JEE B.Arch. Paper - 2020
January-First Shift
Section : Mathematics

Q.1 For non-zero real numbers l, m, n and a, let $f(x) = lx^3 + mx + n$ and $f(a) = f(4a)$. Then the value $x \in [a, 4a]$, at which the tangent to the curve $y = f(x)$ is parallel to the x-axis, is :

1. $\sqrt{7}\, a$
2. $2a$
3. $\sqrt{5}\, a$
4. $3a$

Q.2 Let $S = 3 + 55 + 333 + 5555 + 33333 + \dots$ upto 22 terms. If $9S + 88 = A(10^{22} - 1)$, then A is equal to :

1. $\dfrac{450}{99}$
2. $\dfrac{630}{88}$
3. $\dfrac{350}{88}$
4. $\dfrac{530}{99}$

Q.3 If α and β are the coefficients of x^8 and x^{-24} respectively, in the expansion of $\left(x^4 + 2 + \dfrac{1}{x^4}\right)^{10}$ in powers of x, then $\dfrac{\alpha}{\beta}$ is equal to :

1. $\dfrac{32}{3}$
2. 39
3. $\dfrac{13}{2}$
4. 26

Q.4 If the roots α and β of the equation, $x^2 - \sqrt{2}\, x + c = 0$ are complex for some real number $c \neq 1$ and $\left|\dfrac{\alpha - \beta}{1 - \alpha\beta}\right| = 1$, then a value of c is :

1. $3 - \sqrt{6}$
2. $4 - \sqrt{6}$
3. $-1 + \sqrt{6}$
4. $-2 + \sqrt{6}$

Q.5 Let X be a random variable which takes values k with the probability kp, where $k = 1, 2, 3, 4$ and $p \in (0, 1)$. Then the standard deviation of X is :

1. $\sqrt{7}$
2. 1
3. $\sqrt{10}$
4. 3

Q.6 If $x = e^t \sin t$ and $y = e^t \cos t$, t is a parameter, then the value of $\dfrac{d^2 x}{dy^2} + \dfrac{d^2 y}{dx^2}$ at $t = 0$, is :

1. $\dfrac{1}{2}$
2. 2
3. 0
4. -2

Q.7 Let C be the circle concentric with the circle, $2x^2 + 2y^2 - 6x - 10y = 183$ and having area $\left(\dfrac{1}{10}\right)^{th}$ of the area of this circle. Then a tangent to C, parallel to the line, $3x + y = 0$ makes an intercept on the y-axis, which is equal to :

1. 17
2. 14
3. -10
4. -4

Q.8 The integral $\displaystyle\int \dfrac{(2\sin\theta - 1)\cos\theta}{5 - \cos^2\theta - 4\sin\theta}\, d\theta$ is equal to :
(where C is a constant of integration)

1. $3\log_e(2 + \cos\theta) + \dfrac{2}{2 - \cos\theta} + C$
2. $3\log_e(2 - \cos\theta) + \dfrac{2}{2 - \sin\theta} + C$
3. $2\log_e(2 + \sin\theta) + \dfrac{3}{2 - \cos\theta} + C$
4. $2\log_e(2 - \sin\theta) + \dfrac{3}{2 - \sin\theta} + C$

Q.9 In a certain town, 25% families own a phone, 15% families own a car, 65% families own neither a phone nor a car and 2000 families own both a car and a phone. Consider the following Statements (S) :

(S_1) : 35% families own at least one of a car or a phone.

(S_2) : 40,000 families live in the town.

Then :

1. (S_1) is false and (S_2) is true.

2. (S_1) is true and (S_2) is false.

3. Both (S_1) and (S_2) are false.

4. Both (S_1) and (S_2) are true.

Q.10 Let P be the point of intersection of two lines

$$\frac{x+10}{1} = \frac{y-21}{7} = \frac{z+11}{5} \quad \text{and}$$

$$\frac{x-1}{5} = \frac{y-46}{9} = \frac{z}{3}. \quad \text{If Q be the point}$$

$(-10, 21, -11)$; then PQ is equal to :

1. $5\sqrt{3}$ 2. $5\sqrt{2}$

3. 5 4. 3

Q.11 The value of $\cot\frac{\pi}{24}$ is :

1. $1 - \sqrt{2} + \sqrt{3} + \sqrt{6}$ 2. $2 + \sqrt{2} + \sqrt{3} + \sqrt{6}$

3. $2 + \sqrt{2} + \sqrt{3} - \sqrt{6}$ 4. $1 + \sqrt{2} + \sqrt{3} + \sqrt{6}$

Q.12 Let A be a 2×2 matrix such that $3A^2 + 6A - 4I = 0$. Then a value of $|A + I|$ is :

1. $-\frac{7}{\sqrt{3}}$ 2. $\frac{3}{7}$

3. $\sqrt{\frac{7}{3}}$ 4. $-\frac{7}{3}$

Q.13 If θ is the angle between the line

$$\vec{r} = \left(\hat{i} + 2\hat{j} - \hat{k}\right) + \lambda\left(\hat{i} - \hat{j} + 2\hat{k}\right), \lambda \in R$$

and the plane $\vec{r} \cdot \left(2\hat{i} - \hat{j} + \hat{k}\right) = 4$, then a value of $\cos\theta$ is :

1. $\frac{\sqrt{7}}{3}$ 2. $\frac{\sqrt{35}}{6}$

3. $\frac{\sqrt{13}}{6}$ 4. $\frac{\sqrt{11}}{6}$

Q.14

If $f(x) = \begin{vmatrix} \sin x & \cos x & \tan x \\ x^3 & x^2 & x \\ 2x & 1 & x \end{vmatrix}$,

$x \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$, then $\lim\limits_{x \to 0} \frac{f(x)}{x^2}$ is equal to :

1. 2 2. 1

3. 0 4. 3

Q.15 If the probability of a shooter A not hitting a target is 0.5 and that for the shooter B is 0.7, then the probability that either A or B fails to hit the target is :

1. 0.85 2. 0.25

3. 0.35 4. 0.20

Q.16 The Boolean expression

$\sim (p \vee q) \vee (\sim p \wedge q)$ is equivalent to :

1. q 2. p

3. $\sim q$ 4. $\sim p$

Q.17 The set of all positive real values of k, for which the equation $x^3 - 9x^2 + 24x - k = 0$ has three distinct real roots, is the interval :

1. $(12, 16)$ 2. $(14, 18)$

3. $(18, 21)$ 4. $(16, 20)$

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Q.18 The area (in sq. units) of the region,
R = $\{(x, y) : y \le x^2, y \le 2x + 3, x \le 1$ and $y + 1 \ge 0\}$ is :

1. $\dfrac{10}{3}$

2. $\dfrac{8}{3}$

3. $\dfrac{13}{3}$

4. $\dfrac{11}{3}$

Q.19 The area (in sq. units) of the region enclosed by the lines, $ax \pm by \pm c = 0$ (a, b, c ϵ **R** are positive and distinct) is :

1. $\dfrac{2c^2}{ab}$

2. $\dfrac{2a^2}{bc}$

3. $\dfrac{4c^2}{ab}$

4. $\dfrac{2b^2}{ac}$

Q.20 If an ellipse has centre at $(0, 0)$, a focus at $(-3, 0)$ and the corresponding directrix is $3x + 25 = 0$, then it passes through the point :

1. $\left(\dfrac{5}{\sqrt{2}}, \dfrac{4}{\sqrt{2}}\right)$

2. $\left(-5, -\dfrac{4}{\sqrt{2}}\right)$

3. $\left(\dfrac{5}{2}, 4\right)$

4. $(-5, -4)$

Q.21 The interior angles of a polygon are all obtuse and are in A.P. If the smallest angle is 120° and common difference of this A.P. is 5°, then the number of sides of the polygon is _____.

