

# Chhattisgarh Public Service Commission

## Notations :

- Options shown in green color and with ✓ icon are correct.
- Options shown in red color and with ✗ icon are incorrect.

<b>Question Paper Name:</b>	Assistant Workshop Superintendent
<b>Subject Name:</b>	Assistant Workshop Superintendent
<b>Duration:</b>	180
<b>Calculator:</b>	None
<b>Magnifying Glass Required?:</b>	No
<b>Ruler Required?:</b>	No
<b>Eraser Required?:</b>	No
<b>Scratch Pad Required?:</b>	No
<b>Rough Sketch/Notepad Required?:</b>	No
<b>Protractor Required?:</b>	No

## Elective Subject

Group Maximum Duration :	120
Group Minimum Duration :	120
Revisit allowed for view? :	No
Revisit allowed for edit? :	No

## Assistant Workshop Superintendent

Mandatory or Optional:	Mandatory
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 1 Question Id : 3475352651 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following statement(s) is/are true for truss design?

- All loads are applied at the joints.
- The members are joined together by smooth pin.
- Each truss member acts as single force member.

## Options :

- ✗ Only (i)
- ✓ Only (i) and (ii)
- ✗ Only (i) and (iii)
- ✗ Only (iii)

5. ✘ All (i), (ii) and (iii)

Question Number : 1 Question Id : 3475352651 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following statement(s) is/are true for truss design?

- i. All loads are applied at the joints.
- ii. The members are joined together by smooth pin.
- iii. Each truss member acts as single force member.

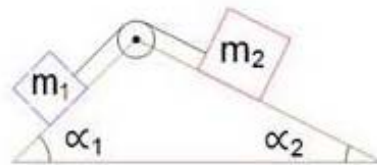
Options :

1. ✘ Only (i)
2. ✔ Only (i) and (ii)
3. ✘ Only (i) and (iii)
4. ✘ Only (iii)
5. ✘ All (i), (ii) and (iii)

Question Number : 2 Question Id : 3475352652 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A frictionless double incline with angles  $\alpha_1$  and  $\alpha_2$  is shown in the figure below. It carries a set of sliding masses  $m_1$  and  $m_2$  that are connected with an inextensible string passing over a frictionless pulley. If  $\alpha_2 = 30^\circ$  and  $m_2$  is twice that of mass  $m_1$ . Determine  $\alpha_1$  for equilibrium.



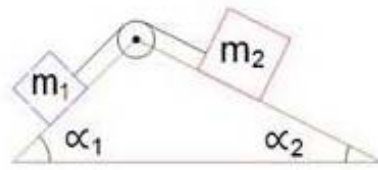
Options :

1. ✘  $30^\circ$
2. ✘  $45^\circ$
3. ✘  $60^\circ$
4. ✘  $75^\circ$
5. ✔  $90^\circ$

Question Number : 2 Question Id : 3475352652 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A frictionless double incline with angles  $\alpha_1$  and  $\alpha_2$  is shown in the figure below. It carries a set of sliding masses  $m_1$  and  $m_2$  that are connected with an inextensible string passing over a frictionless pulley. If  $\alpha_2 = 30^\circ$  and  $m_2$  is twice that of mass  $m_1$ . Determine  $\alpha_1$  for equilibrium.



Options :

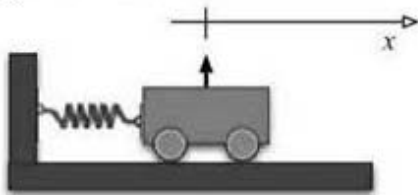
1. ✘  $30^\circ$
2. ✘  $45^\circ$
3. ✘  $60^\circ$
4. ✘  $75^\circ$
5. ✔  $90^\circ$

Question Number : 3 Question Id : 3475352653 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A cart attached to a spring moves with an acceleration proportional to its position but of opposite sign.

$$a(x) = -2x \text{ m/s}^2$$



If the cart has a velocity  $v = 5 \text{ m/s}$  when  $x = 0$ , determine the velocity of the cart when  $x = 3$ .

Options :

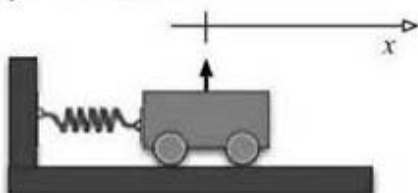
1. ✘  $2.45 \text{ m/s}$
2. ✘  $2.5 \text{ m/s}$
3. ✔  $2.65 \text{ m/s}$
4. ✘  $2.78 \text{ m/s}$
5. ✘  $2.85 \text{ m/s}$

Question Number : 3 Question Id : 3475352653 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A cart attached to a spring moves with an acceleration proportional to its position but of opposite sign.

$$a(x) = -2x \text{ m/s}^2$$



If the cart has a velocity  $v = 5 \text{ m/s}$  when  $x = 0$ , determine the velocity of the cart when  $x = 3$ .

Options :

1. ✘ 2.45 m/s
2. ✘ 2.5 m/s
3. ✔ 2.65 m/s
4. ✘ 2.78 m/s
5. ✘ 2.85 m/s

Question Number : 4 Question Id : 3475352654 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Relation between coefficient of restitution ( $e$ ) and velocities of bodies ( $v$ ) is given by:

Options :

1. ✔ 
$$e = (-) \frac{(v_2)f - (v_1)f}{(v_2)i - (v_1)i}$$

2. ✘ 
$$e = \frac{(v_2)f - (v_1)f}{(v_2)i - (v_2)i}$$

3. ✘ 
$$e = (-) \frac{(v_2)i - (v_1)i}{(v_2)f - (v_1)i}$$

4. ✘ 
$$e = \frac{(v_2)i - (v_1)i}{(v_2)f - (v_1)f}$$

5. ✘ 
$$e = \frac{(v_2)f - (v_1)f}{(v_2)i - (v_1)f}$$

Question Number : 4 Question Id : 3475352654 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Relation between coefficient of restitution ( $e$ ) and velocities of bodies ( $v$ ) is given by:

Options :

1. ✔ 
$$e = (-) \frac{(v_2)f - (v_1)f}{(v_2)i - (v_1)i}$$

2. ✘ 
$$e = \frac{(v_2)f - (v_1)f}{(v_2)i - (v_2)i}$$

3. ✘ 
$$e = (-) \frac{(v_2)i - (v_1)i}{(v_2)f - (v_1)i}$$

4. ✘ 
$$e = \frac{(v_2)i - (v_1)i}{(v_2)f - (v_1)f}$$

5. ✘ 
$$e = \frac{(v_2)f - (v_1)f}{(v_2)i - (v_1)f}$$



Question Number : 5 Question Id : 3475352655 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The rotation of a flywheel is given mathematically as  $a = 10t - t^2$ , where  $a$ , the angular acceleration, is given in radians per square second and  $t$  is in seconds. The flywheel starts from rest, makes a certain number of revolutions, then stops for a while and then reverses its direction. How many revolutions does the flywheel make during this time, prior to reversing direction?

Options :

1. ✘ 200
2. ✔ 225
3. ✘ 250
4. ✘ 275
5. ✘ 300

Question Number : 5 Question Id : 3475352655 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The rotation of a flywheel is given mathematically as  $a = 10t - t^2$ , where  $a$ , the angular acceleration, is given in radians per square second and  $t$  is in seconds. The flywheel starts from rest, makes a certain number of revolutions, then stops for a while and then reverses its direction. How many revolutions does the flywheel make during this time, prior to reversing direction?

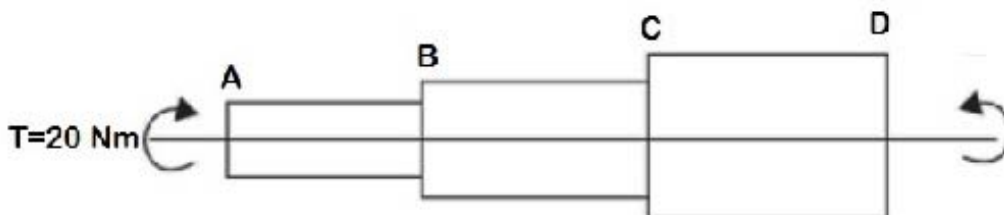
Options :

1. ✘ 200
2. ✔ 225
3. ✘ 250
4. ✘ 275
5. ✘ 300

Question Number : 6 Question Id : 3475352656 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The torsional stiffness of individual sections of lengths AB, BC and CD are 40 N-m/rad, 60 N-m/rad and 120N-m/rad respectively.



What is the angular deflection between the ends A and D of the shaft?

Options :

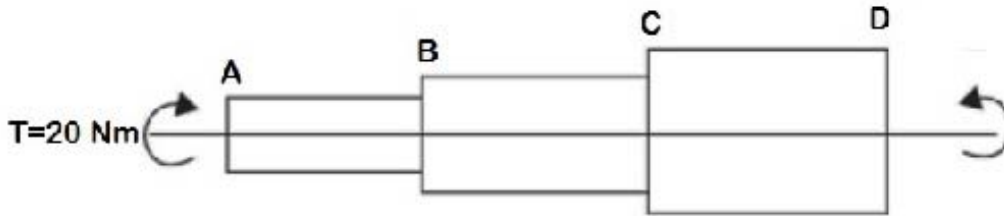
1. ✘ 0.5 rad
2. ✘ 0.1 rad

- 3. ✓ 1 rad
- 4. ✗ 5 rad
- 5. ✗ 10 rad

Question Number : 6 Question Id : 3475352656 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The torsional stiffness of individual sections of lengths AB, BC and CD are 40 N-m/rad, 60 N-m/rad and 120N-m/rad respectively.



What is the angular deflection between the ends A and D of the shaft?

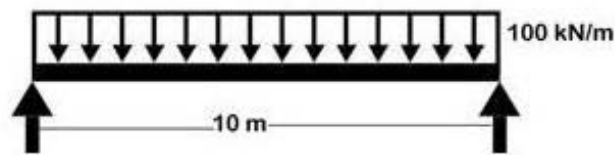
Options :

- 1. ✗ 0.5 rad
- 2. ✗ 0.1 rad
- 3. ✓ 1 rad
- 4. ✗ 5 rad
- 5. ✗ 10 rad

Question Number : 7 Question Id : 3475352657 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A steel beam of breadth 100 mm and height 1000 mm is loaded as shown in the figure below. Assume modulus of elasticity as 200 GPa.



What is the maximum deflection in the beam?

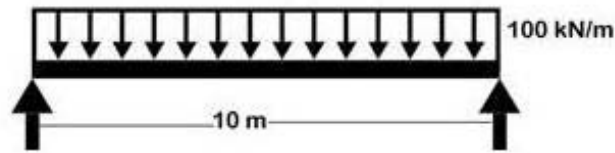
Options :

- 1. ✗ 751.25 mm
- 2. ✓ 781.25 mm
- 3. ✗ 805.25 mm
- 4. ✗ 821.75 mm
- 5. ✗ 851.75 mm

Question Number : 7 Question Id : 3475352657 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A steel beam of breadth 100 mm and height 1000 mm is loaded as shown in the figure below. Assume modulus of elasticity as 200 GPa.



What is the maximum deflection in the beam?

Options :

1. ✘ 751.25 mm
2. ✔ 781.25 mm
3. ✘ 805.25 mm
4. ✘ 821.75 mm
5. ✘ 851.75 mm

Question Number : 8 Question Id : 3475352658 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A thin cylinder of 100 mm internal diameter and 5 mm thickness is subjected to an internal pressure of 10 MPa and a torque of 2000 Nm. What is the magnitude of the principal stresses?

Options :

1. ✘ 75 MPa, 25 MPa
2. ✘ 75 Mpa, 50 MPa
3. ✔ 100 MPa, 50 MPa
4. ✘ 125 MPa, 50 MPa
5. ✘ 125 MPa, 70 MPa

Question Number : 8 Question Id : 3475352658 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A thin cylinder of 100 mm internal diameter and 5 mm thickness is subjected to an internal pressure of 10 MPa and a torque of 2000 Nm. What is the magnitude of the principal stresses?

Options :

1. ✘ 75 MPa, 25 MPa
2. ✘ 75 Mpa, 50 MPa
3. ✔ 100 MPa, 50 MPa
4. ✘ 125 MPa, 50 MPa
5. ✘ 125 MPa, 70 MPa

Question Number : 9 Question Id : 3475352659 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the length of a column is halved, the critical load \_\_\_\_\_.



Options :

1. ✘ remains the same
2. ✘ becomes 2 times of the original value
3. ✔ becomes 4 times of the original value
4. ✘ becomes 8 times of the original value
5. ✘ becomes 16 times of the original value

Question Number : 9 Question Id : 3475352659 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the length of a column is halved, the critical load \_\_\_\_\_.

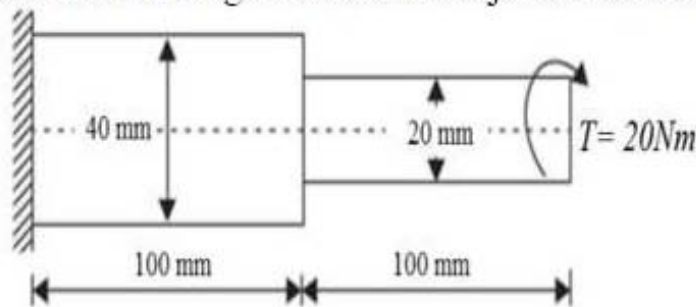
Options :

1. ✘ remains the same
2. ✘ becomes 2 times of the original value
3. ✔ becomes 4 times of the original value
4. ✘ becomes 8 times of the original value
5. ✘ becomes 16 times of the original value

Question Number : 10 Question Id : 3475352660 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A stepped steel shaft shown in the figure below is subjected to 20 Nm torque.



If the modulus of rigidity is 80 GPa, then what is the strain energy, in N-mm, in the shaft?

Options :

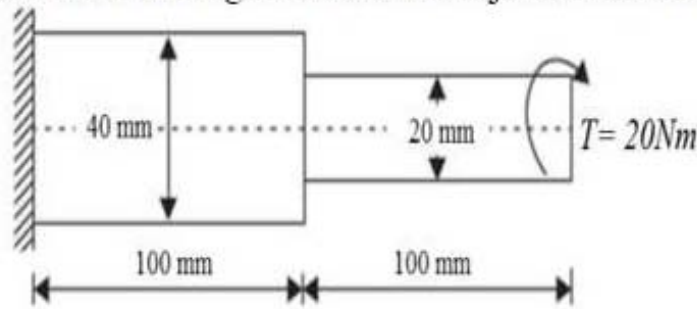
1. ✘ 6.4
2. ✘ 10.8
3. ✘ 12.7
4. ✔ 16.9
5. ✘ 23.7

Question Number : 10 Question Id : 3475352660 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1



A stepped steel shaft shown in the figure below is subjected to 20 Nm torque.



If the modulus of rigidity is 80 GPa, then what is the strain energy, in N-mm, in the shaft?

Options :

1. ✘ 6.4
2. ✘ 10.8
3. ✘ 12.7
4. ✔ 16.9
5. ✘ 23.7

Question Number : 11 Question Id : 3475352661 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The three dimensional state of stress at a point is given by:

$$[\sigma] = \begin{bmatrix} 60 & 20 & -20 \\ 20 & 0 & 40 \\ -20 & 40 & 0 \end{bmatrix} \text{ MN/m}^2$$

What is the shear stress in the  $xy$ -plane at the same point?

Options :

1. ✘  $-20 \text{ MN/m}^2$
2. ✘  $-40 \text{ MN/m}^2$
3. ✔  $20 \text{ MN/m}^2$
4. ✘  $40 \text{ MN/m}^2$
5. ✘  $300 \text{ MN/m}^2$

Question Number : 11 Question Id : 3475352661 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The three dimensional state of stress at a point is given by:

$$[\sigma] = \begin{bmatrix} 60 & 20 & -20 \\ 20 & 0 & 40 \\ -20 & 40 & 0 \end{bmatrix} \text{ MN/m}^2$$

What is the shear stress in the  $xy$ -plane at the same point?

