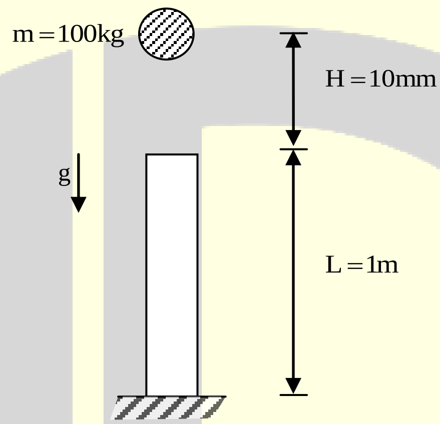
(A) $\sqrt{\frac{5k}{M}}$ (B) $\sqrt{\frac{5k}{2M}}$ (C) $\sqrt{\frac{3k}{2M}}$ (D) $\sqrt{\frac{3k}{M}}$

Answer: (B) **Click here to watch the video explanation**

29. A point mass of 100 kg is dropped onto a massless elastic bar (cross-sectional area = 100 mm^2, length = 1m, Young's moduls = 100 GPa) from a height H of 10mm as shown in the figure. (Figure is not to scale).



If g = 10m/s^2, the maximum compression of the elastic bar is _______ mm.

Answer: (1.50 to 1.52) **Click here to watch the video explanation**

30. One kg of an ideal gas (gas constant, R = 400 J/kg.K; specific heat at constant volume, c_v = 1000J/kg.K) at 1 bar, and 300 K is contained in a sealed rigid cylinder. During an adiabatic process, 100kJ of work is done on the system by a stirrer. The increase in entropy of the system is _________ J/K.

Answer: (286 to 288) **Click here to watch the video explanation**

31. For an inline slider-crank mechanism, the lengths of the crank and connecting rod are 3m and 4m, respectively. At the instant when the connecting rod is perpendicular to the crank, if the velocity of the slider is 1m/s, the magnitude of angular velocity (upto 3 decimal points accuracy) of the crank is _________ radian/s.

Answer: (0.26 to 0.27) **Click here to watch the video explanation**

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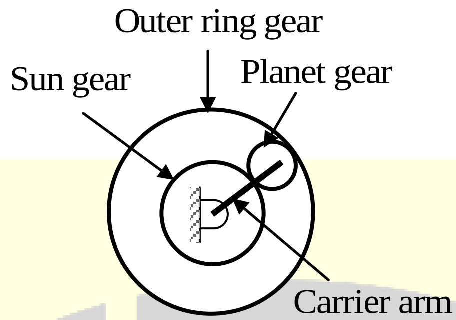
32. In an epicyclic gear train, shown in the figure, the outer ring gear is fixed, while the sun gear rotates counterclockwise at 100rpm. Let the number of teeth on the sun, planet and outer gears to be 50, 25, and 100, respectively.



The ratio of magnitudes of angular velocity of the planet gear to the angular velocity of the carrier arm is _________.

Answer: (3 to 3) **Click here to watch the video explanation**

33. Moist air is treated as an ideal gas mixture of water vapor and dry air (molecular weight of air = 28.84 and molecular weight of water = 18). At a location, the total pressure is 100 kPa, the temperature is 30°C and the relative humidity is 55%. Given that the saturation pressure of water at 30°C is 4246 Pa, the mass of water vapor per kg of dry air is _____________ grams.

Answer: (14.7 to 15.1) **Click here to watch the video explanation**

34. Following data refers to the jobs (P, Q, R, S) which have arrived at a machine for scheduling. The shortest possible average flow time is ___________ days.

Job	Processing Time (days)
P	15
Q	9
R	22
S	12

Answer: (31) (not matching with IIT key) **Click here to watch the video explanation**

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35. Two models, P and Q, of a product earn profits of Rs. 100 and Rs. 80 per piece, respectively. Production times for P and Q are 5 hours and 3 hours, respectively, while the total production time available is 150 hours. For a total batch size of 40, to maximize profit, the number of units of P to be produced is ____________.