Q.22 If $y = y(x)$ is the solution of the differential equation, $x\dfrac{dy}{dx} = y(\log_e y - \log_e x + 1)$, when $y(1) = 2$, then $y(2)$ is equal to _____.

Q.23 $\displaystyle\lim_{y \to 0} \dfrac{(y - 2) + 2\sqrt{1 + y + y^2}}{2y}$ is equal to _____.

Q.24 If S = $\{z \epsilon \mathbb{C} : \bar{z} = iz^2\}$, then the maximum value of $|z - \sqrt{3} - i|^2$ on S is _____.

Q.25 The largest value of n ϵ **N** for which $\dfrac{74}{{}^nP_n} > \dfrac{{}^{n+3}P_3}{{}^{n+1}P_{n+1}}$ is _____.

Section : Aptitude

Q.1 What is the normal height of a doorway in residences ?

1. 1.5 meters
2. 2.8 meters
3. 2.1 meters
4. 2.5 meters

Q.2 The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
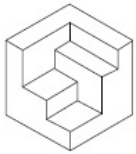

1.
2.
3.
4.

Q.3 What is the thickness of a half brick thick wall ?

1. 4.5″
2. 9″
3. 6″
4. 8″

Q.4 The 3 - D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
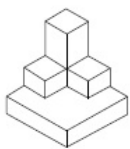
1.
2.
3.
4.

Q.5 Which one of the answer figures is the correct mirror image of the problem figure with respect to X - X ?

1.
2.
3.
4.
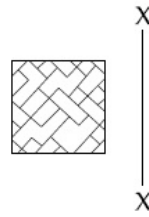
Q.6 The 3 - D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
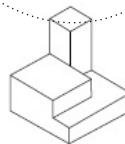
1.
2.
3.
4.

Q.7 Which one of the following colors absorbs all light falling on it ?

1. Blue
2. Black
3. Pink
4. Green

Q.8 The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.   2.

3.   4.
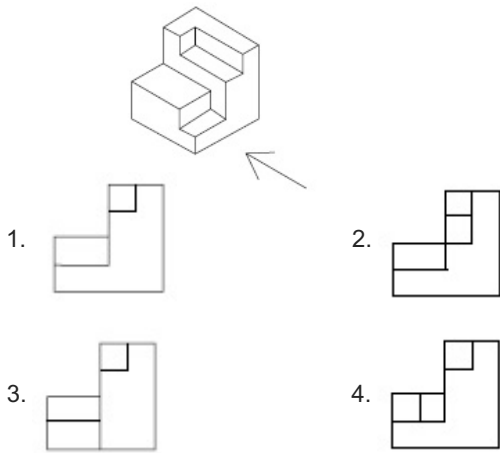
Q.9 In which one of the following countries is Piazza San Marco located ?

1. France   2. Italy
3. Germany   4. England

Q.10 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

1.   2.

3.   4.
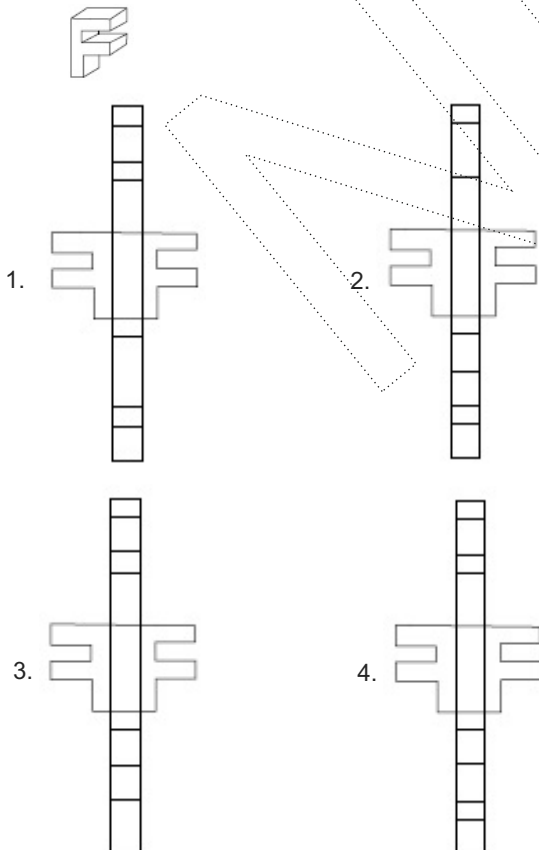
Q.11 Find the odd figure out of the problem figures given below.
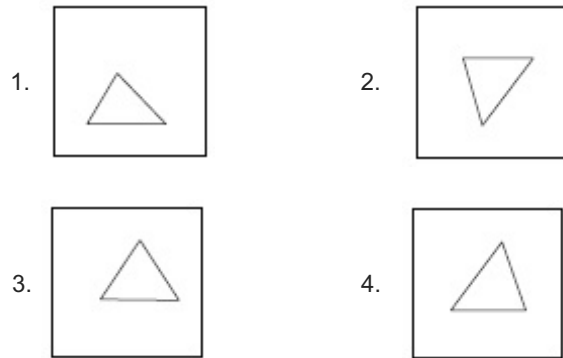
1.   2.

3.   4.

Q.12 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.   2.

3.   4.
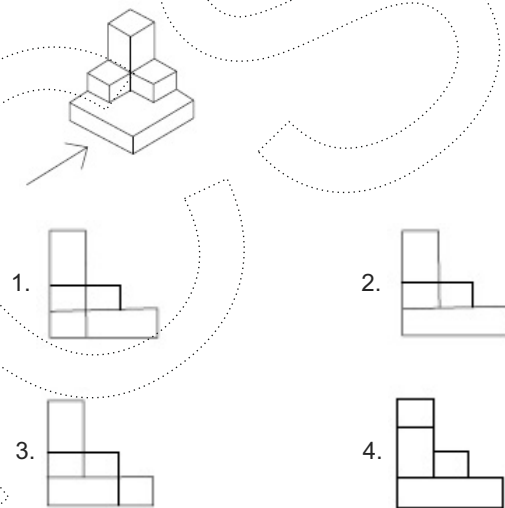
Q.13 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.   2.