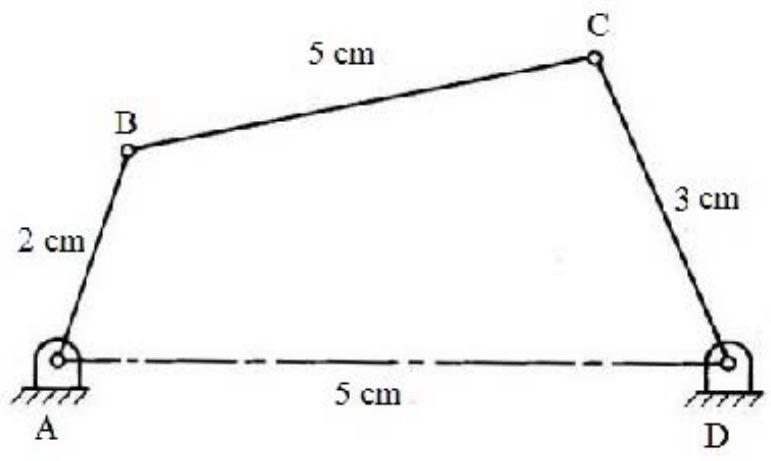
Options :

1. ✘  $-20 \text{ MN/m}^2$

- 2. ✘  $-40 \text{ MN/m}^2$
- 3. ✔  $20 \text{ MN/m}^2$
- 4. ✘  $40 \text{ MN/m}^2$
- 5. ✘  $300 \text{ MN/m}^2$

Question Number : 12 Question Id : 3475352662 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct : 2 Wrong : 1

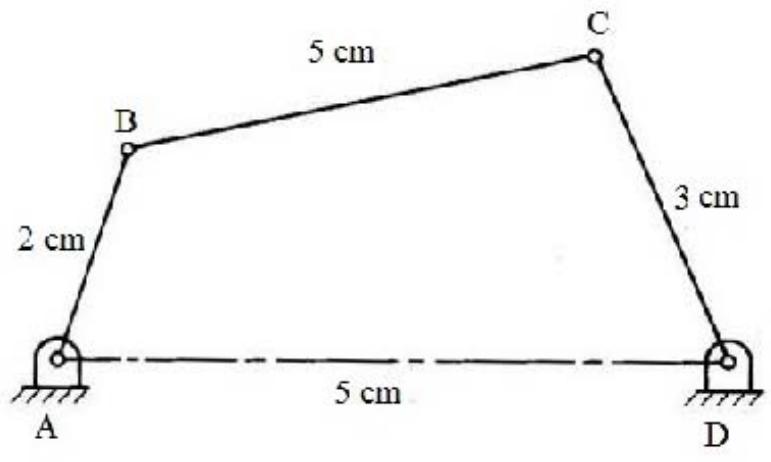
What will be the maximum transmission angle for the mechanism shown in the figure below?



- Options :
- 1. ✘  $90^\circ$
  - 2. ✘  $110^\circ$
  - 3. ✘  $120^\circ$
  - 4. ✘  $135^\circ$
  - 5. ✔  $150^\circ$

Question Number : 12 Question Id : 3475352662 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct : 2 Wrong : 1

What will be the maximum transmission angle for the mechanism shown in the figure below?



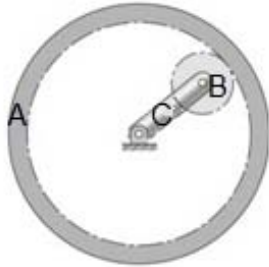
- Options :
- 1. ✘  $90^\circ$
  - 2. ✘  $110^\circ$

- 3. ✘  $120^\circ$
- 4. ✘  $135^\circ$
- 5. ✔  $150^\circ$

Question Number : 13 Question Id : 3475352663 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In the epicyclic gear train shown in the figure below, A is rotating at 10 rpm clockwise. A has 140 teeth and B has 35 teeth.



If the arm C makes five revolutions, then what is the ratio of speed of A to that of B?

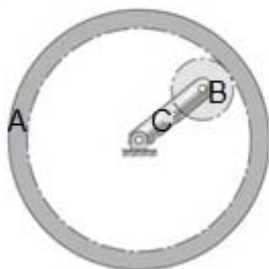
Options :

- 1. ✘ 1 : 5
- 2. ✔ 2 : 5
- 3. ✘ 5 : 1
- 4. ✘ 5 : 2
- 5. ✘ 5 : 3

Question Number : 13 Question Id : 3475352663 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In the epicyclic gear train shown in the figure below, A is rotating at 10 rpm clockwise. A has 140 teeth and B has 35 teeth.



If the arm C makes five revolutions, then what is the ratio of speed of A to that of B?

Options :

- 1. ✘ 1 : 5
- 2. ✔ 2 : 5
- 3. ✘ 5 : 1
- 4. ✘ 5 : 2
- 5. ✘ 5 : 3

Question Number : 14 Question Id : 3475352664 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A flywheel fitted to an engine has a mass of 1000 kg and the radius of gyration is 200 mm. The starting torque of engine is 500 Nm and is assumed constant. Find the kinetic energy of the flywheel after 5 seconds.

Options :

1. ✘ 150 KJ
2. ✔ 200 KJ
3. ✘ 250 KJ
4. ✘ 275 KJ
5. ✘ 300 KJ

Question Number : 14 Question Id : 3475352664 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A flywheel fitted to an engine has a mass of 1000 kg and the radius of gyration is 200 mm. The starting torque of engine is 500 Nm and is assumed constant. Find the kinetic energy of the flywheel after 5 seconds.

Options :

1. ✘ 150 KJ
2. ✔ 200 KJ
3. ✘ 250 KJ
4. ✘ 275 KJ
5. ✘ 300 KJ

Question Number : 15 Question Id : 3475352665 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Consider that connecting a rod and the crank of an IC engine are the two sides of a triangle. The maximum area of this triangle is when the crank is at  $60^\circ$ . What is the ratio of the connecting rod length to the crank radius?

Options :

1. ✘  $1 : \sqrt{3}$
2. ✘  $2 : \sqrt{3}$
3. ✘  $\sqrt{2} : \sqrt{3}$
4. ✔  $\sqrt{3} : 1$
5. ✘  $\sqrt{3} : 2$

Question Number : 15 Question Id : 3475352665 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1



Consider that connecting a rod and the crank of an IC engine are the two sides of a triangle. The maximum area of this triangle is when the crank is at  $60^\circ$ . What is the ratio of the connecting rod length to the crank radius?

Options :

1. ✘  $1 : \sqrt{3}$
2. ✘  $2 : \sqrt{3}$
3. ✘  $\sqrt{2} : \sqrt{3}$
4. ✔  $\sqrt{3} : 1$
5. ✘  $\sqrt{3} : 2$

Question Number : 16 Question Id : 3475352666 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A flywheel of moment of inertia  $9 \text{ kg m}^2$  fluctuates by 40 rpm for a fluctuation in energy of 2400 Joules. The mean speed of flywheel (in rpm) is approximately:

Options :

1. ✘ 500
2. ✘ 525
3. ✔ 600
4. ✘ 675
5. ✘ 725

Question Number : 16 Question Id : 3475352666 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A flywheel of moment of inertia  $9 \text{ kg m}^2$  fluctuates by 40 rpm for a fluctuation in energy of 2400 Joules. The mean speed of flywheel (in rpm) is approximately:

Options :

1. ✘ 500
2. ✘ 525
3. ✔ 600
4. ✘ 675
5. ✘ 725

Question Number : 17 Question Id : 3475352667 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Match the gear types in List-I with their applications with List-II.

**List-I**

- a) Worm gear
- b) Cross helical gear
- c) Bevel gear
- d) Spur gear

**List-II**

- 1. Parallel shafts
- 2. Non parallel, intersecting shaft gear
- 3. Non parallel, non-intersecting shaft
- 4. Large speed ratio

Options :

- 1. ✘ A-4, B-2, C-3, D-1
- 2. ✔ A-4, B-3, C-2, D-1
- 3. ✘ A-1, B-2, C-3, D-4
- 4. ✘ A-1, B-3, C-2, D-4
- 5. ✘ A-2, B-4, C-1, D-3

Question Number : 17 Question Id : 3475352667 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Match the gear types in List-I with their applications with List-II.

**List-I**

- a) Worm gear
- b) Cross helical gear
- c) Bevel gear
- d) Spur gear

**List-II**

- 1. Parallel shafts
- 2. Non parallel, intersecting shaft gear
- 3. Non parallel, non-intersecting shaft
- 4. Large speed ratio

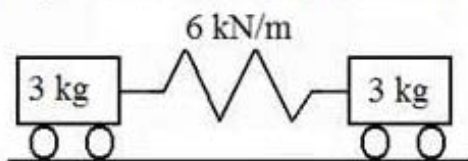
Options :

- 1. ✘ A-4, B-2, C-3, D-1
- 2. ✔ A-4, B-3, C-2, D-1
- 3. ✘ A-1, B-2, C-3, D-4
- 4. ✘ A-1, B-3, C-2, D-4
- 5. ✘ A-2, B-4, C-1, D-3

Question Number : 18 Question Id : 3475352668 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Consider the system of two wagons shown in the figure below.



What are the natural frequencies of this system?

Options :

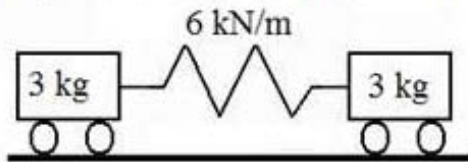
- 1. ✔ 0, 2

2. ✘ 0, 1
3. ✘  $\sqrt{2}, 1$
4. ✘  $\sqrt{2}, \sqrt{2}$
5. ✘  $\sqrt{2}, 2$

Question Number : 18 Question Id : 3475352668 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Consider the system of two wagons shown in the figure below.



What are the natural frequencies of this system?

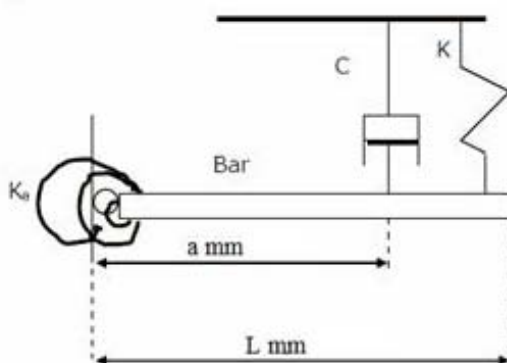
Options :

1. ✔ 0, 2
2. ✘ 0, 1
3. ✘  $\sqrt{2}, 1$
4. ✘  $\sqrt{2}, \sqrt{2}$
5. ✘  $\sqrt{2}, 2$

Question Number : 19 Question Id : 3475352669 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A uniform rigid bar of mass  $m$  kg is hinged at the left end, and suspended with the help of spring and damper arrangement as shown in the figure below. The stiffness of torsional spring is  $K_{\theta}$ .



Ignore the hinge dimensions. What is the undamped natural frequency of oscillations of the rod about the hinge point?

Options :

1. ✘  $\sqrt{\frac{KL^2 + K_{\theta}}{3mL^2}}$

2. ✘  $\sqrt{\frac{KL^2 + K_{\theta}}{mL^3/3}}$

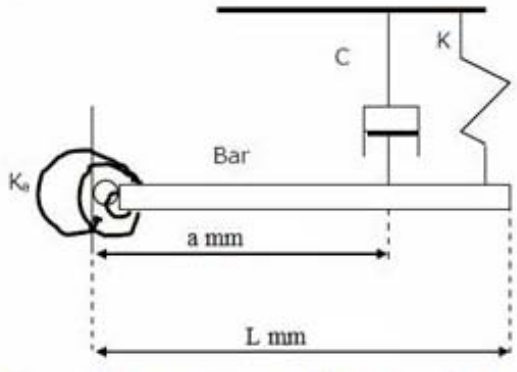
3. ✘  $\sqrt{\frac{KL^2 + K_{\theta}}{3mL^3}}$

4. ✔  $\sqrt{\frac{KL^2 + K_{\theta}}{mL^2/3}}$

5. ✘  $\sqrt{\frac{KL^2 - K_{\theta}}{mL^3/3}}$

Question Number : 19 Question Id : 3475352669 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct : 2 Wrong : 1

A uniform rigid bar of mass  $m$  kg is hinged at the left end, and suspended with the help of spring and damper arrangement as shown in the figure below. The stiffness of torsional spring is  $K_{\theta}$ .



Ignore the hinge dimensions. What is the undamped natural frequency of oscillations of the rod about the hinge point?

Options :

1. ✘  $\sqrt{\frac{KL^2 + K_{\theta}}{3mL^2}}$

2. ✘  $\sqrt{\frac{KL^2 + K_{\theta}}{mL^3/3}}$

3. ✘  $\sqrt{\frac{KL^2 + K_{\theta}}{3mL^3}}$

4. ✔  $\sqrt{\frac{KL^2 + K_{\theta}}{mL^2/3}}$



5. ✘  $\sqrt{\frac{KL^2 - K_{\theta}}{mL^3/3}}$

Question Number : 20 Question Id : 3475352670 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following represents the transverse frequency of vibration for a shaft, if its inertia is considered?

Options :

1. ✘  $fn = \frac{1}{2\pi} \sqrt{\frac{q}{I + I_S}}$

2. ✔  $fn = \frac{1}{2\pi} \sqrt{I + \frac{I_S}{3}}$

3. ✘  $fn = \sqrt{\frac{q}{I + I_S}}$

4. ✘  $fn = \sqrt{\frac{q}{I + \frac{I_S}{3}}}$

5. ✘  $fn = \frac{1}{2\pi} \sqrt{\frac{3q}{I + I_S}}$

Question Number : 20 Question Id : 3475352670 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following represents the transverse frequency of vibration for a shaft, if its inertia is considered?

Options :

1. ✘  $fn = \frac{1}{2\pi} \sqrt{\frac{q}{I + I_S}}$

2. ✔  $fn = \frac{1}{2\pi} \sqrt{I + \frac{I_S}{3}}$

3. ✘ 
$$f_n = \sqrt{\frac{q}{I + I_S}} \cdot 3$$

4. ✘ 
$$f_n = \sqrt{\frac{q}{I + \frac{I_S}{3}}}$$

5. ✘ 
$$f_n = \frac{1}{2\pi} \sqrt{\frac{3q}{I + I_S}}$$

Question Number : 21 Question Id : 3475352671 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Magnification factor depends upon:

- (i) The ratio of frequencies
- (ii) The damping factor
- (iii) Instant of force applied

Options :

- 1. ✘ Only (i)
- 2. ✔ Only (i) and (ii)
- 3. ✘ Only (i) and (iii)
- 4. ✘ Only (ii) and (iii)
- 5. ✘ (i), (ii) and (iii)

Question Number : 21 Question Id : 3475352671 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Magnification factor depends upon:

- (i) The ratio of frequencies
- (ii) The damping factor
- (iii) Instant of force applied

Options :

- 1. ✘ Only (i)
- 2. ✔ Only (i) and (ii)
- 3. ✘ Only (i) and (iii)
- 4. ✘ Only (ii) and (iii)
- 5. ✘ (i), (ii) and (iii)

Question Number : 22 Question Id : 3475352672 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A ductile material having an endurance limit of  $225 \text{ N/mm}^2$  and the yield point at  $300 \text{ N/mm}^2$  is stressed under variable load. The maximum and minimum stresses are  $150 \text{ N/mm}^2$  and  $50 \text{ N/mm}^2$ . The fatigue stress concentration factor is 1.5. What is the available factor of safety for this load?

Options :

1. ✓ 1.5
2. ✗ 1.33
3. ✗ 2.0
4. ✗ 3.0
5. ✗ 4.0

Question Number : 22 Question Id : 3475352672 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A ductile material having an endurance limit of  $225 \text{ N/mm}^2$  and the yield point at  $300 \text{ N/mm}^2$  is stressed under variable load. The maximum and minimum stresses are  $150 \text{ N/mm}^2$  and  $50 \text{ N/mm}^2$ . The fatigue stress concentration factor is 1.5. What is the available factor of safety for this load?

Options :

1. ✓ 1.5
2. ✗ 1.33
3. ✗ 2.0
4. ✗ 3.0
5. ✗ 4.0

Question Number : 23 Question Id : 3475352673 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A welded material is 50 mm long and 5 mm thick. The factor of safety is 3.54. If it carries a steady load of 20 KN along the weld, what is the shear strength of the weld material?

Options :

1. ✗ 200 MPa
2. ✗ 275 MPa
3. ✗ 325 MPa
4. ✗ 350 MPa
5. ✓ 400 MPa

Question Number : 23 Question Id : 3475352673 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A welded material is 50 mm long and 5 mm thick. The factor of safety is 3.54. If it carries a steady load of 20 KN along the weld, what is the shear strength of the weld material?