Answer: **(15 to 15)** **Click here to watch the video explanation**

36. Circular arc on a part profile is being machined on a vertical CNC milling machine. CNC part program using metric units with absolute dimensions is listed below:

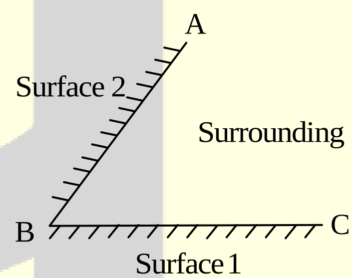
```
--------------------------------
N60 G01 X 30 Y 55 Z – 5 F 50
N70 G02 X 50 Y 35 R 20
N80 G01 Z 5
--------------------------------
```

The coordinates of the centre of the circular arc are:

(A) (30, 55) (B) (50, 55) (C) (50, 35) (D) (30, 35)

Answer: **(D)** **Click here to watch the video explanation**

37. Two black surfaces, AB and BC, of lengths 5m and 6m, respectively, are oriented as shown. Both surfaces extend infinitely into the third dimension. Given that view factor $F_{12}=0.5$, $T_1=800K$, $T_2=600K$, $T_{surrounding}=300K$ and Stefan Boltzmann constant, $\sigma = 5.67\times10^{-8} W/\left(m^2K^4\right)$, the heat transfer rate from Surface 2 to the surrounding environment is ____________ kW.



Answer: **(13.7 to 13.9) (Marks to all)** **Click here to watch the video explanation**

38. Consider the matrix $P = \begin{bmatrix} \frac{1}{\sqrt{2}} & 0 & \frac{1}{\sqrt{2}} \\ 0 & 1 & 0 \\ \frac{-1}{\sqrt{2}} & 0 & \frac{1}{\sqrt{2}} \end{bmatrix}$.

Which one of the following statements about P is INCORRECT?

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(A) Determinant of P is equal to 1.

(B) P is orthogonal.

(C) Inverse of P is equal to its transpose.

(D) All Eigenvalues of P are real numbers

Answer: (D) **Click here to watch the video explanation**

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39. The Pressure ratio across a gas turbine (for air, specific heat at constant pressure, $c_p = 1040 J/kg.K$ and ratio of specific heats, $\gamma = 1.4$) is 10. If the inlet temperature to the turbine is 1200K and the isentropic efficiency is 0.9, the gas temperature at turbine exit is ______ K.

Answer: (675 to 684) **Click here to watch the video explanation**

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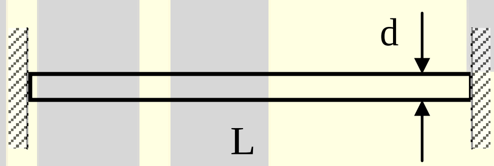
40. An initially stress-free massless elastic beam of length L and circular cross-section with diameter d (d << L) is held fixed between two walls as shown. The beam material has Young's modulus E and coefficient of thermal expansion α.



If the beam is slowly and uniformly heated, the temperature rise required to cause the beam to buckle is proportional to

(A) d (B) d^2 (C) d^3 (D) d^4

Answer: (B) **Click here to watch the video explanation**

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41. For the vector $\vec{V} = 2yz\hat{i} + 3xz\hat{j} + 4xy\hat{k}$, the value of $\nabla.\left(\nabla \times \vec{V}\right)$ is ____________

Answer: (0 to 0) **Click here to watch the video explanation**

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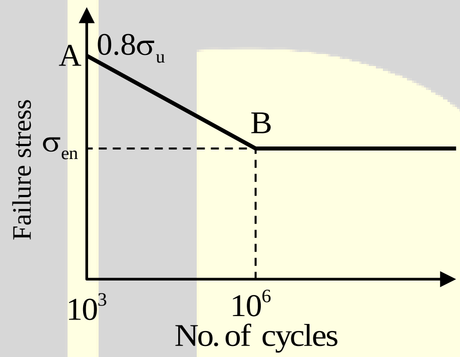
42. A 10 mm deep cylindrical cup with diameter of 15mm is drawn from a circular blank. Neglecting the variation in the sheet thickness, the diameter (upto2 decimal points accuracy) of the blank is _________ mm.

Answer: (28.71 to 28.73) **Click here to watch the video explanation**

43. A machine element has an ultimate strength (σ_u) of 600 N/mm^2, and endurance limit (σ_{en}) of 250 N/mm^2. The fatigue curve for the element on log-log plot is shown below.



If the element is to be designed for a finite of 10000 cycles, the maximum amplitude of a completely reversed operating stress is _________ N/mm^2.

Answer: (370 to 390) **Click here to watch the video explanation**

44. A sprue in a sand mould has a top diameter of 20mm and height of 200mm. The velocity of the molten metal at the entry of the sprue is 0.5m/s. Assume acceleration due to gravity as 9.8 m/s^2 and neglect all losses. If the mould is well ventilated, the velocity (upto 3 decimal points accuracy) of the molten metal at the bottom of the sprue is ________ m/s.

Answer: (2.04 to 2.07) **Click here to watch the video explanation**

45. Air contains 79% N_2 and 21% O_2 on a molar basis. Methane (CH_4) is burned with 50% excess air than required stoichiometrically. Assuming complete combustion of methane, the molar percentage of N_2 in the products is ________________

Answer: (73 to 74) **Click here to watch the video explanation**

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46. P(0,3), Q(0.5, 4), and R (1,5) are three points on the curve defined by f(x). Numerical integration is carried out using both Trapezoidal rule and Simpson's rule within limits x = 0 and x =1 for the curve. The difference between the two results will be.