3.   4.
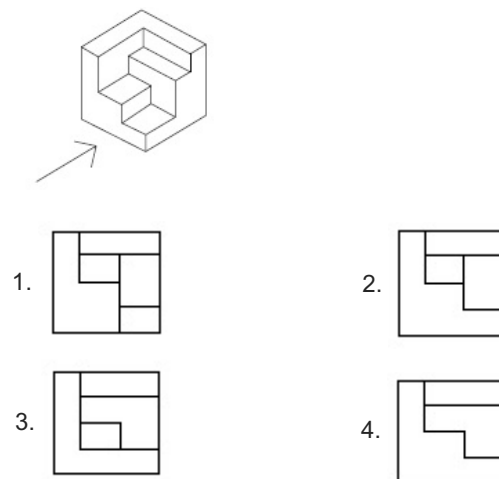
Q.14 The 3 - D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
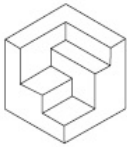
1.
2.
3.
4.

**Q.15** The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
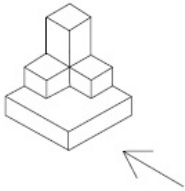
1.
2.
3.
4.

Q.16 In which one of the following States is the Konark Sun Temple ?

1. Karnataka
2. Odisha
3. Andhra Pradesh
4. Haryana

Q.17 Find the odd figure out of the problem figures given below.

1.
2.
3.
4.

Q.18 In the Northern Hemisphere the summer sun sets in which one of the following directions ?

1. North West
2. South East
3. South West
4. North East

Q.19 Which one of the answer figures is the correct mirror image of the problem figure with respect to X - X ?
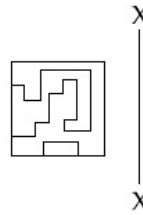
1.
2.
3.
4.

Q.20 Find the odd figure out of the problem figures given below.

1.
2.
3.
4.

Q.21 Which one of the following colors is perceived as cowardice ?

1. Orange
2. Pink
3. Yellow
4. Purple

Q.22 In which one of the following situations are trusses normally used in buildings ?

1. Buildings in Deserts
2. Under Water Buildings
3. Large Span Buildings
4. High Rise Buildings

Q.23 The 3 - D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
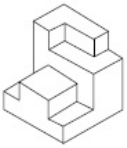
1.
2.
3.
4.

Q.24 Which one of the following architects designed the Madhya Pradesh Assembly Building ?

1. Charles Correa
2. B.V. Doshi
3. A.P. Kanvinde
4. Raj Rewal

Q.25 The 3 – D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

1.
2.

3.
4.

Q.26 Which one of the answer figures is the correct mirror mirror image of the problem figure with respect to X - X ?
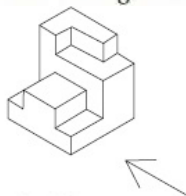

1.
2.
3.
4.

Q.27 One of the following answer figures is hidden in the problem figure in the same size and direction. Select the correct one.

1.
2.
3.
4.

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Q.28 The 3 - D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
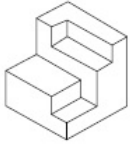
1.
2.
3.
4.

Q.29 What is the purpose of louvers in buildings ?

1. To stop wind from entering
2. To support buildings
3. To hide something
4. As sun breakers

Q.30 Find the odd figure out of the problem figures given below.

1.
2.
3.
4.
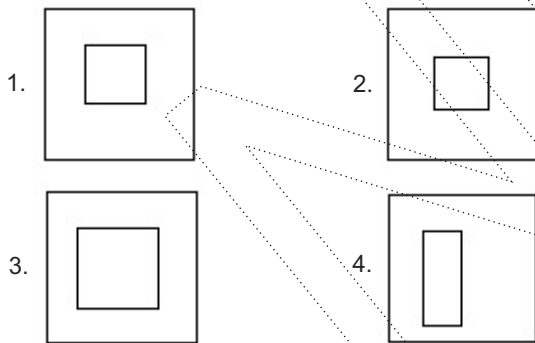
Q.31 One of the following answer figures is hidden in the problem figure in the same size and direction. Select the correct one.
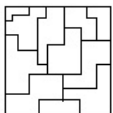
1.
2.
3.
4.

Q.32 In which one of the following countries are Zen gardens popular ?

1. Thailand
2. Japan
3. China
4. Pakistan

Q.33 One of the following answer figures is hidden in the problem figure in the same size and direction. Select the correct one.
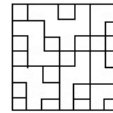
1.
2.
3.
4.

Q.34 Chhatrapati Shivaji Terminus is located in which one of the following cities ?

1. Mumbai
2. Delhi
3. Bangalore
4. Kolkata

Q.35 The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
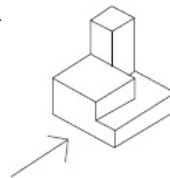

1.
2.
3.
4.

Q.36 Which one of the following textures describes the surface of a mirror ?

1. Grainy
2. Coarse
3. Wrinkled
4. Shiny

Q.37 Which one of the answer figures is the correct mirror image of the problem figure with respect to X - X ?
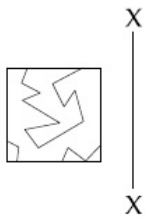
1.
2.
3.
4.

Q.38 The Louvre in Paris is which one of the following ?

1. A Residence
2. A Dance Hall
3. A Museum
4. A Banquet Hall

Q.39 Find the odd figure out of the problem figures given below.

1.
2.
3.
4.
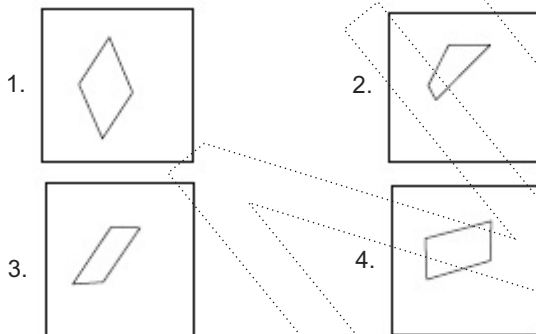
Q.40 The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.
2.
3.
4.

**Q.41** The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
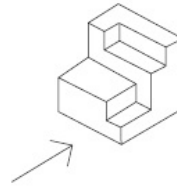
1.
2.
3.
4.

Q.42 One of the following answer figures is hidden in the problem figure in the same size and direction. Select the correct one.

1.
2.
3.
4.

Q.43 One of the following answer figures is hidden in the problem figure in the same size and direction. Select the correct one.
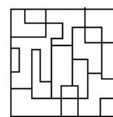

1.
2.
3.
4.

Q.44 The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.
2.
3.
4.
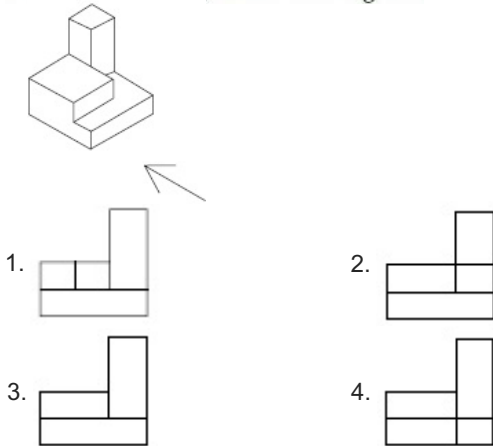
Q.45 Which one of the following floorings is ideal for indoor badminton courts ?