Options :

1. ✘ 200 MPa
2. ✘ 275 MPa
3. ✘ 325 MPa
4. ✘ 350 MPa
5. ✔ 400 MPa

Question Number : 24 Question Id : 3475352674 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In order to test the efficiency of reduced gear train, 2 kW input was given at the input end at a speed of 1800 rpm and at the output end the measured torque was 60 Nm. If the ratio of speed reduction in this unit is 9 : 1, the efficiency is about:

Options :

1. ✔ 63%
2. ✘ 72%
3. ✘ 78%
4. ✘ 85%
5. ✘ 96%

Question Number : 24 Question Id : 3475352674 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In order to test the efficiency of reduced gear train, 2 kW input was given at the input end at a speed of 1800 rpm and at the output end the measured torque was 60 Nm. If the ratio of speed reduction in this unit is 9 : 1, the efficiency is about:

Options :

1. ✔ 63%
2. ✘ 72%
3. ✘ 78%
4. ✘ 85%
5. ✘ 96%

Question Number : 25 Question Id : 3475352675 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The life of a ball bearing at a load of 20 KN is 27000 hours. If the load is increased to 30 KN, keeping all other conditions same, what is its life (in hours)?

Options :

1. ✘ 4000
2. ✘ 6000
3. ✔ 8000
4. ✘ 10000
5. ✘ 12000



Question Number : 25 Question Id : 3475352675 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The life of a ball bearing at a load of 20 KN is 27000 hours. If the load is increased to 30 KN, keeping all other conditions same, what is its life (in hours)?

Options :

1. ✘ 4000
2. ✘ 6000
3. ✔ 8000
4. ✘ 10000
5. ✘ 12000

Question Number : 26 Question Id : 3475352676 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Axial operation claw clutches having self-locking tooth profile:

Options :

1. ✘ can work only with load
2. ✘ can be engaged only when unloaded
3. ✘ can be disengaged only when unloaded
4. ✔ can be disengaged at any speed
5. ✘ can either work only with load or can be disengaged only when unloaded

Question Number : 26 Question Id : 3475352676 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Axial operation claw clutches having self-locking tooth profile:

Options :

1. ✘ can work only with load
2. ✘ can be engaged only when unloaded
3. ✘ can be disengaged only when unloaded
4. ✔ can be disengaged at any speed
5. ✘ can either work only with load or can be disengaged only when unloaded

Question Number : 27 Question Id : 3475352677 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Three principal stresses of 10 MPa, 20 MPa and 30 MPa (tensile in nature) are acting on a homogeneous material. Using Von Mises yield criterion, what is the value, in MPa, of the estimated shear yield stress?

Options :

1. ✘ 16.07

- 2. ✓ 17.3
- 3. ✗ 18.8
- 4. ✗ 19.3
- 5. ✗ 20.6

Question Number : 27 Question Id : 3475352677 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Three principal stresses of 10 MPa, 20 MPa and 30 MPa (tensile in nature) are acting on a homogeneous material. Using Von Mises yield criterion, what is the value, in MPa, of the estimated shear yield stress?

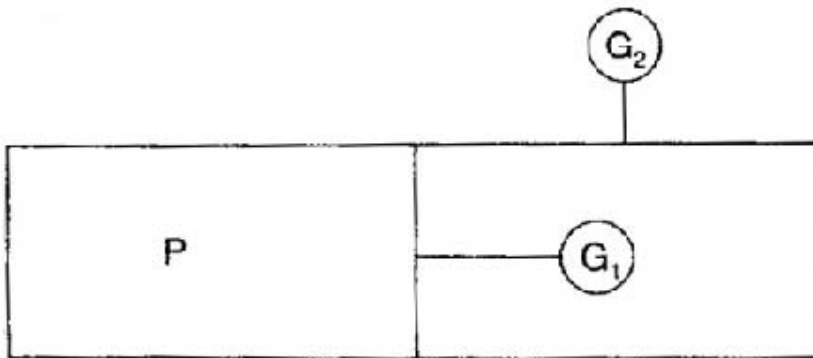
Options :

- 1. ✗ 16.07
- 2. ✓ 17.3
- 3. ✗ 18.8
- 4. ✗ 19.3
- 5. ✗ 20.6

Question Number : 28 Question Id : 3475352678 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The pressure gauges  $G_1$  and  $G_2$  installed on the system show pressure of  $P_{G1} = 6$  bar and  $P_{G2} = 2$  bar. Atmospheric Pressure is 1.01 bar.



What is the value of the unknown pressure P?

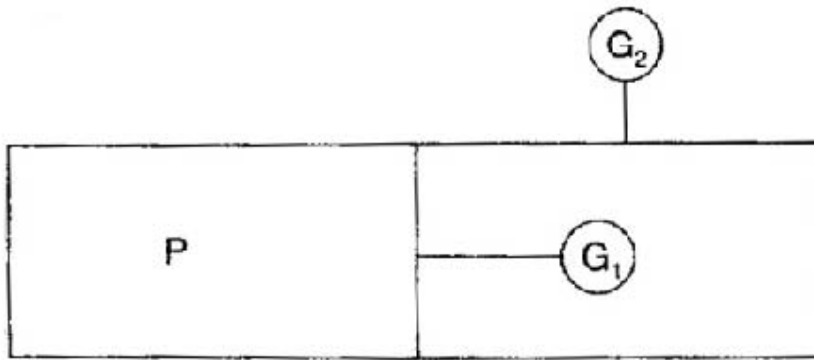
Options :

- 1. ✗ 4.99 bar
- 2. ✗ 6 bar
- 3. ✗ 7.01 bar
- 4. ✗ 8.01 bar
- 5. ✓ 9.01 bar

Question Number : 28 Question Id : 3475352678 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The pressure gauges  $G_1$  and  $G_2$  installed on the system show pressure of  $P_{G_1} = 6$  bar and  $P_{G_2} = 2$  bar. Atmospheric Pressure is 1.01 bar.



What is the value of the unknown pressure  $P$ ?

Options :

1. ✘ 4.99 bar
2. ✘ 6 bar
3. ✘ 7.01 bar
4. ✘ 8.01 bar
5. ✔ 9.01 bar

Question Number : 29 Question Id : 3475352679 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A Newtonian fluid has the following velocity field:

$$V = X^2Z i + 2XY^2Z j - XZ^3 k$$

The rate of shear deformation  $\epsilon_{YZ}$  at the point  $X = 2, Y = -2, Z = 3$  is:

(Take  $\mu = 0.5$  for the given flow)

Options :

1. ✘ -11.5
2. ✔ -23
3. ✘ -46
4. ✘ 11.5
5. ✘ 46

Question Number : 29 Question Id : 3475352679 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A Newtonian fluid has the following velocity field:

$$V = X^2Z i + 2XY^2Z j - XZ^3 k$$

The rate of shear deformation  $\epsilon_{YZ}$  at the point  $X = 2, Y = -2, Z = 3$  is:

(Take  $\mu = 0.5$  for the given flow)

Options :

1. ✘ -11.5
2. ✔ -23
3. ✘ -46

4. ✘ 11.5

5. ✘ 46

Question Number : 30 Question Id : 3475352680 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Water flows through a horizontal contraction from a pipe of diameter  $d$  to another of diameter  $d/2$ . The flow velocity at the inlet to the contraction is 1 m/s and pressure is  $150 \text{ KN/m}^2$ . If the length of the contraction is 2 m, then pressure at the exit of the contraction will be nearly:

Options :

1. ✔  $142.5 \text{ KN/m}^2$

2. ✘  $150 \text{ KN/m}^2$

3. ✘  $157.5 \text{ KN/m}^2$

4. ✘  $162.5 \text{ KN/m}^2$

5. ✘  $175 \text{ KN/m}^2$

Question Number : 30 Question Id : 3475352680 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Water flows through a horizontal contraction from a pipe of diameter  $d$  to another of diameter  $d/2$ . The flow velocity at the inlet to the contraction is 1 m/s and pressure is  $150 \text{ KN/m}^2$ . If the length of the contraction is 2 m, then pressure at the exit of the contraction will be nearly:

Options :

1. ✔  $142.5 \text{ KN/m}^2$

2. ✘  $150 \text{ KN/m}^2$

3. ✘  $157.5 \text{ KN/m}^2$

4. ✘  $162.5 \text{ KN/m}^2$

5. ✘  $175 \text{ KN/m}^2$

Question Number : 31 Question Id : 3475352681 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

For laminar flow through a long pipe, the pressure drop per unit length increases \_\_\_\_\_.

Options :

1. ✘ in linear proportion to the cross-section area.

2. ✘ in proportion to the diameter of the pipe.

3. ✔ in inverse proportion to the cross section area.

4. ✘ in inverse proportion to the square of cross sectional area.



5. ✘ either in linear proportion to the cross-sectional area or in proportion to the diameter of the pipe.

Question Number : 31 Question Id : 3475352681 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

For laminar flow through a long pipe, the pressure drop per unit length increases \_\_\_\_\_.

Options :

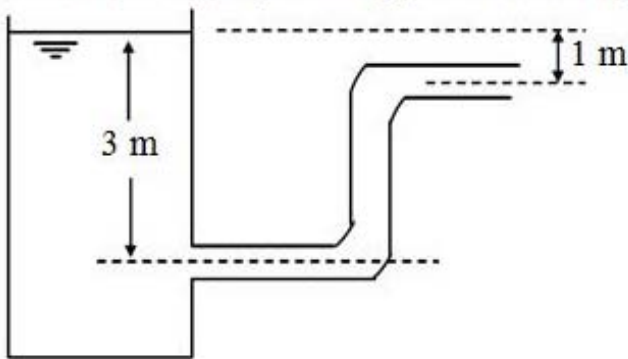
1. ✘ in linear proportion to the cross-section area.
2. ✘ in proportion to the diameter of the pipe.
3. ✔ in inverse proportion to the cross section area.
4. ✘ in inverse proportion to the square of cross sectional area.

5. ✘ either in linear proportion to the cross-sectional area or in proportion to the diameter of the pipe.

Question Number : 32 Question Id : 3475352682 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the discharge velocity at the pipe exit in the given figure?



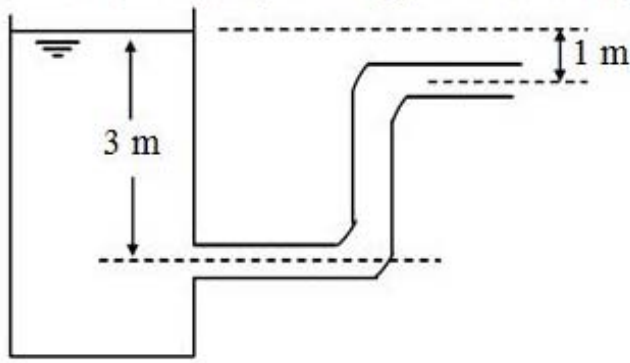
Options :

1. ✔  $\sqrt{2 \times 9.81 \times 1}$
2. ✘  $\sqrt{2 \times 9.81 \times 2}$
3. ✘  $\sqrt{2 \times 9.81 \times 3}$
4. ✘  $\sqrt{2 \times 9.81 \times 4}$
5. ✘  $\sqrt{2 \times 9.81 \times 5}$

Question Number : 32 Question Id : 3475352682 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the discharge velocity at the pipe exit in the given figure?



Options :

1. ✓  $\sqrt{2 \times 9.81 \times 1}$
2. ✗  $\sqrt{2 \times 9.81 \times 2}$
3. ✗  $\sqrt{2 \times 9.81 \times 3}$
4. ✗  $\sqrt{2 \times 9.81 \times 4}$
5. ✗  $\sqrt{2 \times 9.81 \times 5}$

Question Number : 33 Question Id : 3475352683 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The predominant forces acting on an element of fluid in the boundary layer over a flat plate in a uniform parallel stream are:

Options :

1. ✗ viscous and pressure forces
2. ✗ inertia and pressure forces
3. ✓ viscous and inertia forces
4. ✗ viscous and body forces
5. ✗ inertia and body forces

Question Number : 33 Question Id : 3475352683 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The predominant forces acting on an element of fluid in the boundary layer over a flat plate in a uniform parallel stream are:

Options :

1. ✗ viscous and pressure forces
2. ✗ inertia and pressure forces
3. ✓ viscous and inertia forces
4. ✗ viscous and body forces
5. ✗ inertia and body forces

Question Number : 34 Question Id : 3475352684 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

For a current carrying wire of 25 mm diameter and  $k = 0.45 \text{ w/m-K}$  is exposed to air ( $h = 17 \text{ w/m}^2\text{-K}$ ), maximum heat dissipation occurs when thickness of insulation is:

Options :

1. ✘ 12 mm
2. ✔ 14 mm
3. ✘ 16 mm
4. ✘ 19.8 mm
5. ✘ 25.3 mm

Question Number : 34 Question Id : 3475352684 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

For a current carrying wire of 25 mm diameter and  $k = 0.45 \text{ w/m-K}$  is exposed to air ( $h = 17 \text{ w/m}^2\text{-K}$ ), maximum heat dissipation occurs when thickness of insulation is:

Options :

1. ✘ 12 mm
2. ✔ 14 mm
3. ✘ 16 mm
4. ✘ 19.8 mm
5. ✘ 25.3 mm

Question Number : 35 Question Id : 3475352685 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A 500 W electric bulb was switched on in a  $2 \times 3 \times 4 \text{ m}$  size thermally insulated room having temperature of  $25^\circ\text{C}$ . What will be the room temperature at the end of 16 hours?

Options :

1. ✘  $120^\circ\text{C}$
2. ✘  $420^\circ\text{C}$
3. ✘  $920^\circ\text{C}$
4. ✘  $1120^\circ\text{C}$
5. ✔  $1420^\circ\text{C}$

Question Number : 35 Question Id : 3475352685 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A 500 W electric bulb was switched on in a  $2 \times 3 \times 4 \text{ m}$  size thermally insulated room having temperature of  $25^\circ\text{C}$ . What will be the room temperature at the end of 16 hours?

Options :

1. ✘  $120^\circ\text{C}$
2. ✘  $420^\circ\text{C}$



- 3. ✘ 920 °C
- 4. ✘ 1120 °C
- 5. ✔ 1420 °C

Question Number : 36 Question Id : 3475352686 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Two rods, one of length 1 m and the other of length 2 m, are made of the same material and have the same diameter. Both ends of the longer rod are maintained at 100 °C. One end of the shorter rod is maintained at 100 °C, while the other end is insulated. Both the rods are exposed to the same environment at 40 °C. The temperature at the insulated end of the shorter rod is measured to be 55 °C. What would be the temperature at the mid-point of the longer rod?

Options :

- 1. ✘ 40 °C
- 2. ✘ 45 °C
- 3. ✘ 50 °C
- 4. ✔ 55 °C
- 5. ✘ 75 °C

Question Number : 36 Question Id : 3475352686 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Two rods, one of length 1 m and the other of length 2 m, are made of the same material and have the same diameter. Both ends of the longer rod are maintained at 100 °C. One end of the shorter rod is maintained at 100 °C, while the other end is insulated. Both the rods are exposed to the same environment at 40 °C. The temperature at the insulated end of the shorter rod is measured to be 55 °C. What would be the temperature at the mid-point of the longer rod?

Options :

- 1. ✘ 40 °C
- 2. ✘ 45 °C
- 3. ✘ 50 °C
- 4. ✔ 55 °C
- 5. ✘ 75 °C

Question Number : 37 Question Id : 3475352687 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In pool boiling, the highest heat transfer coefficient (HTC) occurs in:

Options :

- 1. ✘ Film boiling zone
- 2. ✘ Partial film boiling zone



3. ✓ Nucleate boiling zone
4. ✗ Sub-cooled boiling zone
5. ✗ Both film boiling zone and partial film boiling zone

Question Number : 37 Question Id : 3475352687 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In pool boiling, the highest heat transfer coefficient (HTC) occurs in:

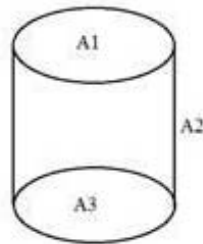
Options :

1. ✗ Film boiling zone
2. ✗ Partial film boiling zone
3. ✓ Nucleate boiling zone
4. ✗ Sub-cooled boiling zone
5. ✗ Both film boiling zone and partial film boiling zone

Question Number : 38 Question Id : 3475352688 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The circular tube of equal length and diameter is shown in the figure below. The view-factor  $F_{13}$  is 0.2.



The view factor  $F_{12}$  in this case will be:

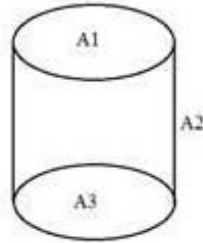
Options :

1. ✗ 0.2
2. ✗ 0.4
3. ✗ 0.6
4. ✗ 0.7
5. ✓ 0.8

Question Number : 38 Question Id : 3475352688 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The circular tube of equal length and diameter is shown in the figure below. The view-factor  $F_{13}$  is 0.2.