(A) 0 (B) 0.25 (C) 0.5 (D) 1

Answer: (A) **Click here to watch the video explanation**

47. Heat is generated uniformly in a long solid cylindrical rod (diameter = 10mm) at the rate of 4×10^7 W/m^3. The thermal conductivity of the rod material is 25W/m.K. Under steady state conditions, the temperature difference between the centre and the surface of the rod is _________ °C.

Answer: (10 to 10) **Click here to watch the video explanation**

48. Two disks A and B with identical mass (m) and radius (R) are initially at rest. They roll down from the top of identical inclined planes without slipping. Disk A has all of its mass concentrated at the rim, while Disk B has its mass uniformly distributed. At the bottom of the plane, the ratio of velocity of the center of disk A to the velocity of the center of disk B is.

(A) $\sqrt{\frac{3}{4}}$ (B) $\sqrt{\frac{3}{2}}$ (C) 1 (D) $\sqrt{2}$

Answer: (A) **Click here to watch the video explanation**

49. A block of length 200mm is machined by a slab milling cutter 34mm in diameter. The depth of cut and table feed are set at 2mm and 18mm/minute, respectively. Considering the approach and the over travel of the cutter to be same, the minimum estimated machining time per pass is _____________ minutes.

Answer: (12 to 12) **Click here to watch the video explanation**

50. A horizontal bar, fixed at one end (x = 0), has a length of 1 m, and cross-sectional area of 100mm^2. Its elastic modulus varies along its length as given by $E(x) = 100e^{-x}$GPa, Where x is the length coordinate (in m) along the axis of the bar. An axial tensile load of 10 kN is applied at the free end (x=1). The axial displacement of the free end is _______ mm.

Answer: (1.70 to 1.72) **Click here to watch the video explanation**

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51. Consider steady flow of an incompressible fluid through two long and straight pipes of diameters d_1 and d_2 arranged in series. Both pipes are of equal length and the flow is turbulent in both pipes. The friction factor for turbulent flow though pipes is of the form, $f = K(Re)^{-n}$ where K and n are known positive constants and Re is the Reynolds number. Neglecting minor losses, the ratio of the frictional pressure drop in pipe 1 to that in pipe 2, $\left(\frac{\Delta P_1}{\Delta P_2}\right)$, is given by

(A) $\left(\frac{d_2}{d_1}\right)^{(5-n)}$ (B) $\left(\frac{d_2}{d_1}\right)^{5}$ (C) $\left(\frac{d_2}{d_1}\right)^{(3-n)}$ (D) $\left(\frac{d_2}{d_1}\right)^{(5+n)}$

Answer: (A) **Click here to watch the video explanation**

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52. The velocity profile inside the boundary layer for flow over a flat plate is given as $\frac{u}{U_\infty} = \sin\left(\frac{\pi}{2}\frac{y}{\delta}\right)$, where U_∞ is the free stream velocity and δ is the local boundary layer thickness. If δ^* is the local displacement thickness, the value of $\frac{\delta^*}{\delta}$ is

(A) $\frac{2}{\pi}$ (B) $1-\frac{2}{\pi}$ (C) $1+\frac{2}{\pi}$ (D) 0

Answer: (B) **Click here to watch the video explanation**

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53. For a steady flow, the velocity field is $\vec{V} = \left(-x^2 + 3y\right)\hat{i} + \left(2xy\right)\hat{j}$. The magnitude of the acceleration of a particle at (1, -1) is

(A) 2 (B) 1 (C) $2\sqrt{5}$ (D) 0

Answer: (A) **Click here to watch the video explanation**

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54. Two cutting tools with tool life equations given below are being compared:

Tool 1: $VT^{0.1}=150$

Tool 2: $VT^{0.3}=300$

Where V is cutting speed in m/minute and T is tool life in minutes. The breakeven cutting speed beyond which Tool 2 will have a higher tool life is ________ m/minute.

Answer: (105 to 107) **Click here to watch the video explanation**

55. A rectangular region in a solid is in a state of plane strain. The (x,y) coordinates of the corners of the under deformed rectangle are given by P(0,0), Q (4,0), S (0,3). The rectangle is subjected to uniform strains, $\varepsilon_{xx}=0.001, \varepsilon_{yy}=0.002, \gamma_{xy}=0.003.$ The deformed length of the elongated diagonal, up to three decimal places, is _________ units.

Answer: (5.013 to 5.015) **Click here to watch the video explanation**

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