1. Brick
2. Granite
3. Marble
4. Wood

Q.46 The 3 - D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.
2.
3.
4.
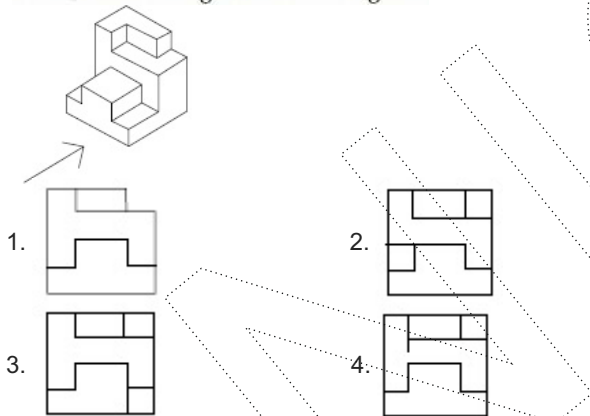
Q.47 Which one of the answer figures is the correct mirror image of the problem figure with respect to X - X ?

X

X

1.
2.
3.
4.
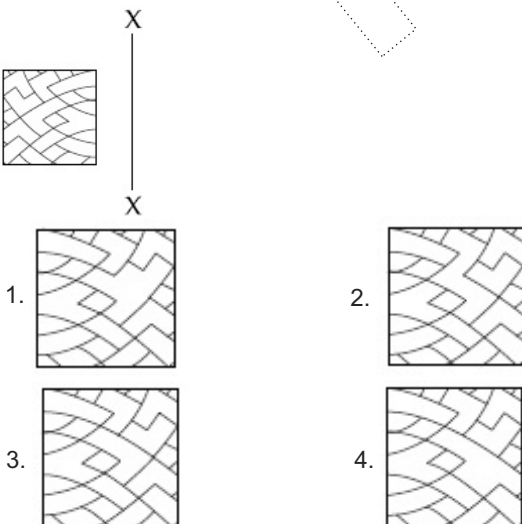
Q.48 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

1.
2.
3.
4.
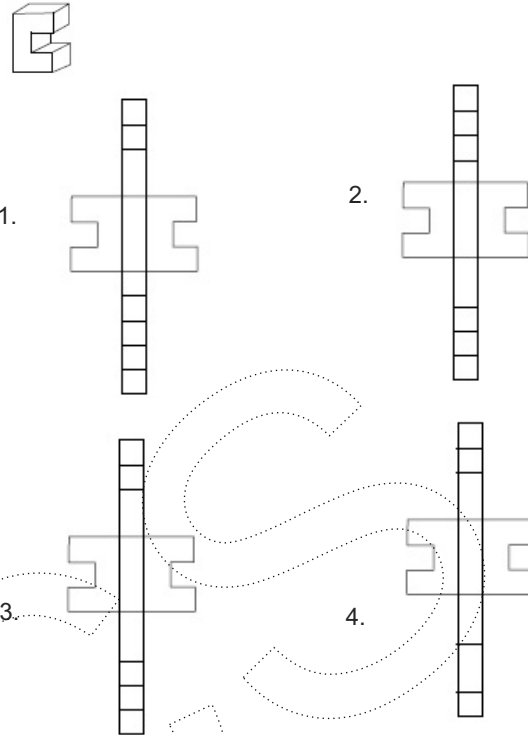
Q.49 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures

1.
2.
3.
4.
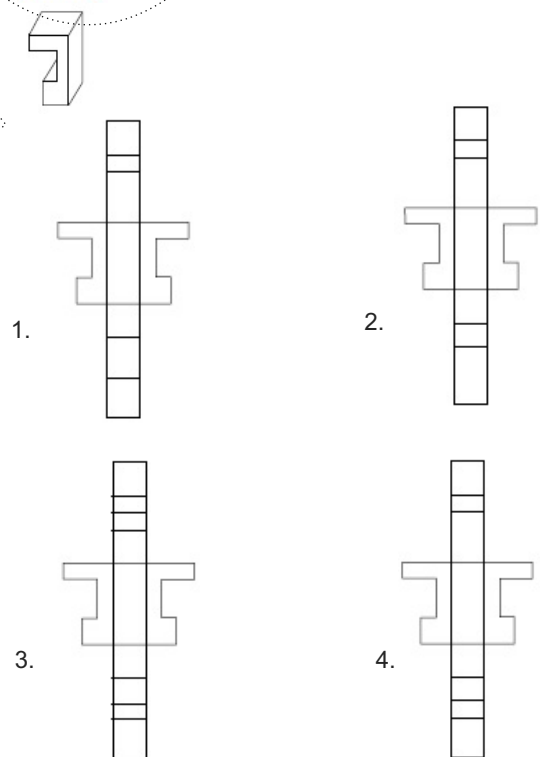
Q.50 The 3 – D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

1.

2.

3.

4.
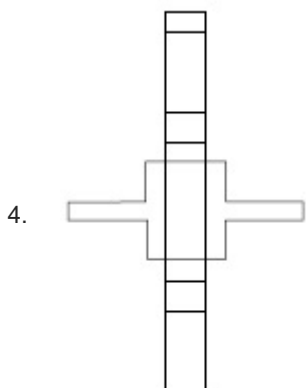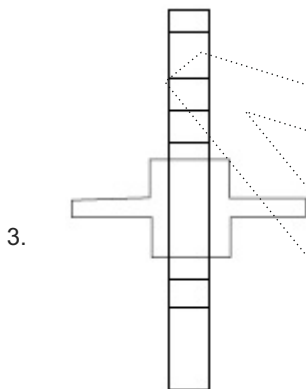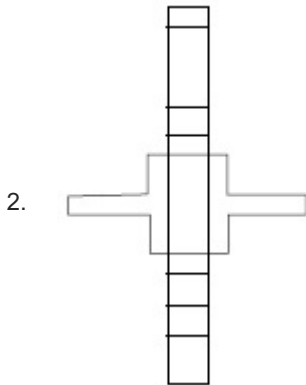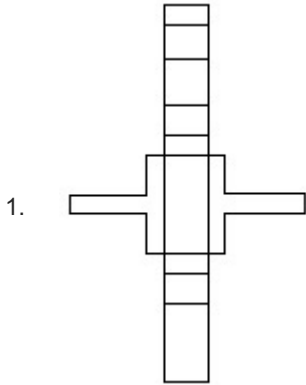
Section : Mathematics

Q.1 If $x = x(y)$ is the solution of the differential equation, $y\,dx - (x + 2y^2)\,dy = 0$, with $x(-\pi) = \pi^2$, then x is equal to :

1. $-2y^2 + 3\pi y$
2. $2y^2 + \pi y$
3. $2y^2 - \pi^2$
4. $-y^2 - 2\pi y$

Q.2 Let $A = \begin{bmatrix} x & 2y \\ -1 & y \end{bmatrix}$; $x, y \in \mathbf{R}$.