The view factor  $F_{12}$  in this case will be:

Options :

1. ✘ 0.2
2. ✘ 0.4
3. ✘ 0.6
4. ✘ 0.7
5. ✔ 0.8

Question Number : 39 Question Id : 3475352689 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Oil is cooled from  $125^\circ\text{C}$  to  $65^\circ\text{C}$  with the help of cold water coming at  $15^\circ\text{C}$  in a counter flow heat exchanger. The mass flow rate of oil and water is in ratio 1 : 2 and specific heat capacity of oil and water is also in the ratio 1 : 2. Calculate the temperature of water at the outlet.

Options :

1. ✘  $25^\circ\text{C}$
2. ✔  $35^\circ\text{C}$
3. ✘  $40^\circ\text{C}$
4. ✘  $45^\circ\text{C}$
5. ✘  $50^\circ\text{C}$

Question Number : 39 Question Id : 3475352689 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Oil is cooled from  $125^\circ\text{C}$  to  $65^\circ\text{C}$  with the help of cold water coming at  $15^\circ\text{C}$  in a counter flow heat exchanger. The mass flow rate of oil and water is in ratio 1 : 2 and specific heat capacity of oil and water is also in the ratio 1 : 2. Calculate the temperature of water at the outlet.

Options :

1. ✘  $25^\circ\text{C}$
2. ✔  $35^\circ\text{C}$
3. ✘  $40^\circ\text{C}$
4. ✘  $45^\circ\text{C}$
5. ✘  $50^\circ\text{C}$

Question Number : 40 Question Id : 3475352690 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A vertical cylinder with a freely floating piston contains 0.2 kg air at 1.1 bar and a small electric resistor. The resistor is wired to an external 12 volt battery. When a current of 2 amp is passed through the resistor for 100 sec, the piston sweeps a volume of  $0.02 \text{ m}^3$ .

Assume:

- (i) Piston and cylinder are insulated.
- (ii) Air behaves as an ideal gas with  $C_v = 718 \text{ J/Kgk}$ .

Find the rise in temperature of air, in  $^{\circ}\text{C}$ .

Options :

1. ✓ 1.4
2. ✗ 1.6
3. ✗ 1.7
4. ✗ 1.9
5. ✗ 2.1

Question Number : 40 Question Id : 3475352690 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A vertical cylinder with a freely floating piston contains 0.2 kg air at 1.1 bar and a small electric resistor. The resistor is wired to an external 12 volt battery. When a current of 2 amp is passed through the resistor for 100 sec, the piston sweeps a volume of  $0.02 \text{ m}^3$ .

Assume:

- (i) Piston and cylinder are insulated.
- (ii) Air behaves as an ideal gas with  $C_v = 718 \text{ J/Kgk}$ .

Find the rise in temperature of air, in  $^{\circ}\text{C}$ .

Options :

1. ✓ 1.4
2. ✗ 1.6
3. ✗ 1.7
4. ✗ 1.9
5. ✗ 2.1

Question Number : 41 Question Id : 3475352691 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A rigid insulated cylinder has two compartments separated by a thin membrane. While one compartment contains one kmol of nitrogen at certain temperature and pressure, the other contains one kmol of carbon dioxide at the same pressure and temperature. The membrane is ruptured and the two gases are allowed to mix. Assume that the gases behave as ideal gases. Calculate the increase in entropy of the contents of the cylinder. Universal gas constant is  $8314.35/\text{kmol}\cdot\text{K}$ .

Options :

1. ✗ 9.525 KJ/K
2. ✗ 10.525 KJ/K
3. ✓ 11.525 KJ/K



4. ✘ 12.525 KJ/K

5. ✘ 13.525 KJ/K

Question Number : 41 Question Id : 3475352691 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A rigid insulated cylinder has two compartments separated by a thin membrane. While one compartment contains one kmol of nitrogen at certain temperature and pressure, the other contains one kmol of carbon dioxide at the same pressure and temperature. The membrane is ruptured and the two gases are allowed to mix. Assume that the gases behave as ideal gases. Calculate the increase in entropy of the contents of the cylinder. Universal gas constant is 8314.35/kmol-K.

Options :

1. ✘ 9.525 KJ/K

2. ✘ 10.525 KJ/K

3. ✔ 11.525 KJ/K

4. ✘ 12.525 KJ/K

5. ✘ 13.525 KJ/K

Question Number : 42 Question Id : 3475352692 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Two cycles coupled in series have efficiencies 35% and 25% respectively. What is the overall efficiency?

Options :

1. ✘ 42.5%

2. ✔ 51.25%

3. ✘ 55%

4. ✘ 57.25%

5. ✘ 60%

Question Number : 42 Question Id : 3475352692 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Two cycles coupled in series have efficiencies 35% and 25% respectively. What is the overall efficiency?

Options :

1. ✘ 42.5%

2. ✔ 51.25%

3. ✘ 55%

4. ✘ 57.25%

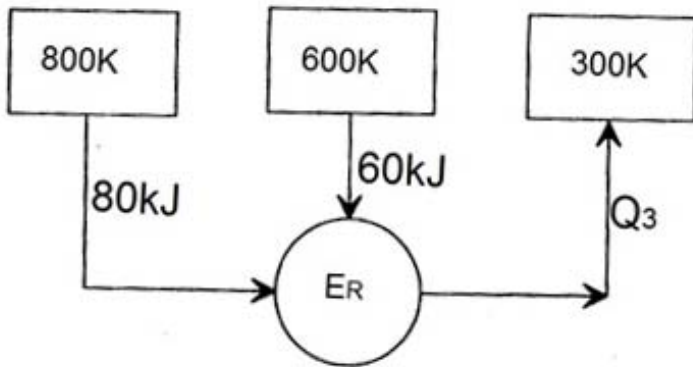
5. ✘ 60%



Question Number : 43 Question Id : 3475352693 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Calculate the thermal efficiency of reversible heat engine shown in the figure below.



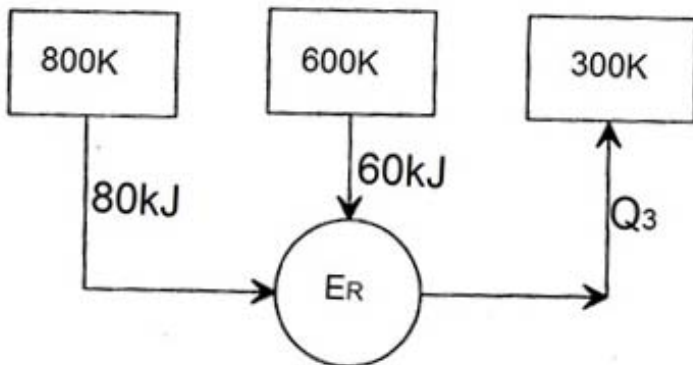
Options :

1. ✘ 52%
2. ✘ 54%
3. ✔ 57%
4. ✘ 61%
5. ✘ 65%

Question Number : 43 Question Id : 3475352693 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Calculate the thermal efficiency of reversible heat engine shown in the figure below.



Options :

1. ✘ 52%
2. ✘ 54%
3. ✔ 57%
4. ✘ 61%
5. ✘ 65%

Question Number : 44 Question Id : 3475352694 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A system undergoes a state change from 1 to 2. According to the second law of thermodynamics, for the process to be feasible, the entropy change,  $S_2 - S_1$  of system can be:

Options :

1. ✘ positive or zero
2. ✘ negative or zero
3. ✘ positive or negative
4. ✔ positive, negative or zero
5. ✘ positive only

Question Number : 44 Question Id : 3475352694 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A system undergoes a state change from 1 to 2. According to the second law of thermodynamics, for the process to be feasible, the entropy change,  $S_2 - S_1$  of system can be:

Options :

1. ✘ positive or zero
2. ✘ negative or zero
3. ✘ positive or negative
4. ✔ positive, negative or zero
5. ✘ positive only

Question Number : 45 Question Id : 3475352695 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A vessel of volume  $1.5 \text{ m}^3$  contains a mixture of liquid water and steam in equilibrium at 1 bar given that 80% of the volume is occupied by the steam. Find the dryness fraction of the mixture. Assume at 1 bar;  $v_f = 0.002 \text{ m}^3/\text{kg}$  and  $v_g = 2 \text{ m}^3/\text{kg}$

Options :

1. ✘ 0.8
2. ✘ 0.08
3. ✘ 0.04
4. ✔ 0.004
5. ✘ 0.008

Question Number : 45 Question Id : 3475352695 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A vessel of volume  $1.5 \text{ m}^3$  contains a mixture of liquid water and steam in equilibrium at 1 bar given that 80% of the volume is occupied by the steam. Find the dryness fraction of the mixture. Assume at 1 bar;  $v_f = 0.002 \text{ m}^3/\text{kg}$  and  $v_g = 2 \text{ m}^3/\text{kg}$

Options :

1. ✘ 0.8
2. ✘ 0.08

3. ✘ 0.04

4. ✔ 0.004

5. ✘ 0.008

Question Number : 46 Question Id : 3475352696 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In order to burn 1 kg of methane completely, what is the minimum amount of air required?

Options :

1. ✘ 4 kg

2. ✘ 12 kg

3. ✘ 14.6 kg

4. ✘ 15.8 kg

5. ✔ 17.4 kg

Question Number : 46 Question Id : 3475352696 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In order to burn 1 kg of methane completely, what is the minimum amount of air required?

Options :

1. ✘ 4 kg

2. ✘ 12 kg

3. ✘ 14.6 kg

4. ✘ 15.8 kg

5. ✔ 17.4 kg

Question Number : 47 Question Id : 3475352697 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

BHP of a diesel engine can be increased mostly by:

Options :

1. ✘ decreasing the density of intake air

2. ✘ decreasing the temperature of intake air

3. ✘ increasing the temperature of intake air

4. ✔ increasing the pressure of intake air

5. ✘ either decreasing the density of intake air or increasing the temperature of intake air

Question Number : 47 Question Id : 3475352697 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1



BHP of a diesel engine can be increased mostly by:

Options :

1. ✘ decreasing the density of intake air
2. ✘ decreasing the temperature of intake air
3. ✘ increasing the temperature of intake air
4. ✔ increasing the pressure of intake air
5. ✘ either decreasing the density of intake air or increasing the temperature of intake air

Question Number : 48 Question Id : 3475352698 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A steam power plant has the boiler efficiency of 90%, turbine efficiency of 92%, generator efficiency of 87% and cycle efficiency of 47%. If 8% of the generated power is used to run the auxiliaries, what is the overall plant efficiency?

Options :

1. ✔ 31%
2. ✘ 35%
3. ✘ 38%
4. ✘ 41%
5. ✘ 45%

Question Number : 48 Question Id : 3475352698 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A steam power plant has the boiler efficiency of 90%, turbine efficiency of 92%, generator efficiency of 87% and cycle efficiency of 47%. If 8% of the generated power is used to run the auxiliaries, what is the overall plant efficiency?

Options :

1. ✔ 31%
2. ✘ 35%
3. ✘ 38%
4. ✘ 41%
5. ✘ 45%

Question Number : 49 Question Id : 3475352699 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Consider an actual regenerative Rankine cycle with one open feed water heater. For each kg of steam entering the turbine, if  $m$  kg steam with a specific enthalpy of  $h_1$  is bled from the turbine, and the specific enthalpy of liquid water entering the heater is  $h_2$ , then  $h_3$  (the specific enthalpy of saturated liquid leaving the heater) is equal to:

Options :



1. ✘  $h_1 - m(h_2 - h_1)$
2. ✔  $h_2 - m(h_2 - h_1)$
3. ✘  $mh_1 - (h_2 - h_1)$
4. ✘  $mh_2 - (h_2 + h_1)$
5. ✘  $mh_2 - (h_2 - h_1)$

Question Number : 49 Question Id : 3475352699 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Consider an actual regenerative Rankine cycle with one open feed water heater. For each kg of steam entering the turbine, if  $m$  kg steam with a specific enthalpy of  $h_1$  is bled from the turbine, and the specific enthalpy of liquid water entering the heater is  $h_2$ , then  $h_3$  (the specific enthalpy of saturated liquid leaving the heater) is equal to:

Options :

1. ✘  $h_1 - m(h_2 - h_1)$
2. ✔  $h_2 - m(h_2 - h_1)$
3. ✘  $mh_1 - (h_2 - h_1)$
4. ✘  $mh_2 - (h_2 + h_1)$
5. ✘  $mh_2 - (h_2 - h_1)$

Question Number : 50 Question Id : 3475352700 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Clearance volume of a reciprocating compressor is 120 ml and the volume of cylinder at bottom dead centre is 960 ml. What is the clearance ratio of the compressor?

Options :

1. ✘  $1/9$
2. ✘  $1/8$
3. ✔  $1/7$
4. ✘  $1/6$
5. ✘  $1/5$

Question Number : 50 Question Id : 3475352700 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Clearance volume of a reciprocating compressor is 120 ml and the volume of cylinder at bottom dead centre is 960 ml. What is the clearance ratio of the compressor?

Options :

1. ✘  $1/9$
2. ✘  $1/8$

3. ✓ 1/7

4. ✗ 1/6

5. ✗ 1/5

Question Number : 51 Question Id : 3475352701 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Atmospheric air from 12 °C and 50% relative humidity can be brought to 28 °C and 50% relative humidity by:

Options :

1. ✓ Heating and humidification process
2. ✗ Heating and dehumidification process
3. ✗ Sensible heating process
4. ✗ Adiabatic saturation process
5. ✗ Chemical heating

Question Number : 51 Question Id : 3475352701 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Atmospheric air from 12 °C and 50% relative humidity can be brought to 28 °C and 50% relative humidity by:

Options :

1. ✓ Heating and humidification process
2. ✗ Heating and dehumidification process
3. ✗ Sensible heating process
4. ✗ Adiabatic saturation process
5. ✗ Chemical heating

Question Number : 52 Question Id : 3475352702 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Two cubical castings of the same metal and sizes of 3 m and 6 m sides are moulded in green sand. If the smaller casting solidifies in 16 mins, what is the expected time of solidification of the larger casting?

Options :

1. ✗  $16\sqrt{8}$  min
2. ✗ 32 min
3. ✗ 48 min
4. ✗ 52 min
5. ✓ 64 min

Question Number : 52 Question Id : 3475352702 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Two cubical castings of the same metal and sizes of 3 m and 6 m sides are moulded in green sand. If the smaller casting solidifies in 16 mins, what is the expected time of solidification of the larger casting?

Options :

1. ✘  $16\sqrt{8}$  min
2. ✘ 32 min
3. ✘ 48 min
4. ✘ 52 min
5. ✔ 64 min

Question Number : 53 Question Id : 3475352703 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

With a solidification factor of  $0.826 \times 10^5$  s/m<sup>2</sup>, what is the solidification time for a spherical casting of 600 mm diameter?

Options :

1. ✘ 8.26 sec
2. ✘ 82.6 sec
3. ✔ 826 sec
4. ✘ 8260 sec
5. ✘ 826 minutes

Question Number : 53 Question Id : 3475352703 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

With a solidification factor of  $0.826 \times 10^5$  s/m<sup>2</sup>, what is the solidification time for a spherical casting of 600 mm diameter?

Options :

1. ✘ 8.26 sec
2. ✘ 82.6 sec
3. ✔ 826 sec
4. ✘ 8260 sec
5. ✘ 826 minutes

Question Number : 54 Question Id : 3475352704 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

When there is no room temperature change, the total shrinkage allowance on a pattern is independent of:

Options :



1. ✓ Pouring temp of liquid metal
2. ✗ Freezing temp of liquid metal
3. ✗ Component size
4. ✗ Coefficient of thermal contraction of solidification metal
5. ✗ Freezing temperature of liquid metal and component size

Question Number : 54 Question Id : 3475352704 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

When there is no room temperature change, the total shrinkage allowance on a pattern is independent of:

Options :

1. ✓ Pouring temp of liquid metal
2. ✗ Freezing temp of liquid metal
3. ✗ Component size
4. ✗ Coefficient of thermal contraction of solidification metal
5. ✗ Freezing temperature of liquid metal and component size

Question Number : 55 Question Id : 3475352705 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Chaplets are placed between mould and core in order to:

Options :

1. ✗ reduce directional solidification
2. ✗ help local alloying of molten metal
3. ✓ prevent core movement due to buoyancy
4. ✗ help easy removal of core from costing
5. ✗ help improve the purity of metal

Question Number : 55 Question Id : 3475352705 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Chaplets are placed between mould and core in order to:

Options :

1. ✗ reduce directional solidification
2. ✗ help local alloying of molten metal
3. ✓ prevent core movement due to buoyancy
4. ✗ help easy removal of core from costing
5. ✗ help improve the purity of metal



Question Number : 56 Question Id : 3475352706 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Hot chamber die casting is not suited for:

Options :

1. ✘ Zinc and its alloys
2. ✔ Aluminium and its alloys
3. ✘ Lead and its alloys
4. ✘ Tin and its alloys
5. ✘ Zinc and its alloys as well as Tin and its alloys

Question Number : 56 Question Id : 3475352706 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Hot chamber die casting is not suited for:

Options :

1. ✘ Zinc and its alloys
2. ✔ Aluminium and its alloys
3. ✘ Lead and its alloys
4. ✘ Tin and its alloys
5. ✘ Zinc and its alloys as well as Tin and its alloys

Question Number : 57 Question Id : 3475352707 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the Zinc – Copper proportion in brasses used for cartridges and drawn tubes?