If $AA^T = \begin{bmatrix} 1 & 0 \\ 0 & \alpha \end{bmatrix}$ $(\alpha \in \mathbf{R})$, then $\alpha + y^2$ is equal to :

1. $\sqrt{2}$
2. $\sqrt{2} - 1$
3. 2
4. 1

Q.3 $\displaystyle\lim_{x \to 1}\left\{\log_e\left(e^{x(x-1)} - e^{x(1-x)}\right) - \log_e\left(4x(x-1)\right)\right\}$ is equal to :

1. 1
2. $1 - \log_e 2$
3. $-\log_e 2$
4. $-2\log_e 2$

Q.4 If m be the least value of $|z - 3 + i4|^2 + |z - 5 - i2|^2$, $z \in \mathbb{C}$ attained at $z = z_0$, then the ordered pair $(|z_0|, m)$ is equal to :

1. $\left(\sqrt{13}, 20\right)$
2. $\left(\sqrt{17}, 20\right)$
3. $\left(\sqrt{13}, 10\right)$
4. $\left(\sqrt{17}, 10\right)$

Q.5 The function $f(x) = e^{x+1}\,(4x^2 - 16x + 11)$ is :

1. decreasing in $\left(-\infty, \dfrac{1}{2}\right) \cup \left(\dfrac{5}{2}, \infty\right)$
2. decreasing in $\left(-\infty, -\dfrac{5}{2}\right) \cup \left(\dfrac{1}{2}, \infty\right)$
3. increasing in $(-\infty, -2) \cup (2, \infty)$
4. increasing in $\left(-\infty, -\dfrac{1}{2}\right) \cup \left(\dfrac{5}{2}, \infty\right)$

Q.6 If for some $c < 0$, the quadratic equation, $2cx^2 - 2(2c - 1)x + 3c^2 = 0$ has two distinct real roots, $\dfrac{1}{a}$ and $\dfrac{1}{b}$, then the value of the

determinant, $\begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix}$ is :

1. 1
2. 2
3. 0
4. $\dfrac{4}{3}$

Q.7 If $A = \{1, 2, 3, 4\}$, then the number of functions on the set A, which are **not** one - one, is :

1. 240
2. 232
3. 248
4. 256

Q.8 The area (in sq. units) of the region $\left\{(x, y) : \dfrac{1}{2} \le y \le \sin x, 0 \le x \le \pi\right\}$ is :

1. $\sqrt{3} - \dfrac{\pi}{3}$
2. $3 - \dfrac{2\pi}{3}$
3. $\sqrt{3} - \dfrac{\pi}{6}$
4. $3 - \dfrac{\pi}{3}$

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Q.9 The sum of the values of x satisfying the equation, $\sqrt{x}\left(\sqrt{x}-4\right)-3\left|\sqrt{x}-2\right|+6=0$ $(x\geq 0)$, is :

1. 25
2. 8
3. 10
4. 26

Q.10 If $10\sin^4\alpha+15\cos^4\alpha=6$, $\alpha\in\left(-\dfrac{\pi}{2},\dfrac{\pi}{2}\right)$, then $27\operatorname{cosec}^6\alpha+8\sec^6\alpha$ is equal to :

1. 250
2. 240
3. 270
4. 280

Q.11 If a variable plane in 3-dimensional space moves in such a way that the sum of the reciprocals of its intercepts on the x and y-axes exceeds the reciprocal of its intercept on the z-axis by 2, then all such planes will pass through the point :

1. $\left(\dfrac{1}{2},\dfrac{1}{2},\dfrac{1}{2}\right)$
2. $\left(\dfrac{1}{2},-\dfrac{1}{2},-\dfrac{1}{2}\right)$
3. $\left(\dfrac{1}{2},-\dfrac{1}{2},\dfrac{1}{2}\right)$
4. $\left(\dfrac{1}{2},\dfrac{1}{2},-\dfrac{1}{2}\right)$

Q.12 Let the ellipse, $\dfrac{x^2}{a^2}+\dfrac{y^2}{b^2}=1$, $a>b$, pass through the point $(2,3)$ and have eccentricity equal to $\dfrac{1}{2}$. Then equation of the normal to this ellipse at $(2,3)$ is :

1. $2y-x=4$
2. $3x-2y=0$
3. $3x-y=3$
4. $2x-y=1$

Q.13 Let the data $4,10,x,y,27$ be in the increasing order. If the median of the data is 18 and its mean deviation about mean is 7.6, then the mean of this data is :

1. 15.5
2. 17
3. 16.5
4. 16

Q.14 Let S_n denote the sum of the first n terms of an A.P., $a_1, a_2, a_3, \dots, a_n$. If $a_5+a_9=1$ and $S_9=6$, then which one of the following is not true ?

1. $S_{13}=\dfrac{13}{2}$
2. $a_{13}=0$
3. $S_6=\dfrac{19}{2}$
4. $a_6+a_8=1$

Q.15 If $\displaystyle\sum_{r=1}^{9}\left(\dfrac{r+3}{2^r}\right){}^9C_r=\alpha\left(\dfrac{3}{2}\right)^9+\beta$, then $\alpha+\beta$ is equal to :

1. 2
2. 6
3. 3
4. 9

Q.16 If the volume of a parallelopiped whose coterminous edges are $\vec{a}=\hat{i}+\hat{j}+2\hat{k}$, $\vec{b}=2\hat{i}+\lambda\hat{j}+\hat{k}$ and $\vec{c}=2\hat{i}+2\hat{j}+\lambda\hat{k}$ is 35 cu.m, then a value of $\vec{a}\cdot\vec{b}+\vec{b}\cdot\vec{c}-\vec{c}\cdot\vec{a}$ is:

1. 2
2. 22
3. -10
4. -14

Q.17 A bag contains 6 red balls and 10 green balls. 3 balls are drawn from it one by one randomly without replacement. If the 3rd drawn ball is red, then the probability that the first two drawn balls are green is :

1. 3/7
2. 9/56
3. 9/49
4. 3/8

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Q.18 Let a function, $f : (-1, 3) \to \mathbf{R}$ be defined as $f(x) = \min\{x[x], |x[x] - 2| + 2\}$, where $[x]$ denotes the greatest integer $\leq x$. Then f is :

1. not continuous at two points and not differentiable at 3 points.

2. neither continuous nor differentiable at exactly two points.

3. neither continuous nor differentiable at exactly 3 points.

4. not continuous at only one point and not differentiable at three points.