Options :

1. ✘ 10 : 90
2. ✘ 15 : 85
3. ✔ 30 : 70
4. ✘ 50 : 50
5. ✘ 85 : 15

Question Number : 57 Question Id : 3475352707 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the Zinc – Copper proportion in brasses used for cartridges and drawn tubes?

Options :

1. ✘ 10 : 90
2. ✘ 15 : 85
3. ✔ 30 : 70

4. ✘ 50 : 50

5. ✘ 85 : 15

Question Number : 58 Question Id : 3475352708 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Nitriding of steel shaft improves:

Options :

1. ✔ its fatigue strength
2. ✘ its surface Finish
3. ✘ its machinability
4. ✘ its torsional stiffness
5. ✘ both its fatigue strength and torsional stiffness

Question Number : 58 Question Id : 3475352708 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Nitriding of steel shaft improves:

Options :

1. ✔ its fatigue strength
2. ✘ its surface Finish
3. ✘ its machinability
4. ✘ its torsional stiffness
5. ✘ both its fatigue strength and torsional stiffness

Question Number : 59 Question Id : 3475352709 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the crystallographic structure of austenite?

Options :

1. ✘ Simple cubic
2. ✔ Face-centered cubic (F.C.C.)
3. ✘ Body-centered cubic (B.C.C.)
4. ✘ Hexagonal close-packed (H.C.P.)
5. ✘ It cannot be determined.

Question Number : 59 Question Id : 3475352709 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the crystallographic structure of austenite?

Options :

1. ✘ Simple cubic
2. ✔ Face-centered cubic (F.C.C.)
3. ✘ Body-centered cubic (B.C.C.)
4. ✘ Hexagonal close-packed (H.C.P.)
5. ✘ It cannot be determined.

Question Number : 60 Question Id : 3475352710 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Metals which can be plastically deformed very easily have unit cell of:

Options :

1. ✔ cubic structure
2. ✘ H.C.P. structure
3. ✘ F.C.C. structure
4. ✘ B.C.C. structure
5. ✘ either H.C.P. structure or B.C.C. structure

Question Number : 60 Question Id : 3475352710 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Metals which can be plastically deformed very easily have unit cell of:

Options :

1. ✔ cubic structure
2. ✘ H.C.P. structure
3. ✘ F.C.C. structure
4. ✘ B.C.C. structure
5. ✘ either H.C.P. structure or B.C.C. structure

Question Number : 61 Question Id : 3475352711 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A piece of steel was found to contain 0.65% C, 4% Cr, 18% W and 1% V. Which kind of steel is it?

Options :

1. ✘ High alloy steel
2. ✘ Low alloy steel
3. ✘ Carbon steel
4. ✔ High speed steel
5. ✘ Stainless steel

Question Number : 61 Question Id : 3475352711 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A piece of steel was found to contain 0.65% C, 4% Cr, 18% W and 1% V. Which kind of steel is it?

Options :

1. ✘ High alloy steel
2. ✘ Low alloy steel
3. ✘ Carbon steel
4. ✔ High speed steel
5. ✘ Stainless steel

Question Number : 62 Question Id : 3475352712 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following properties of a crystalline material depends on crystal defects?

Options :

1. ✘ Hardness
2. ✘ Elastic Modulus
3. ✘ Density
4. ✔ Yield Strength
5. ✘ Toughness

Question Number : 62 Question Id : 3475352712 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following properties of a crystalline material depends on crystal defects?

Options :

1. ✘ Hardness
2. ✘ Elastic Modulus
3. ✘ Density
4. ✔ Yield Strength
5. ✘ Toughness

Question Number : 63 Question Id : 3475352713 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following manufacturing processes require the provision of “gutters”?

Options :

1. ✘ Centrifugal casting
2. ✘ Impact wxtrusion
3. ✔ Closed die forging



4. ✘ Investment casting

5. ✘ Die-casting

Question Number : 63 Question Id : 3475352713 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following manufacturing processes require the provision of “gutters”?

Options :

1. ✘ Centrifugal casting

2. ✘ Impact wxtrusion

3. ✔ Closed die forging

4. ✘ Investment casting

5. ✘ Die-casting

Question Number : 64 Question Id : 3475352714 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A 6 mm thick sheet is rolled with 200 mm diameter rolls to reduce thickness without any change in its width. The friction coefficient at work roll interface is 0.2. What is the minimum possible thickness of the sheet that can be produced in a single pass?

Options :

1. ✘ 1 mm

2. ✔ 2 mm

3. ✘ 3 mm

4. ✘ 4 mm

5. ✘ 5 mm

Question Number : 64 Question Id : 3475352714 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A 6 mm thick sheet is rolled with 200 mm diameter rolls to reduce thickness without any change in its width. The friction coefficient at work roll interface is 0.2. What is the minimum possible thickness of the sheet that can be produced in a single pass?

Options :

1. ✘ 1 mm

2. ✔ 2 mm

3. ✘ 3 mm

4. ✘ 4 mm

5. ✘ 5 mm

Question Number : 65 Question Id : 3475352715 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Cold working produces which of the following effects?

- i. Stresses are set up in the material.
- ii. Grain structure get distorted.
- iii. Strength and hardness of the metal are decreased.
- iv. Surface finish is reduced.

Options :

1. ✓ Only (i) and (ii)
2. ✗ Only (i) and (iv)
3. ✗ Only (ii) and (iii)
4. ✗ Only (iii) and (iv)
5. ✗ Only (i), (ii) and (iii)

Question Number : 65 Question Id : 3475352715 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Cold working produces which of the following effects?

- i. Stresses are set up in the material.
- ii. Grain structure get distorted.
- iii. Strength and hardness of the metal are decreased.
- iv. Surface finish is reduced.

Options :

1. ✓ Only (i) and (ii)
2. ✗ Only (i) and (iv)
3. ✗ Only (ii) and (iii)
4. ✗ Only (iii) and (iv)
5. ✗ Only (i), (ii) and (iii)

Question Number : 66 Question Id : 3475352716 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A cutting tool has a nose radius of 2 mm. What is the feed rate for a theoretical surface roughness of 40 microns?

Options :

1. ✗ 0.2 mm/rev
2. ✗ 0.4 mm/rev
3. ✗ 0.5 mm/rev
4. ✗ 0.6 mm/rev
5. ✓ 0.8 mm/rev

Question Number : 66 Question Id : 3475352716 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A cutting tool has a nose radius of 2 mm. What is the feed rate for a theoretical surface roughness of 40 microns?

Options :

1. ✘ 0.2 mm/rev
2. ✘ 0.4 mm/rev
3. ✘ 0.5 mm/rev
4. ✘ 0.6 mm/rev
5. ✔ 0.8 mm/rev

Question Number : 67 Question Id : 3475352717 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In orthogonal machining operation, the chip thickness and the uncut chip thickness are equal to 0.6 mm. If the tool rake angle is  $0^\circ$ , what is the shear plane angle?

Options :

1. ✘  $18^\circ$
2. ✘  $25^\circ$
3. ✘  $30^\circ$
4. ✔  $45^\circ$
5. ✘  $60^\circ$

Question Number : 67 Question Id : 3475352717 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In orthogonal machining operation, the chip thickness and the uncut chip thickness are equal to 0.6 mm. If the tool rake angle is  $0^\circ$ , what is the shear plane angle?

Options :

1. ✘  $18^\circ$
2. ✘  $25^\circ$
3. ✘  $30^\circ$
4. ✔  $45^\circ$
5. ✘  $60^\circ$

Question Number : 68 Question Id : 3475352718 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

To increase the metal removal rate by keeping same surface finish, the nose radius of the tool is increased 4 times. The maximum metal removal rate:

Options :

1. ✘ remains unchanged
2. ✔ becomes double
3. ✘ becomes 4 times



4. ✘ becomes 8 times
5. ✘ becomes 16 times

Question Number : 68 Question Id : 3475352718 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

To increase the metal removal rate by keeping same surface finish, the nose radius of the tool is increased 4 times. The maximum metal removal rate:

Options :

1. ✘ remains unchanged
2. ✔ becomes double
3. ✘ becomes 4 times
4. ✘ becomes 8 times
5. ✘ becomes 16 times

Question Number : 69 Question Id : 3475352719 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In solid-state welding, the contamination layers between the surfaces to be welded are removed by:

Options :

1. ✘ Alcohol
2. ✔ Plastic deformation
3. ✘ Water jet
4. ✘ Sand blasting
5. ✘ Mechanical press

Question Number : 69 Question Id : 3475352719 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In solid-state welding, the contamination layers between the surfaces to be welded are removed by:

Options :

1. ✘ Alcohol
2. ✔ Plastic deformation
3. ✘ Water jet
4. ✘ Sand blasting
5. ✘ Mechanical press

Question Number : 70 Question Id : 3475352720 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1



In welding process, how is penetration increased?

Options :

1.  By increasing current and decreasing speed
2.  By decreasing both current and speed
3.  By increasing both current and speed
4.  By increasing both arc voltage and speed
5.  By increasing current and decreasing voltage

Question Number : 70 Question Id : 3475352720 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In welding process, how is penetration increased?

Options :

1.  By increasing current and decreasing speed
2.  By decreasing both current and speed
3.  By increasing both current and speed
4.  By increasing both arc voltage and speed
5.  By increasing current and decreasing voltage

Question Number : 71 Question Id : 3475352721 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The fit on a hole-shaft pair system is specified as H7-S6. What type of fit is it?

Options :

1.  Running fit
2.  Force fit
3.  Clearance fit
4.  Push fit
5.  Both running fit and clearance fit

Question Number : 71 Question Id : 3475352721 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The fit on a hole-shaft pair system is specified as H7-S6. What type of fit is it?

Options :

1.  Running fit
2.  Force fit
3.  Clearance fit
4.  Push fit

5. ✘ Both running fit and clearance fit

Question Number : 72 Question Id : 3475352722 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the most widely used reinforcement in modern day FRP tennis racket?

Options :

1. ✘ Magnesium
2. ✘ Aluminium
3. ✔ Carbon
4. ✘ Glass
5. ✘ Iron

Question Number : 72 Question Id : 3475352722 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the most widely used reinforcement in modern day FRP tennis racket?

Options :

1. ✘ Magnesium
2. ✘ Aluminium
3. ✔ Carbon
4. ✘ Glass
5. ✘ Iron

Question Number : 73 Question Id : 3475352723 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A bush was turned after mounting the same on a mandrel. The mandrel diameter, in millimeters, is  $45 \begin{smallmatrix} +0.000 \\ -0.06 \end{smallmatrix}$  and bore diameter of bush is  $45 \begin{smallmatrix} +0.05 \\ -0.00 \end{smallmatrix}$ . The maximum eccentricity of the bush, in mm, will be:

Options :

1. ✘ 0.01
2. ✘ 0.1
3. ✘ 0.5
4. ✔ 0.055
5. ✘ 0.11

Question Number : 73 Question Id : 3475352723 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A bush was turned after mounting the same on a mandrel. The mandrel diameter, in millimeters, is  $45^{+0.000}_{-0.06}$  and bore diameter of bush is  $45^{+0.05}_{-0.00}$ . The maximum eccentricity of the bush, in mm, will be:

Options :

1. ✘ 0.01
2. ✘ 0.1
3. ✘ 0.5
4. ✔ 0.055
5. ✘ 0.11

Question Number : 74 Question Id : 3475352724 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A milling cutter having 8 teeth is rotating at 125 rpm. If the feed per tooth is 0.075 mm, the speed (in mm per minute) is:

Options :

1. ✔ 75
2. ✘ 100
3. ✘ 125
4. ✘ 150
5. ✘ 175

Question Number : 74 Question Id : 3475352724 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

A milling cutter having 8 teeth is rotating at 125 rpm. If the feed per tooth is 0.075 mm, the speed (in mm per minute) is:

Options :

1. ✔ 75
2. ✘ 100
3. ✘ 125
4. ✘ 150
5. ✘ 175

Question Number : 75 Question Id : 3475352725 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

For cutting double start screw threads of pitch 0.75 mm on a lathe, the thread cutting tool should have a feed rate of:

Options :

1. ✘ 0.375 mm/rev
2. ✘ 0.75 mm/rev
3. ✘ 1 mm/rev

4. ✘ 1.2 mm/rev

5. ✔ 1.5 mm/rev

Question Number : 75 Question Id : 3475352725 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

For cutting double start screw threads of pitch 0.75 mm on a lathe, the thread cutting tool should have a feed rate of:

Options :

1. ✘ 0.375 mm/rev

2. ✘ 0.75 mm/rev

3. ✘ 1 mm/rev

4. ✘ 1.2 mm/rev

5. ✔ 1.5 mm/rev

Question Number : 76 Question Id : 3475352726 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the abrasive material used in grinding wheel selected for grinding of ferrous alloys?

Options :

1. ✘ Diamond

2. ✘ Boron Carbide

3. ✘ Silicon Carbide

4. ✔ Aluminium oxide

5. ✘ Copper

Question Number : 76 Question Id : 3475352726 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the abrasive material used in grinding wheel selected for grinding of ferrous alloys?

Options :

1. ✘ Diamond

2. ✘ Boron Carbide

3. ✘ Silicon Carbide

4. ✔ Aluminium oxide

5. ✘ Copper

Question Number : 77 Question Id : 3475352727 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1



The calling population is assumed to be infinite when:

1. Arrivals are independent of each other
2. Capacity of system is infinite
3. Service rate is faster than the arrival rate

Options :

1.  Only (1)
2.  Only (2)
3.  Only (3)
4.  Both (1) and (2)
5.  (1), (2) and (3)

Question Number : 77 Question Id : 3475352727 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The calling population is assumed to be infinite when:

1. Arrivals are independent of each other
2. Capacity of system is infinite
3. Service rate is faster than the arrival rate

Options :

1.  Only (1)
2.  Only (2)
3.  Only (3)
4.  Both (1) and (2)
5.  (1), (2) and (3)

Question Number : 78 Question Id : 3475352728 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the total investment in stock is limited, then the best order quantity for each item will be:

Options :

1.  equal to EOQ
2.  greater than EOQ
3.  less than EOQ
4.  less than or equal to EOQ
5.  greater than or equal to EOQ

Question Number : 78 Question Id : 3475352728 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the total investment in stock is limited, then the best order quantity for each item will be:

Options :

1. ✘ equal to EOQ
2. ✘ greater than EOQ
3. ✔ less than EOQ
4. ✘ less than or equal to EOQ
5. ✘ greater than or equal to EOQ

Question Number : 79 Question Id : 3475352729 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If EOQ is calculated but an order is then placed which is smaller than this, what will happen to the variable cost?

Options :

1. ✘ It will increase.
2. ✘ It will decrease.
3. ✘ It will either increase or decrease.
4. ✔ It remains unchanged.
5. ✘ Cannot be determined.

Question Number : 79 Question Id : 3475352729 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If EOQ is calculated but an order is then placed which is smaller than this, what will happen to the variable cost?

Options :

1. ✘ It will increase.
2. ✘ It will decrease.
3. ✘ It will either increase or decrease.
4. ✔ It remains unchanged.
5. ✘ Cannot be determined.

Question Number : 80 Question Id : 3475352730 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The PERT technique deals with the project of:

Options :

1. ✘ repetitive nature
2. ✘ non-repetitive nature
3. ✘ deterministic nature
4. ✘ either repetitive nature or deterministic nature
5. ✔ None of the other options

Question Number : 80 Question Id : 3475352730 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The PERT technique deals with the project of:

Options :

1. ✘ repetitive nature
2. ✘ non-repetitive nature
3. ✘ deterministic nature
4. ✘ either repetitive nature or deterministic nature
5. ✔ None of the other options

Question Number : 81 Question Id : 3475352731 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following is true in time cost trade-off function analysis?