Q.19 A ray of light is projected from the origin at angle of $60°$ with the positive direction of x-axis towards the line, $y = 2$, which gets reflected from the point $(\alpha, 2)$. Then the distance of the reflected ray of light from the point $(2, 2)$ is :

1. $\sqrt{3} - 1$

2. $2\left(1 - \dfrac{1}{\sqrt{3}}\right)$

3. $1 - \dfrac{1}{\sqrt{3}}$

4. $3 - \sqrt{3}$

Q.20 Which of the following is **not** equivalent to $\sim p \wedge q$?

1. $\sim(q \to p)$

2. $\sim p \to \sim q$

3. $\sim p \wedge (\sim p \to q)$

4. $\sim(p \vee \sim q)$

Q.21 If the total number of ways in which 8-digit numbers can be formed by using all the digits 0, 1, 2, 3, 4, 5, 7, 9 such that no two even digits appear together is $(5!)k$, then k is equal to _____.

Q.22 Let $a, b \in \mathbf{R}$ and $a > 0$. If the tangent at the point $(2, 2)$ to the circle $x^2 + y^2 = 8$ touches the parabola $y^2 = 4a(x - b)$, then $b - a$ is equal to _____.

Q.23 If the line joining the points $(-1, 2, 5)$ and $(3, 4, -10)$ intersects the xy-plane at the point (x, y, z), then $\dfrac{y}{x}$ is equal to _____.

Q.24 Let $f(x) = \begin{cases} |x - 3| , & \text{if } x < -1 \\ 3x + 4 , & \text{if } x \geq -1 \end{cases}$,

$g(x) = x^2 - bx - 2$ $(x \in \mathbf{R})$ and b is a real constant. If gof is continuous at $x = -1$, then b is equal to _____.

Q.25 If $\int e^{2x} (\cos x + 7 \sin x)\, dx = e^{2x} g(x) + c$, where c is a constant of integration, then $g(0) + g\left(\dfrac{\pi}{2}\right)$ is equal to _____.

Section : Aptitude

Q.1 The 3 – D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
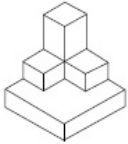
1.
2.
3.
4.

Q.2 In which State in India are the large Tea Gardens located ?

1. Kerala
2. Uttar Pradesh
3. Punjab
4. Odisha

Q.3 The 3 – D figure shows the view of an object. Identify the correct top view from amongst the answer figures.
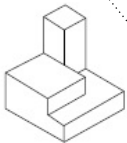
1.
2.
3.
4.

Q.4 The problem figure shows the top view of an object. Identify the correct elevation from amongst the answer figures looking in the direction of the arrow.

1.
2.
3.
4.

Q.5 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
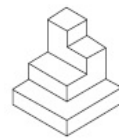

1.
2.
3.
4.
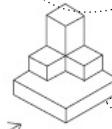
Q.6 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
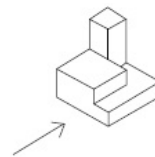

1.
2.
3.
4.

Q.7 The problem figure shows the top view of an object. Identify the correct elevation from amongst the answer figures looking in the direction of the arrow.
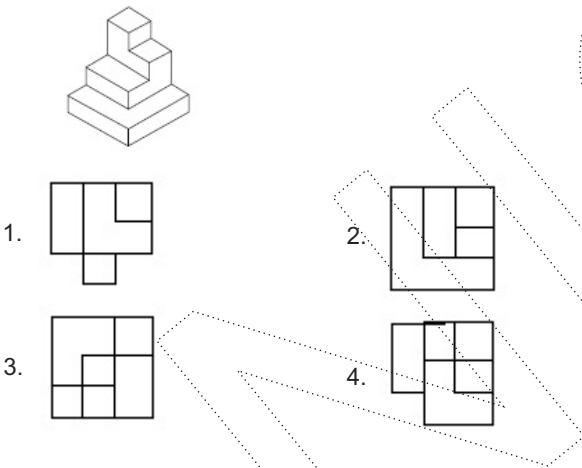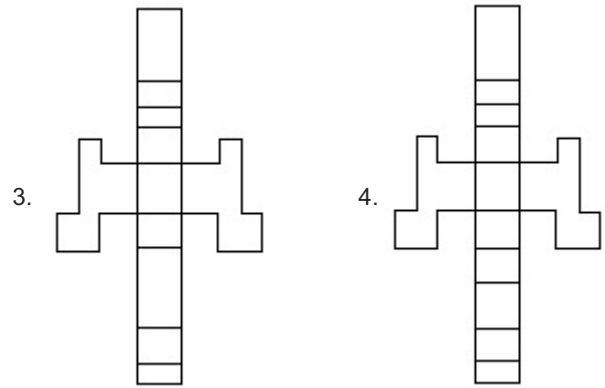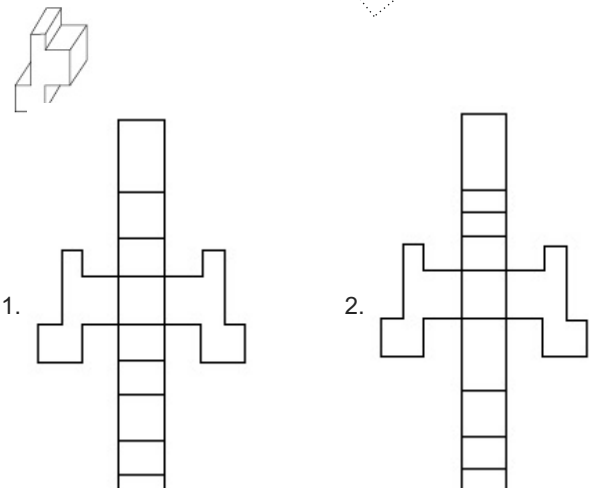

1.

2.

3.

4.

Q.8 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
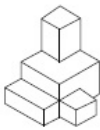
1.

2.

3.

4.

Q.9 What among the following would be the ideal material for flooring of a steel factory ?

1. Granite

2. Tiles

3. Steel

4. Wood

Q.10 Which one of the answer figures is the correct mirror image of the problem figure with respect to X – X ?
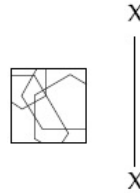
1.

2.

3.

4.

Q.11 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

1.

2.

3.
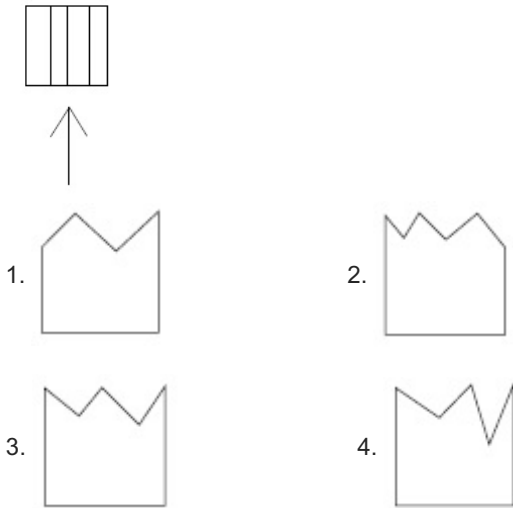
4.