Options :

1. ✘ Cost increases linearly as time increases.
2. ✘ Cost decreases exponentially as time increases.
3. ✔ Cost decreases linearly as time increases.
4. ✘ Cost increases exponentially as time increases.
5. ✘ Cost increases linearly as time decreases.

Question Number : 81 Question Id : 3475352731 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following is true in time cost trade-off function analysis?

Options :

1. ✘ Cost increases linearly as time increases.
2. ✘ Cost decreases exponentially as time increases.
3. ✔ Cost decreases linearly as time increases.
4. ✘ Cost increases exponentially as time increases.
5. ✘ Cost increases linearly as time decreases.

Question Number : 82 Question Id : 3475352732 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

An optimal solution of an assignment problem can be obtained only if:

Options :

1. ✘ each row and column has only one zero element
2. ✘ each row and column has at least one zero element



3. ✘ the data is in square matrix
4. ✘ the data is in square matrix and each row has at least one zero element
5. ✔ None of the other options

Question Number : 82 Question Id : 3475352732 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

An optimal solution of an assignment problem can be obtained only if:

Options :

1. ✘ each row and column has only one zero element
2. ✘ each row and column has at least one zero element
3. ✘ the data is in square matrix
4. ✘ the data is in square matrix and each row has at least one zero element
5. ✔ None of the other options

Question Number : 83 Question Id : 3475352733 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

To formulate a problem for solution by simplex method, we must add artificial variable to:

Options :

1. ✘ only equality constraints
2. ✘ only greater than constraints
3. ✘ only less than constraints
4. ✔ both equality constraints and greater than constraints
5. ✘ both equality constraints and less than constraints

Question Number : 83 Question Id : 3475352733 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

To formulate a problem for solution by simplex method, we must add artificial variable to:

Options :

1. ✘ only equality constraints
2. ✘ only greater than constraints
3. ✘ only less than constraints
4. ✔ both equality constraints and greater than constraints
5. ✘ both equality constraints and less than constraints

Question Number : 84 Question Id : 3475352734 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1



If dual has an unbounded solution, then what can be said about primal?

Options :

1.  It has no feasible solution.
2.  It has unbounded solution.
3.  It has feasible solution.
4.  It has degenerate solution.
5.  Nothing can be said.

Question Number : 84 Question Id : 3475352734 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If dual has an unbounded solution, then what can be said about primal?

Options :

1.  It has no feasible solution.
2.  It has unbounded solution.
3.  It has feasible solution.
4.  It has degenerate solution.
5.  Nothing can be said.

Question Number : 85 Question Id : 3475352735 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In a PERT network, expected project duration is found to be 36 days from the start of project, the variance is 4 days. What is the probability that the project will be completed in 36 days?

Options :

1.  0
2.  35%
3.  50%
4.  75%
5.  85%

Question Number : 85 Question Id : 3475352735 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In a PERT network, expected project duration is found to be 36 days from the start of project, the variance is 4 days. What is the probability that the project will be completed in 36 days?

Options :

1.  0
2.  35%
3.  50%

4. ✘ 75%

5. ✘ 85%

Question Number : 86 Question Id : 3475352736 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following input data are needed for MRP?

1. Master Production Schedule
2. Inventory Position
3. Bill of material

Options :

1. ✘ Only (1)
2. ✘ Only (2)
3. ✘ Only (3)
4. ✘ Both (1) and (2)
5. ✔ (1), (2) and (3)

Question Number : 86 Question Id : 3475352736 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following input data are needed for MRP?

1. Master Production Schedule
2. Inventory Position
3. Bill of material

Options :

1. ✘ Only (1)
2. ✘ Only (2)
3. ✘ Only (3)
4. ✘ Both (1) and (2)
5. ✔ (1), (2) and (3)

Question Number : 87 Question Id : 3475352737 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What does routing in Production Planning and Control refer to?

1. Balancing of load on machines
2. Progress of work performed
3. Authorization of work
4. Sequence of operations to be performed

Options :

1. ✘ Only (1)
2. ✘ Only (2)

- 3. ✘ Only (3)
- 4. ✔ Only (4)
- 5. ✘ (1), (2), (3) and (4)

Question Number : 87 Question Id : 3475352737 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What does routing in Production Planning and Control refer to?

- 1. Balancing of load on machines
- 2. Progress of work performed
- 3. Authorization of work
- 4. Sequence of operations to be performed

Options :

- 1. ✘ Only (1)
- 2. ✘ Only (2)
- 3. ✘ Only (3)
- 4. ✔ Only (4)
- 5. ✘ (1), (2), (3) and (4)

Question Number : 88 Question Id : 3475352738 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The actual demand of an item is 60 units whereas a previous forecast was 65 units and smoothening factor is 0.3. What will be the forecast for the next period, using exponential smoothing?

Options :

- 1. ✘ 57.5
- 2. ✘ 59.5
- 3. ✘ 61.5
- 4. ✘ 62.5
- 5. ✔ 63.5

Question Number : 88 Question Id : 3475352738 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The actual demand of an item is 60 units whereas a previous forecast was 65 units and smoothening factor is 0.3. What will be the forecast for the next period, using exponential smoothing?

Options :

- 1. ✘ 57.5
- 2. ✘ 59.5
- 3. ✘ 61.5

4. ✘ 62.5

5. ✔ 63.5

Question Number : 89 Question Id : 3475352739 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the annual demand of an item becomes double, ordering cost half, holding cost one fourth and unit cost twice, then what is the ratio of old EOQ and new EOQ?

Options :

1. ✘  $1/\sqrt{2}$

2. ✘  $\sqrt{2}$

3. ✘ 2

4. ✔ 1/2

5. ✘ 1

Question Number : 89 Question Id : 3475352739 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the annual demand of an item becomes double, ordering cost half, holding cost one fourth and unit cost twice, then what is the ratio of old EOQ and new EOQ?

Options :

1. ✘  $1/\sqrt{2}$

2. ✘  $\sqrt{2}$

3. ✘ 2

4. ✔ 1/2

5. ✘ 1

Question Number : 90 Question Id : 3475352740 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which programme is useful when plant is engaged in batch production?

Options :

1. ✘ Breakdown of orders

2. ✘ PERT

3. ✔ Cycle schedule

4. ✘ Mass schedule

5. ✘ CPM

Question Number : 90 Question Id : 3475352740 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which programme is useful when plant is engaged in batch production?

Options :



1. ✘ Breakdown of orders
2. ✘ PERT
3. ✔ Cycle schedule
4. ✘ Mass schedule
5. ✘ CPM

Question Number : 91 Question Id : 3475352741 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If  $\theta = t^n e^{-r^2/4t}$ , what value of  $n$  will make  $\frac{1}{r^2} \frac{\partial}{\partial r} \left( r^2 \frac{\partial \theta}{\partial r} \right) = \frac{\partial \theta}{\partial t}$  ?

Options :

1. ✘  $n = -\frac{1}{2}$
2. ✔  $n = -\frac{3}{2}$
3. ✘  $n = \frac{1}{2}$
4. ✘  $n = \frac{3}{2}$
5. ✘  $n = -1$

Question Number : 91 Question Id : 3475352741 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If  $\theta = t^n e^{-r^2/4t}$ , what value of  $n$  will make  $\frac{1}{r^2} \frac{\partial}{\partial r} \left( r^2 \frac{\partial \theta}{\partial r} \right) = \frac{\partial \theta}{\partial t}$  ?

Options :

1. ✘  $n = -\frac{1}{2}$
2. ✔  $n = -\frac{3}{2}$
3. ✘  $n = \frac{1}{2}$
4. ✘  $n = \frac{3}{2}$
5. ✘  $n = -1$

Question Number : 92 Question Id : 3475352742 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If  $\vec{F} = 3y\hat{i} - xz\hat{j} + yz^2\hat{k}$  and  $S$  is the surface of the paraboloid  $2z = x^2 + y^2$  bounded by  $z = 2$ , then using

Stoke's theorem, what is the value of integral  $\iint_S (\nabla \times \vec{F}) \cdot d\vec{S}$  ?

Options :

1. ✓  $-20\pi$
2. ✗  $-10\pi$
3. ✗  $10\pi$
4. ✗  $20\pi$
5. ✗  $0$

Question Number : 92 Question Id : 3475352742 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If  $\vec{F} = 3y\hat{i} - xz\hat{j} + yz^2\hat{k}$  and  $S$  is the surface of the paraboloid  $2z = x^2 + y^2$  bounded by  $z = 2$ , then using

Stoke's theorem, what is the value of integral  $\iint_S (\nabla \times \vec{F}) \cdot d\vec{S}$  ?

Options :

1. ✓  $-20\pi$
2. ✗  $-10\pi$
3. ✗  $10\pi$
4. ✗  $20\pi$
5. ✗  $0$

Question Number : 93 Question Id : 3475352743 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the complete solution of the differential equation  $\frac{d^2y}{dx^2} + \frac{dy}{dx} + y = (1 - e^x)^2$  ?

Options :

1. ✗  $y = e^{x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 - \frac{2}{3}e^x + \frac{e^{2x}}{7}$
2. ✗  $y = e^{x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 + \frac{2}{3}e^x + \frac{e^{2x}}{7}$
3. ✗  $y = e^{x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 + \frac{2}{3}e^x - \frac{e^{2x}}{7}$
4. ✓  $y = e^{-x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 - \frac{2}{3}e^x + \frac{e^{2x}}{7}$
5. ✗  $y = e^{-x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 + \frac{2}{3}e^x - \frac{e^{2x}}{7}$

Question Number : 93 Question Id : 3475352743 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the complete solution of the differential equation  $\frac{d^2y}{dx^2} + \frac{dy}{dx} + y = (1 - e^x)^2$  ?

Options :

1. ✘  $y = e^{x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 - \frac{2}{3}e^x + \frac{e^{2x}}{7}$
2. ✘  $y = e^{x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 + \frac{2}{3}e^x + \frac{e^{2x}}{7}$
3. ✘  $y = e^{x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 + \frac{2}{3}e^x - \frac{e^{2x}}{7}$
4. ✔  $y = e^{-x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 - \frac{2}{3}e^x + \frac{e^{2x}}{7}$
5. ✘  $y = e^{-x/2} \left( c_1 \cos\left(\frac{\sqrt{3}}{2}x\right) + c_2 \sin\left(\frac{\sqrt{3}}{2}x\right) \right) + 1 + \frac{2}{3}e^x - \frac{e^{2x}}{7}$

Question Number : 94 Question Id : 3475352744 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the value of  $L\left(e^{-t} \int_0^t \frac{\sin t}{t} dt\right)$ ?

Options :

1. ✘  $\frac{1}{s+1} \tan(s+1)$
2. ✘  $\frac{1}{s+1} \tan^{-1}(s+1)$
3. ✘  $\frac{1}{s-1} \cot(s+1)$
4. ✘  $\frac{1}{s+1} \cot(s+1)$
5. ✔  $\frac{1}{s+1} \cot^{-1}(s+1)$

Question Number : 94 Question Id : 3475352744 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the value of  $L\left(e^{-t} \int_0^t \frac{\sin t}{t} dt\right)$ ?

Options :

1. ✘  $\frac{1}{s+1} \tan(s+1)$
2. ✘  $\frac{1}{s+1} \tan^{-1}(s+1)$
3. ✘  $\frac{1}{s-1} \cot(s+1)$

4. ✘  $\frac{1}{s+1} \cot(s+1)$

5. ✔  $\frac{1}{s+1} \cot^{-1}(s+1)$

Question Number : 95 Question Id : 3475352745 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the real part is  $\frac{\sin 2x}{(\cosh 2y - \cos 2x)}$ , then the analytic function is given as:

Options :

1. ✘  $f(z) = -\cot z + ic$

2. ✘  $f(z) = -\cot z - ic$

3. ✔  $f(z) = \cot z + ic$

4. ✘  $f(z) = \cot z$

5. ✘  $f(z) = -\cot z$

Question Number : 95 Question Id : 3475352745 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If the real part is  $\frac{\sin 2x}{(\cosh 2y - \cos 2x)}$ , then the analytic function is given as:

Options :

1. ✘  $f(z) = -\cot z + ic$

2. ✘  $f(z) = -\cot z - ic$

3. ✔  $f(z) = \cot z + ic$

4. ✘  $f(z) = \cot z$

5. ✘  $f(z) = -\cot z$

Question Number : 96 Question Id : 3475352746 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If  $C$  is the circle  $|z| = \frac{1}{2}$ , then what is the value of  $\int_C \frac{z^2 - z + 1}{z - 1} dz$ ?

Options :

1. ✔ 0

2. ✘  $2\pi i$

3. ✘  $\pi i$

4. ✘  $-\pi i$

5. ✘  $-2\pi i$



Question Number : 96 Question Id : 3475352746 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

If  $C$  is the circle  $|z| = \frac{1}{2}$ , then what is the value of  $\int_C \frac{z^2 - z + 1}{z - 1} dz$ ?

Options :

1. ✓ 0
2. ✗  $2\pi i$
3. ✗  $\pi i$
4. ✗  $-\pi i$
5. ✗  $-2\pi i$

Question Number : 97 Question Id : 3475352747 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

There are three bags:

Bag-1: contains 1 white, 2 red, 3 green balls;

Bag-2: contains 2 white, 3 red, 1 green balls;

Bag-3: contains 3 white, 1 red, 2 green balls.

Two balls are drawn from a bag chosen at random. These are found to be one white and one red. What is the probability that the ball so drawn came from Bag-2?

Options :

1. ✗  $5/11$
2. ✓  $6/11$
3. ✗  $3/11$
4. ✗  $7/11$
5. ✗  $4/11$

Question Number : 97 Question Id : 3475352747 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

There are three bags:

Bag-1: contains 1 white, 2 red, 3 green balls;

Bag-2: contains 2 white, 3 red, 1 green balls;

Bag-3: contains 3 white, 1 red, 2 green balls.

Two balls are drawn from a bag chosen at random. These are found to be one white and one red. What is the probability that the ball so drawn came from Bag-2?

Options :

1. ✗  $5/11$
2. ✓  $6/11$
3. ✗  $3/11$
4. ✗  $7/11$
5. ✗  $4/11$

Question Number : 98 Question Id : 3475352748 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Three cities A, B and C are equidistant from each other. A motorist travels from A to B at 30 km/hr, from B to C at 40 km/hr and from C to A at 50 km/hr. What is his average speed?

Options :

1. ✘ 23.3 km/hr
2. ✘ 37.3 km/hr
3. ✘ 33.3 km/hr
4. ✔ 38.3 km/hr
5. ✘ 28.3 km/hr

Question Number : 98 Question Id : 3475352748 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Three cities A, B and C are equidistant from each other. A motorist travels from A to B at 30 km/hr, from B to C at 40 km/hr and from C to A at 50 km/hr. What is his average speed?

Options :

1. ✘ 23.3 km/hr
2. ✘ 37.3 km/hr
3. ✘ 33.3 km/hr
4. ✔ 38.3 km/hr
5. ✘ 28.3 km/hr

Question Number : 99 Question Id : 3475352749 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The velocity  $v$  (km/min) of a moped which starts from rest, is given at fixed intervals of time  $t$  (min) as follows:

$t$	2	4	6	8	10	12	14	16	18	20
$v$	10	18	25	29	32	20	11	5	2	0

What is the approximate distance covered in 20 minutes?

Options :

1. ✘ 311.33 km
2. ✘ 315.33 km
3. ✘ 319.33 km
4. ✘ 308.33 km
5. ✔ 309.33 km

Question Number : 99 Question Id : 3475352749 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The velocity  $v$  (km/min) of a moped which starts from rest, is given at fixed intervals of time  $t$  (min) as follows:

$t$	2	4	6	8	10	12	14	16	18	20
$v$	10	18	25	29	32	20	11	5	2	0

What is the approximate distance covered in 20 minutes?

Options :

- ✘ 311.33 km
- ✘ 315.33 km
- ✘ 319.33 km
- ✘ 308.33 km
- ✔ 309.33 km

Question Number : 100 Question Id : 3475352750 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Using Taylor's series method, the value of  $y = 0.1$  to four decimal places from the

differential equation  $\frac{dy}{dx} = x^2y - 1, y(0) = 1$  is:

Options :

- ✔ 0.9003
- ✘ 0.9333
- ✘ 0.9303
- ✘ 0.9033
- ✘ 0.9030

Question Number : 100 Question Id : 3475352750 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Using Taylor's series method, the value of  $y = 0.1$  to four decimal places from the

differential equation  $\frac{dy}{dx} = x^2y - 1, y(0) = 1$  is:

Options :

- ✔ 0.9003
- ✘ 0.9333
- ✘ 0.9303
- ✘ 0.9033
- ✘ 0.9030

General Knowledge

Group Maximum Duration :

60

Group Minimum Duration :

60

Revisit allowed for view? :

No

## GK of Chhattisgarh

Mandatory or Optional:  
 Display Number Panel:  
 Group All Questions:

Mandatory  
 Yes  
 No

Question Number : 101 Question Id : 3475352751 Question Type : MCQ Display Question Number : Yes Single Line Question  
 Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

At which place in Chhattisgarh does the first bio-reserve park of Asia exist?

Options :

1. ✘ Udaipur
2. ✘ Raigarh
3. ✔ Kanker
4. ✘ Narayanpur
5. ✘ None of these

Question Number : 101 Question Id : 3475352751 Question Type : MCQ Display Question Number : Yes Single Line Question  
 Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में किस स्थान पर एशिया का प्रथम जैव-संरक्षित उद्यान (पार्क) विद्यमान है?

Options :

1. ✘ उदयपुर
2. ✘ रायगढ़
3. ✔ कांकेर
4. ✘ नारायणपुर
5. ✘ इनमें से कोई नहीं

Question Number : 102 Question Id : 3475352752 Question Type : MCQ Display Question Number : Yes Single Line Question  
 Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In the order of being established, Chhattisgarh High Court at Bilaspur stands at which rank in the country?

Options :

1. ✘ Seventeenth
2. ✘ Eighteenth
3. ✔ Nineteenth
4. ✘ Twentieth



5. ✘ None of these

Question Number : 102 Question Id : 3475352752 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

बिलासपुर स्थित छत्तीसगढ़ उच्च न्यायालय देश में स्थापना के क्रम में किस स्थान पर है?

Options :

1. ✘ सत्रहवां
2. ✘ अठरहवां
3. ✔ उन्नीसवां
4. ✘ बीसवां
5. ✘ इनमें से कोई नहीं

Question Number : 103 Question Id : 3475352753 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The kings of Nandgaon and Chhui Khadon belonged to which dynasty?

Options :

1. ✘ Tribal
2. ✔ Bairagi
3. ✘ Satvahan
4. ✘ Pratihar
5. ✘ None of these

Question Number : 103 Question Id : 3475352753 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

नांदगांव तथा छुई खदान के राजा किस वंश के थे?

Options :

1. ✘ आदिवासी
2. ✔ बैरागी
3. ✘ सातवाहन
4. ✘ प्रतिहार
5. ✘ इनमें से कोई नहीं

Question Number : 104 Question Id : 3475352754 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Who was the first British officer appointed in Chhattisgarh?

Options :

1. ✘ Elliot
2. ✘ Bernardt
3. ✘ Smith
4. ✔ Captain Edmund
5. ✘ None of these

Question Number : 104 Question Id : 3475352754 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में नियुक्त प्रथम ब्रिटिश अधिकारी कौन था?

Options :

1. ✘ इलीयट
2. ✘ बर्नार्ड
3. ✘ स्मिथ
4. ✔ कैप्टन एडमण्ड
5. ✘ इनमें से कोई नहीं

Question Number : 105 Question Id : 3475352755 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Who represented Chhattisgarh first time in the Bombay Session of the Congress in 1889?

Options :

1. ✘ Madhavrao Sapre
2. ✔ Wamanrao Lakhe
3. ✘ Sundarlal Sharma
4. ✘ Narayanrao Meghawale
5. ✘ None of these

Question Number : 105 Question Id : 3475352755 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

1889 में कांग्रेस के बम्बई अधिवेशन में प्रथम बार किसने छत्तीसगढ़ का प्रतिनिधित्व किया था?

Options :

1. ✘ माधवराव सप्रे
2. ✔ वामनराव लाखे
3. ✘ सुंदरलाल शर्मा
4. ✘ नारायणराव मेघावाले

5. ✘ इनमें से कोई नहीं

Question Number : 106 Question Id : 3475352756 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

Which tribe of Bastar mainly participated in the revolt of 1876 A.D.?

Options :

1. ✘ Maria
2. ✔ Muria
3. ✘ Gond
4. ✘ Halba
5. ✘ None of these

Question Number : 106 Question Id : 3475352756 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

1876 ई. के विद्रोह में बस्तर की किस जनजाति ने मुख्यरूप से भाग लिया था?

Options :

1. ✘ मारिया
2. ✔ मुरिया
3. ✘ गोंड
4. ✘ हल्बा
5. ✘ इनमें से कोई नहीं

Question Number : 107 Question Id : 3475352757 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

The Suba system was started in Chhattisgarh by:

Options :

1. ✔ Mahepat Rao Dinkar
2. ✘ Govind Angole
3. ✘ Govind Godbole
4. ✘ P.P. Khorgade
5. ✘ None of these

Question Number : 107 Question Id : 3475352757 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

छत्तीसगढ़ में सूबा पद्धति की शुरुवात किसने की थी?

Options :

1. ✓ महीपत राव दिनकर
2. ✘ गोविंद अंगोले
3. ✘ गोविंद गोडबोले
4. ✘ पी. पी. खोरगडे
5. ✘ इनमें से कोई नहीं

Question Number : 108 Question Id : 3475352758 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

When did Gandhiji visit Chhattisgarh for the upliftment of Harijans?

Options :

1. ✘ August 1932
2. ✓ November 1933
3. ✘ April 1934
4. ✘ March 1935
5. ✘ None of these

Question Number : 108 Question Id : 3475352758 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

हरिजन उद्धार के लिये गांधीजी ने छत्तीसगढ़ का दौरा कब किया था?

Options :

1. ✘ अगस्त 1932
2. ✓ नवम्बर 1933
3. ✘ अप्रैल 1934
4. ✘ मार्च 1935
5. ✘ इनमें से कोई नहीं

Question Number : 109 Question Id : 3475352759 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

Who among the following persons of Raipur hoisted the tricolor on the Nagpur High Court building in August 1942 during the Quit India Movement?

Options :

1. ✘ Ramdayal Tiwari
2. ✘ Ramanand Dubey
3. ✓ Ramkrishna Singh
4. ✘ Sudhir Mukherji



5. ✘ None of these

Question Number : 109 Question Id : 3475352759 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

भारत छोड़ो आंदोलन के दौरान अगस्त 1942 में रायपुर के निम्नलिखित में से किस व्यक्ति ने नागपुर के उच्च न्यायालय भवन पर तिरंगा ध्वज फहराया था?

Options :

1. ✘ रामदयाल तिवारी
2. ✘ रामानन्द दुबे
3. ✔ रामकृष्ण सिंह
4. ✘ सुधीर मुखर्जी
5. ✘ इनमें से कोई नहीं

Question Number : 110 Question Id : 3475352760 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Who hoisted the tricolour flag on the Government High School in Bilaspur during the Civil Disobedience Movement?

Options :

1. ✔ Krantikumar Bhartiya
2. ✘ Ramgopal Tiwari
3. ✘ E. Raghvendra Rao
4. ✘ Baldev Satname
5. ✘ None of these

Question Number : 110 Question Id : 3475352760 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

'सविनय अवज्ञा आन्दोलन' के दौरान बिलासपुर के शासकीय हाई स्कूल में तिरंगा झंडा किसने फहराया था?

Options :

1. ✔ क्रान्तिकुमार भारतीय
2. ✘ रामगोपाल तिवारी
3. ✘ ई. राघवेन्द्र राव
4. ✘ बलदेव सतनामी
5. ✘ इनमें से कोई नहीं

Question Number : 111 Question Id : 3475352761 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

The soil found in the upland slope is known as:

Options :

1. ✓ Tikra
2. ✗ Mal
3. ✗ Marhan
4. ✗ Gabhar
5. ✗ None of these

Question Number : 111 Question Id : 3475352761 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

उच्च भूमि के ढालों पर पायी जाने वाली मिट्टी को \_\_\_\_\_ कहते हैं।

Options :

1. ✓ टिकरा
2. ✗ माल
3. ✗ मरहान
4. ✗ गभार
5. ✗ इनमें से कोई नहीं

Question Number : 112 Question Id : 3475352762 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In which district of Chhattisgarh is Telin Ghati situated?

Options :

1. ✗ Bastar
2. ✗ Narainpur
3. ✗ Kanker
4. ✓ Kondagaon
5. ✗ None of these

Question Number : 112 Question Id : 3475352762 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ के किस जिले में 'तेलिन घाटी' स्थित है?

Options :

1. ✗ बस्तर
2. ✗ नारायणपुर
3. ✗ कांकेर

4. ✓ कोण्डागांव

5. ✗ इनमें से कोई नहीं

Question Number : 113 Question Id : 3475352763 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Tel river flows through which tehsil?

Options :

1. ✗ Nagri

2. ✓ Deobhog

3. ✗ Bindra Nawagarh

4. ✗ Saraipali

5. ✗ None of these

Question Number : 113 Question Id : 3475352763 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

तेल नदी किस तहसील में प्रवाहित होती है?

Options :

1. ✗ नगरी

2. ✓ देवभोग

3. ✗ बिन्द्रानवागढ़

4. ✗ सरायपाली

5. ✗ इनमें से कोई नहीं

Question Number : 114 Question Id : 3475352764 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In which district is Albaka hill situated?

Options :

1. ✗ Dantewada

2. ✓ Bijapur

3. ✗ Narainpur

4. ✗ Bastar

5. ✗ None of these

Question Number : 114 Question Id : 3475352764 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

'अलबका पहाड़ी' किस जिले में स्थित है?

Options :

1. ✘ दन्तेवाड़ा
2. ✔ बीजापुर
3. ✘ नारायणपुर
4. ✘ बस्तर
5. ✘ इनमें से कोई नहीं

Question Number : 115 Question Id : 3475352765 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Khurja hill is the place of origin of which river?

Options :

1. ✘ Mand
2. ✘ Hasdo
3. ✔ Ib
4. ✘ Ahiran
5. ✘ None of these

Question Number : 115 Question Id : 3475352765 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

खुरजा पहाड़ी किस नदी का उद्गम स्थान है?

Options :

1. ✘ मांड
2. ✘ हसदो
3. ✔ ईब
4. ✘ अहिरन
5. ✘ इनमें से कोई नहीं

Question Number : 116 Question Id : 3475352766 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In which year was the Indravati National Park was established?

Options :

1. ✔ 1981
2. ✘ 1978
3. ✘ 1968
4. ✘ 1972



5. ✘ None of these

Question Number : 116 Question Id : 3475352766 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

इन्द्रावती राष्ट्रीय उद्यान की स्थापना किस वर्ष में हुई थी?

Options :

1. ✔ 1981
2. ✘ 1978
3. ✘ 1968
4. ✘ 1972
5. ✘ इनमें से कोई नहीं

Question Number : 117 Question Id : 3475352767 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Kharkhara dam is situated in which district?

Options :

1. ✔ Balod
2. ✘ Durg
3. ✘ Mungeli
4. ✘ Bemetara
5. ✘ None of these

Question Number : 117 Question Id : 3475352767 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

खरखरा बांध किस जिले में स्थित है?

Options :

1. ✔ बालोद
2. ✘ दुर्ग
3. ✘ मुंगेली
4. ✘ बेमेतरा
5. ✘ इनमें से कोई नहीं

Question Number : 118 Question Id : 3475352768 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which district of Chhattisgarh produces the maximum limestone?

Options :

1. ✓ Baloda Bazar
2. ✗ Durg
3. ✗ Raipur
4. ✗ Bilaspur
5. ✗ None of these

Question Number : 118 Question Id : 3475352768 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ के किस जिले में चूना पत्थर का सबसे अधिक उत्पादन होता है?

Options :

1. ✓ बलोदाबाजार
2. ✗ दुर्ग
3. ✗ रायपुर
4. ✗ बिलासपुर
5. ✗ इनमें से कोई नहीं

Question Number : 119 Question Id : 3475352769 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following pairs is not matched?

Sanctuary	District
1. Timor pingla	Surajpur
2. Gomarda	Raigarh
3. Pamed	Bastar
4. Badalkhol	Jashpur

Options :

1. ✗ Only 1
2. ✗ Only 2
3. ✓ Only 3
4. ✗ Only 4
5. ✗ None of these

Question Number : 119 Question Id : 3475352769 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

निम्न में से कौन सी जोड़ी सुमेलित नहीं है?

अभ्यारण्य	जिला
1. तिमोर पिंगला	सूरजपुर
2. गोमरदा	रायगढ़
3. पामेड़	बस्तर
4. बादल खोल	जशपुर

Options :

1. ✘ केवल 1
2. ✘ केवल 2
3. ✔ केवल 3
4. ✘ केवल 4
5. ✘ इनमें से कोई नहीं

Question Number : 120 Question Id : 3475352770 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Maikal range is an extension of:

Options :

1. ✔ Satpura mountain
2. ✘ Vindhyan range
3. ✘ Baghelkhand upland
4. ✘ Dandakaranya upland
5. ✘ None of these

Question Number : 120 Question Id : 3475352770 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

मेकल श्रेणी \_\_\_\_\_ का विस्तार है।

Options :

1. ✔ सतपुड़ा पर्वत
2. ✘ विन्ध्य श्रेणी
3. ✘ बघेलखंड उच्च भूमि
4. ✘ दण्डकारण्य उच्च भूमि
5. ✘ इनमें से कोई नहीं

Question Number : 121 Question Id : 3475352771 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following writers is famous for writing children's literature in Chhattisgarh?

Options :

1. ✘ Shayam Lal Chaturvedi
2. ✘ Laxman Masturiya
3. ✔ Narayan Lal Parmar
4. ✘ Bacchu Janjgiri
5. ✘ None of these

Question Number : 121 Question Id : 3475352771 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में निम्न में से कौन सा लेखक बाल साहित्यकार के रूप में प्रसिद्ध है?

Options :

1. ✘ श्याम लाल चतुर्वेदी
2. ✘ लक्ष्मण मस्तुरिया
3. ✔ नारायण लाल परमार
4. ✘ बच्चू जांजगीरी
5. ✘ इनमें से कोई नहीं

Question Number : 122 Question Id : 3475352772 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Poet Dalram Rao, who used the word Chhattisgarh in poetry, belonged to which erstwhile princely state?

Options :

1. ✘ Bastar
2. ✘ Kawardha
3. ✔ Khairgarh
4. ✘ Chhui Khadan
5. ✘ None of these

Question Number : 122 Question Id : 3475352772 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

काव्य में छत्तीसगढ़ शब्द का प्रयोग करने वाले कवि दलराम राव किस पूर्व रियासत से संबंधित है?

Options :

1. ✘ बस्तर



2. ✘ कवर्धा
3. ✔ खैरागढ़
4. ✘ छुई खदान
5. ✘ इनमें से कोई नहीं

Question Number : 123 Question Id : 3475352773 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following is not a Kathak gharana?

Options :

1. ✘ Lucknow gharana
2. ✘ Banaras gharana
3. ✘ Jaipur gharana
4. ✘ Raigarh gharana
5. ✔ None of these

Question Number : 123 Question Id : 3475352773 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

इनमें से कौन कत्थक घराना नहीं है?

Options :

1. ✘ लखनऊ घराना
2. ✘ बनारस घराना
3. ✘ जयपुर घराना
4. ✘ रायगढ़ घराना
5. ✔ इनमें से कोई नहीं

Question Number : 124 Question Id : 3475352774 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following epics is related to the cultural event organized on the first day of Asadha?

Options :

1. ✘ Uttar Ram Charit
2. ✘ Kumar Sambhava
3. ✘ Shrimad Bhagavata
4. ✔ Meghdoot
5. ✘ None of these

Question Number : 124 Question Id : 3475352774 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

आषाढ के प्रथम दिवस पर सांस्कृतिक आयोजन निम्न में से किस ग्रंथ से संबंधित है?

Options :

1. ✘ उत्तर राम चरित
2. ✘ कुमार संभव
3. ✘ श्रीमद् भागवत
4. ✔ मेघदूत
5. ✘ इनमें से कोई नहीं

Question Number : 125 Question Id : 3475352775 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In which of the following months is Nag Panchami celebrated in Chhattisgarh?