Q.12 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
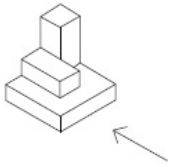
1.
2.
3.
4.

Q.13 Who was the architect of the glass pyramid at the Louvre Paris ?

1. Walter Gropius
2. Frank Lloyd Wright
3. Charles Correa
4. I.M. Pei

Q.14 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
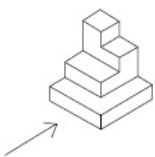
1.
2.
3.
4.

Q.15 Which one of the following is a purpose for installing false ceilings ?

1. Making the building fire proof
2. Making the space acoustically effective
3. Making the building water proof
4. Supporting the walls

Q.16 Who amongst the following is an architect ?

1. Geoffery Bawa
2. Louis Armstrong
3. Donald Trump
4. Sharmila Tagore

Q.17 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.
2.
3.
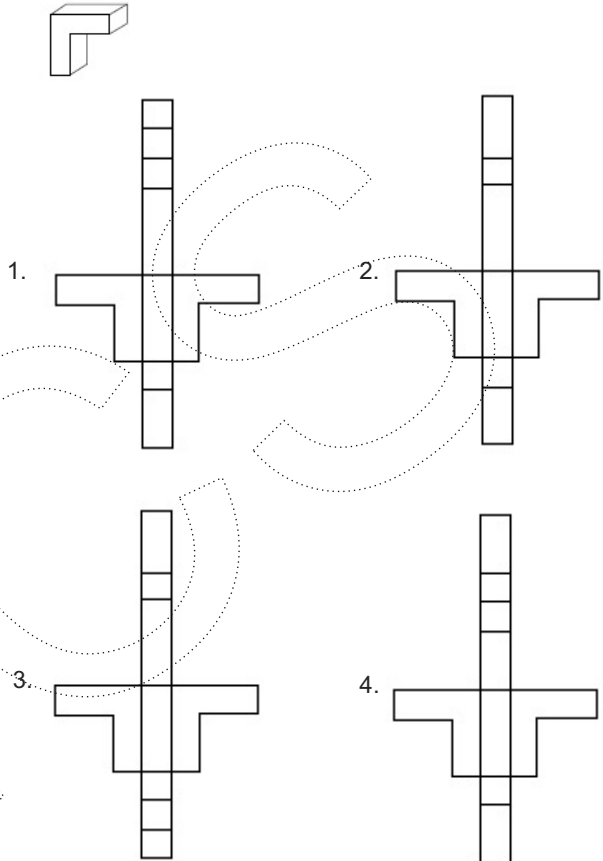4.

Q.18 The problem figure shows the top view of an object. Identify the correct elevation from amongst the answer figures looking in the direction of the arrow.

1.
2.
3.
4.

Q.19 Which one of the answer figures is the correct mirror image of the problem figure with respect to X – X ?
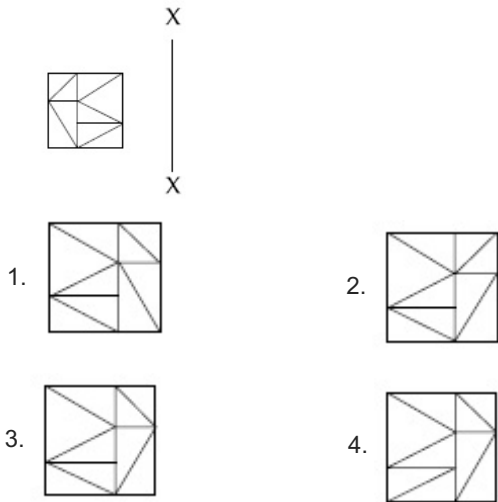
Q.20 The 3 – D figure shows the view of an object. Identify the correct top view from amongst the answer figures.

Q.21 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

Q.22 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.
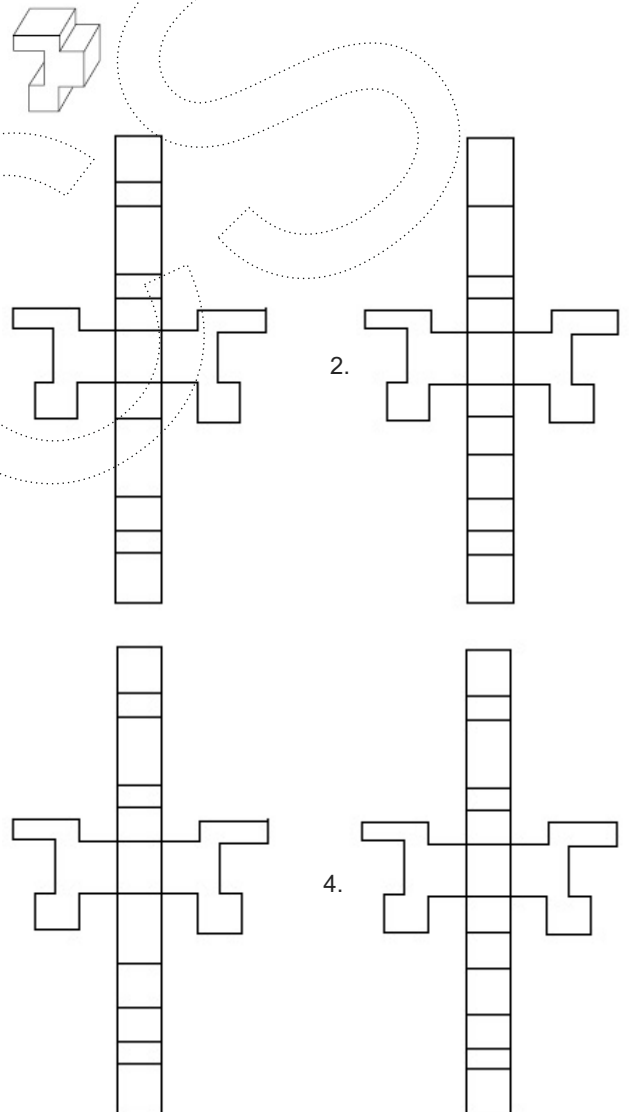

Q.23 Who was the architect of the LIC Building in Connaught Place, New Delhi ?

1. Raj Rewal
2. Louis Kahn
3. Charles Correa
4. Zaha Hadid

Q.24 Where from the following is the National Gallery of Modern Art located ?

1. Lucknow
2. Bangalore
3. New Delhi
4. Mysore

Q.25 The problem figure shows the top view of an object. Identify the correct elevation from amongst the answer figures looking in the direction of the arrow.

1.
2.
3.
4.

Q.26 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.
2.
3.
4.
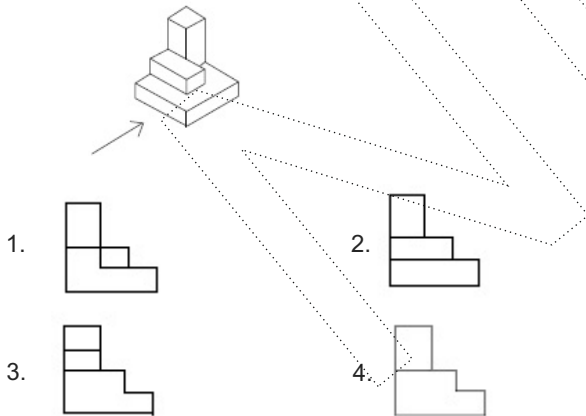
Q.27 What is the purpose of a chimney in a building ?