Options :

1. ✔ Sawan
2. ✘ Bhado
3. ✘ Jeth
4. ✘ Asadha
5. ✘ None of these

Question Number : 125 Question Id : 3475352775 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में नाग पंचमी किस माह में मनाया जाता है?

Options :

1. ✔ सावन
2. ✘ भादो
3. ✘ जेठ
4. ✘ आषाढ
5. ✘ इनमें से कोई नहीं

Question Number : 126 Question Id : 3475352776 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Jot-Jawara is related to which of the following festivals of Chhattisgarh?

Options :

1. ✔ Navratri
2. ✘ Janma asthami

3. ✘ Barsait
4. ✘ Karma
5. ✘ None of these

Question Number : 126 Question Id : 3475352776 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

जोत-जवारा छत्तीसगढ़ के किस त्यौहार से संबंधित है?

Options :

1. ✔ नवरात्रि
2. ✘ जन्माष्टमी
3. ✘ बरसाइत
4. ✘ करमा
5. ✘ इनमें से कोई नहीं

Question Number : 127 Question Id : 3475352777 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

With which saint is the Panthi dance of Chhattisgarh related?

Options :

1. ✘ Raidas
2. ✘ Balakdas
3. ✘ Kabirdas
4. ✔ Guru Ghasidas
5. ✘ None of these

Question Number : 127 Question Id : 3475352777 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ का पंथी नृत्य किस संत से संबंधित है?

Options :

1. ✘ रैदास
2. ✘ बालकदास
3. ✘ कबीरदास
4. ✔ गुरु घासीदास
5. ✘ इनमें से कोई नहीं

Question Number : 128 Question Id : 3475352778 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

'Chhatthi' is a part of which ritual in Chhattisgarh?

Options :

1. ✘ Marriage
2. ✔ Birth
3. ✘ Ear piercing
4. ✘ Upnayan
5. ✘ None of these

Question Number : 128 Question Id : 3475352778 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में 'छट्टी' किस संस्कार का अंग है?

Options :

1. ✘ विवाह
2. ✔ जन्म
3. ✘ कर्णवेध
4. ✘ उपनयन
5. ✘ इनमें से कोई नहीं

Question Number : 129 Question Id : 3475352779 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Pt. Sundarlal Sharma state award is related with which field?

Options :

1. ✔ Literature / regional literature
2. ✘ Non violence
3. ✘ Cooperative sector
4. ✘ Social justice
5. ✘ None of these

Question Number : 129 Question Id : 3475352779 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

पं. सुंदरलाल शर्मा राज्य सम्मान किस क्षेत्र से संबंधित है?

Options :

1. ✔ साहित्य/आंचलिक साहित्य
2. ✘ अहिंसा
3. ✘ सहकारिता खंड



4. ✘ सामाजिक न्याय

5. ✘ इनमें से कोई नहीं

Question Number : 130 Question Id : 3475352780 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following is the first Chhattisgarhi feature film?

Options :

1. ✘ Mor Chhaiya Bhuiya

2. ✘ Ghar-Dwar

3. ✘ Chhattisgarh Mahatari

4. ✔ Kahi Debe Sandesh

5. ✘ None of these

Question Number : 130 Question Id : 3475352780 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ की पहली फीचर फिल्म कौन सी है?

Options :

1. ✘ मोर छड़ियां भुड़ियां

2. ✘ घर-द्वार

3. ✘ छत्तीसगढ़ महतारी

4. ✔ कहि देबे संदेश

5. ✘ इनमें से कोई नहीं

Question Number : 131 Question Id : 3475352781 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following languages is the contact language of Bastar area?

Options :

1. ✘ Gondi

2. ✘ Kudukh

3. ✘ Bhatari

4. ✔ Halbi

5. ✘ None of these

Question Number : 131 Question Id : 3475352781 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

बस्तर अंचल की संपर्क भाषा कौन सी है?

Options :

1. ✘ गौडी
2. ✘ कुडुख
3. ✘ भतरी
4. ✔ हल्बी
5. ✘ इनमें से कोई नहीं

Question Number : 132 Question Id : 3475352782 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Who performs as carrier of the Kachhin Gaddi ritual in Bastar Dashara?

Options :

1. ✘ Brahamin girl
2. ✘ Kumhar girl
3. ✘ Lohar girl
4. ✔ Mahara girl
5. ✘ None of these

Question Number : 132 Question Id : 3475352782 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

बस्तर दशहरा में कछिन गाड़ी अनुष्ठान की संवाहिका कौन है?

Options :

1. ✘ ब्राम्हण कन्या
2. ✘ कुम्हार कन्या
3. ✘ लोहार कन्या
4. ✔ महरा कन्या
5. ✘ इनमें से कोई नहीं

Question Number : 133 Question Id : 3475352783 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Gahira guru is famous for his contribution in which field?

Options :

1. ✘ Dance
2. ✘ Music
3. ✔ Social upliftment
4. ✘ Politics

5. ✘ None of these

Question Number : 133 Question Id : 3475352783 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

गहिरागुरु किस क्षेत्र में योगदान के लिए प्रसिद्ध हैं?

Options :

1. ✘ नृत्य
2. ✘ संगीत
3. ✔ समाज उत्थान
4. ✘ राजनीति
5. ✘ इनमें से कोई नहीं

Question Number : 134 Question Id : 3475352784 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following tribes worships the deity named Khudia Rani?

Options :

1. ✔ Korava
2. ✘ Kanwar
3. ✘ Korku
4. ✘ Oraon
5. ✘ None of these

Question Number : 134 Question Id : 3475352784 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

इनमें से कौन खुड़िया रानी नामक देवी की उपासना करते हैं?

Options :

1. ✔ कोरवा
2. ✘ कंवर
3. ✘ कोरकू
4. ✘ उरांव
5. ✘ इनमें से कोई नहीं

Question Number : 135 Question Id : 3475352785 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the meaning of 'chhai agar chhai kori' in Chhattisgarhi dialect?

Options :

1. ✘ 26
2. ✘ 36
3. ✘ 136
4. ✔ 126
5. ✘ None of these

Question Number : 135 Question Id : 3475352785 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

छत्तीसगढ़ी बोली में प्रचलित 'छः आगर छः कोरी' का अर्थ क्या है?

Options :

1. ✘ 26
2. ✘ 36
3. ✘ 136
4. ✔ 126
5. ✘ इनमें से कोई नहीं

Question Number : 136 Question Id : 3475352786 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

Which of the following trees is worshipped on Kartik Shukla Navami in Chhattisgarh?

Options :

1. ✘ Mango
2. ✔ Amla
3. ✘ Bel
4. ✘ Banyan
5. ✘ None of these

Question Number : 136 Question Id : 3475352786 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical  
Correct : 2 Wrong : 1

छत्तीसगढ़ में 'कार्तिक-शुक्ल नवमी' के दिन किस वृक्ष की पूजा होती है?

Options :

1. ✘ आम
2. ✔ आंवला
3. ✘ बेल
4. ✘ बरगद
5. ✘ इनमें से कोई नहीं



Question Number : 137 Question Id : 3475352787 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Who is the chief administrative officer in the administration of Chhattisgarh?

Options :

1. ✘ Chief Minister
2. ✔ Chief Secretary
3. ✘ Chief Executive Officer
4. ✘ Chief Administrative Officer
5. ✘ None of these

Question Number : 137 Question Id : 3475352787 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ प्रशासन का सर्वोच्च प्रशासनिक अधिकारी कौन होता है?

Options :

1. ✘ मुख्यमंत्री
2. ✔ मुख्यसचिव
3. ✘ मुख्य कार्यपालन अधिकारी
4. ✘ मुख्य प्रशासनिक अधिकारी
5. ✘ इनमें से कोई नहीं

Question Number : 138 Question Id : 3475352788 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Who is the administrative officer of municipals in Chhattisgarh?

Options :

1. ✔ Chief municipal officer
2. ✘ President of municipality
3. ✘ Secretary of municipality
4. ✘ Commissioner of municipality
5. ✘ None of these

Question Number : 138 Question Id : 3475352788 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में नगरपालिका का प्रशासनिक अधिकारी कौन होता है?

Options :

1. ✔ मुख्य नगरपालिका अधिकारी

2. ✘ अध्यक्ष नगरपालिका
3. ✘ सचिव नगरपालिका
4. ✘ आयुक्त नगरपालिका
5. ✘ इनमें से कोई नहीं

Question Number : 139 Question Id : 3475352789 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In what capacity does the district collector in Chhattisgarh discharge his responsibilities?

Options :

1. ✘ As revenue officer
2. ✘ As district administration
3. ✘ As district magistrate
4. ✔ All of these
5. ✘ None of these

Question Number : 139 Question Id : 3475352789 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में जिला कलेक्टर किस/किन रूपों में अपने उत्तरदायित्वों का निर्वहन करता है?

Options :

1. ✘ राजस्व अधिकारी के रूप में
2. ✘ जिला प्रशासक के रूप में
3. ✘ जिला मेजिस्ट्रेट के रूप में
4. ✔ उपरोक्त सभी
5. ✘ इनमें से कोई नहीं

Question Number : 140 Question Id : 3475352790 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Under which department do the officers from Naib Tahsildar to Collector in Chhattisgarh work?

Options :

1. ✔ Revenue and Disaster Management Department
2. ✘ Home Department
3. ✘ Panchayat and Social Welfare Department
4. ✘ Public Works Department
5. ✘ None of these

Question Number : 140 Question Id : 3475352790 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में नायब तहसीलदार से लेकर कलेक्टर तक के अधिकारी किस विभाग के अंतर्गत आते हैं?

Options :

1. ✓ राजस्व एवं आपदा प्रबंधन विभाग
2. ✗ गृह विभाग
3. ✗ पंचायत एवं सामाजिककल्याण विभाग
4. ✗ लोक निर्माण विभाग
5. ✗ इनमें से कोई नहीं

Question Number : 141 Question Id : 3475352791 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which district/s in Chhattisgarh have a difference in their names and their headquarters?

Options :

1. ✗ Sarguja
2. ✗ Koriya
3. ✗ Bastar
4. ✓ All these
5. ✗ None of these

Question Number : 141 Question Id : 3475352791 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में किन जिलों के नामों और मुख्यालयों में अंतर है?

Options :

1. ✗ सरगुजा
2. ✗ कोरिया
3. ✗ बस्तर
4. ✓ उपरोक्त सभी
5. ✗ इनमें से कोई नहीं

Question Number : 142 Question Id : 3475352792 Question Type : MCQ Display Question Number : Yes Single Line Question  
Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following is not included in the three-tier panchayats in Chhattisgarh?

Options :

1. ✗ Village Panchayat

2. ✘ Janpad Panchayat
3. ✔ Block Panchayat
4. ✘ District Panchayat
5. ✘ None of these

Question Number : 142 Question Id : 3475352792 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में तीन-स्तरीय पंचायतों में निम्नलिखित में से कौन सम्मिलित नहीं है?

Options :

1. ✘ ग्राम पंचायत
2. ✘ जनपद पंचायत
3. ✔ खण्ड पंचायत
4. ✘ जिला पंचायत
5. ✘ इनमें से कोई नहीं

Question Number : 143 Question Id : 3475352793 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

At present, what is the number of the members of the legislative assembly of Chhattisgarh?

Options :

1. ✘ 85
2. ✔ 90
3. ✘ 92
4. ✘ 95
5. ✘ None of these

Question Number : 143 Question Id : 3475352793 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

वर्तमान में छत्तीसगढ़ की विधानसभा के सदस्यों की संख्या क्या है?

Options :

1. ✘ 85
2. ✔ 90
3. ✘ 92
4. ✘ 95
5. ✘ इनमें से कोई नहीं



Question Number : 144 Question Id : 3475352794 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Which of the following offices does not exist in the Council of ministers of Chhattisgarh?

Options :

1. ✘ Cabinet Minister
2. ✘ Minister of state
3. ✔ Deputy Minister
4. ✘ Parliamentary Secretary
5. ✘ None of these

Question Number : 144 Question Id : 3475352794 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ के मंत्रिमंडल में निम्नलिखित में से कौनसा पद नहीं है?

Options :

1. ✘ केबिनेट मंत्री
2. ✘ राज्यमंत्री
3. ✔ उपमंत्री
4. ✘ संसदीय सचिव
5. ✘ इनमें से कोई नहीं

Question Number : 145 Question Id : 3475352795 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

Where is the first IIT of Chhattisgarh being established?

Options :

1. ✘ Jagdalpur
2. ✘ Raipur
3. ✔ Bhilai
4. ✘ Ambikapur
5. ✘ None of these

Question Number : 145 Question Id : 3475352795 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ का प्रथम आइ आइ टी कहां स्थापित किया जा रहा है?

Options :

1. ✘ जगदलपुर
2. ✘ रायपुर

3. ✓ भिलाई
4. ✘ अंबिकापुर
5. ✘ इनमें से कोई नहीं

Question Number : 146 Question Id : 3475352796 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In which district of Chhattisgarh is the Sainik school located?

Options :

1. ✘ Rajnandgaon
2. ✘ Bastar
3. ✓ Sarguja
4. ✘ Raigarh
5. ✘ None of these

Question Number : 146 Question Id : 3475352796 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में सैनिक स्कूल किस जिले में स्थित है?

Options :

1. ✘ राजनांदगांव
2. ✘ बस्तर
3. ✓ सरगुजा
4. ✘ रायगढ़
5. ✘ इनमें से कोई नहीं

Question Number : 147 Question Id : 3475352797 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What was the objective of establishment of 'Integrated Infrastructural Development Centre' in Chhattisgarh?

Options :

1. ✘ To establish small industries
2. ✘ To establish medium and large industries
3. ✘ To establish small and medium industries
4. ✓ To establish small and very small industries
5. ✘ None of these

Question Number : 147 Question Id : 3475352797 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ में 'एकीकृत अधो संरचना विकास केन्द्र' की स्थापना का क्या उद्देश्य है?

Options :

1. ✘ लघु उद्योग की स्थापना
2. ✘ मध्यम एवं बृहद उद्योग की स्थापना
3. ✘ लघु एवं मध्यम उद्योग की स्थापना
4. ✔ लघु एवं अति लघु उद्योग की स्थापना
5. ✘ इनमें से कोई नहीं

Question Number : 148 Question Id : 3475352798 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the state tree of Chhattisgarh?

Options :

1. ✔ Sal
2. ✘ Teak
3. ✘ Bamboo
4. ✘ Shisham
5. ✘ None of these

Question Number : 148 Question Id : 3475352798 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

छत्तीसगढ़ का राजकीय वृक्ष क्या है?

Options :

1. ✔ साल
2. ✘ सागौन
3. ✘ बांस
4. ✘ शीशम
5. ✘ इनमें से कोई नहीं

Question Number : 149 Question Id : 3475352799 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

What is the full form of the word 'CREDA'?

Options :

1. ✘ Chhattisgarh Renewable Energy Development Authority

2. ✓ Chhattisgarh Renewable Energy Development Agency
3. ✗ Chhattisgarh Renewable Energy Development Act
4. ✗ Chhattisgarh Resources Energy Development Agency
5. ✗ None of these

Question Number : 149 Question Id : 3475352799 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

शब्द 'क्रेडा' (CREDA) का पूर्ण शाब्दिक अर्थ क्या है?

Options :

1. ✗ छत्तीसगढ़ रिन्यूवेबल एनर्जी डेवलपमेन्ट आथोरिटी
2. ✓ छत्तीसगढ़ रिन्यूवेबल एनर्जी डेवलपमेन्ट एजेन्सी
3. ✗ छत्तीसगढ़ रिन्यूवेबल एनर्जी डेवलपमेन्ट एक्ट
4. ✗ छत्तीसगढ़ रिसोर्सेस एनर्जी डेवलपमेन्ट एजेन्सी
5. ✗ इनमें से कोई नहीं

Question Number : 150 Question Id : 3475352800 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

In the year 2014, which person from Chhattisgarh was awarded with Padmashri?

Options :

1. ✗ Shri Anoop Ranjan Pandey
2. ✓ Shri Anuj Sharma
3. ✗ Dr. A.T. Dabake
4. ✗ Shri Mirza Masood
5. ✗ None of these

Question Number : 150 Question Id : 3475352800 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct : 2 Wrong : 1

वर्ष 2014 में छत्तीसगढ़ के किस व्यक्ति को पद्मश्री सम्मान से अलंकृत किया गया था?

Options :

1. ✗ श्री अनूप रंजन पांडे
2. ✓ श्री अनुज शर्मा
3. ✗ डा. ए. टी. दाबके
4. ✗ श्री मिर्जा मसूद



5. ✖ इनमें से कोई नहीं