1. To make the building water proof
2. To take out the smoke from a fire place
3. To give strength to a building
4. To hold the building up

Q.28 What is the texture of sand-paper ?

1. Coarse
2. Shiny
3. Smooth
4. Glossy

Q.29 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.

1.
2.
3.
4.

Q.30 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.


1.
2.
3.
4.
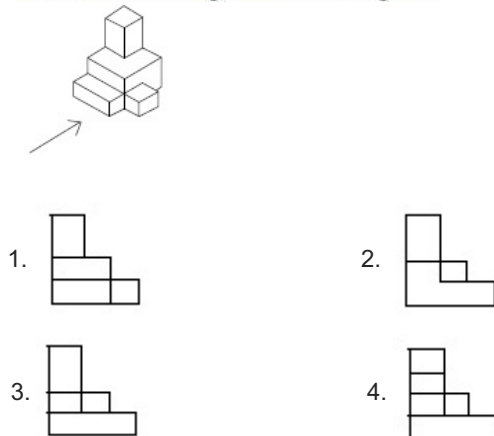
Q.31 Which one of the following is a secondary color ?

1. Red
2. Blue
3. Green
4. Yellow

Q.32 The 3 - D figure shows the view of an object. Identify the correct view when the figure is opened up, from amongst the answer figures.
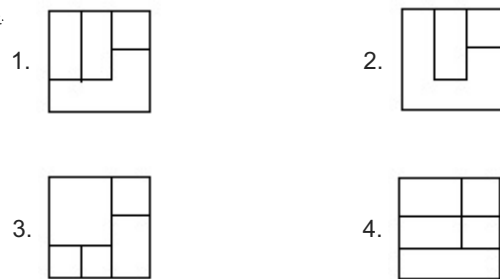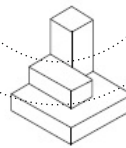

1.
2.
3.
4.
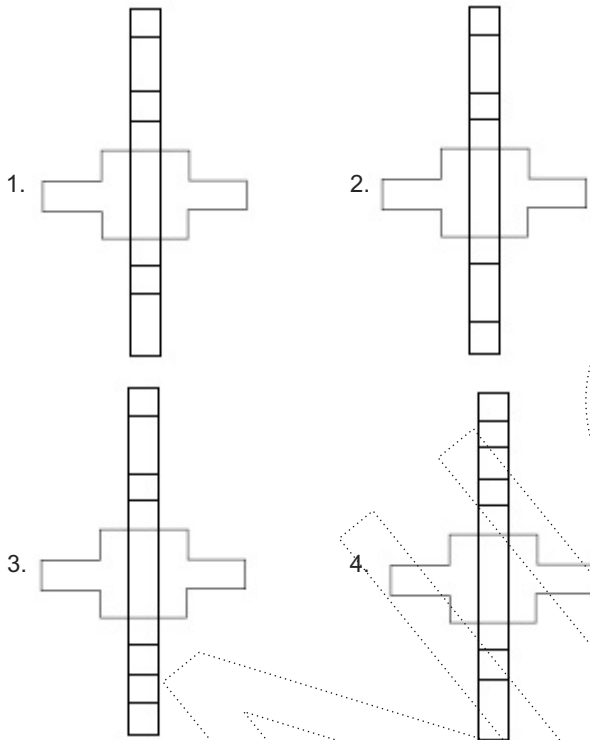
Q.33 The problem figure shows the top view of objects. Looking in the direction of the arrow, identify the correct elevation, from amongst the answer figures.

1.
2.
3.
4.
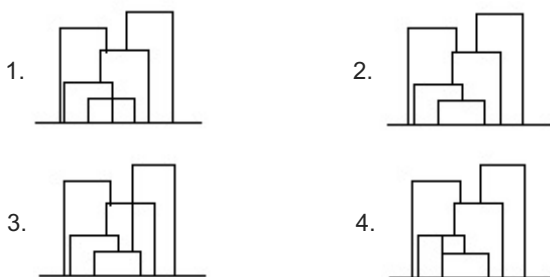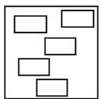
Q.34 The problem figure shows the top view of objects. Looking in the direction of the arrow, identify the correct elevation, from amongst the answer figures.
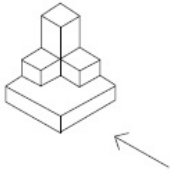

1.
2.
3.
4.

Q.35 The 3 – D figure shows the view of an object. Identify the correct top view from amongst the answer figures.

1.
2.
3.
4.
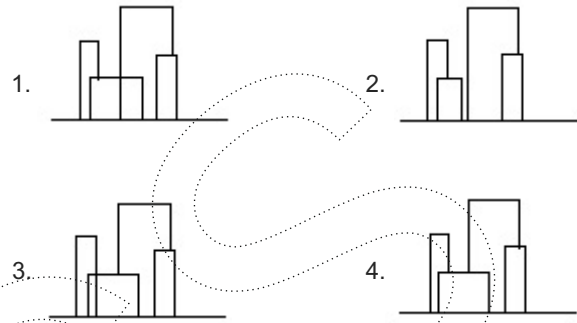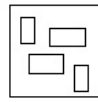
Q.36 Where from among the following is the famous St. Peters located ?

1. Denmark
2. Norway
3. Venice
4. Rome

Q.37 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.
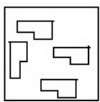

1.   2.

3.   4.

Q.38 What amongst the following is the thickness of a two brick wall ?

1. 16″   2. 18″

3. 20″   4. 22″

Q.39 The problem figure shows the top view of objects. Looking in the direction of the arrow, identify the correct elevation, from amongst the answer figures.
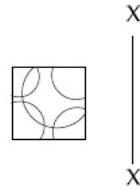

1.   2.

3.   4.

Q.40 Buckingham Palace is the Residence of which one of the following ?
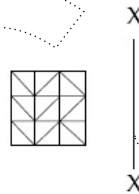
1. King of Nepal   2. King of Netherlands

3. Queen of England   4. King of Prussia

Q.41 Which one of the answer figures is the correct mirror image of the problem figure with respect to X – X ?
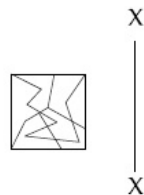

1.   2.

3.   4.

Q.42 Which one of the answer figures is the correct mirror image of the problem figure with respect to X – X ?

1.   2.

3.   4.

Q.43 Which one of the answer figures is the correct mirror image of the problem figure with respect to X – X ?


1.   2.

3.   4.

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Q.44 The problem figure shows the top view of an object. Identify the correct elevation from amongst the answer figures looking in the direction of the arrow.


1.
2.
3.
4.
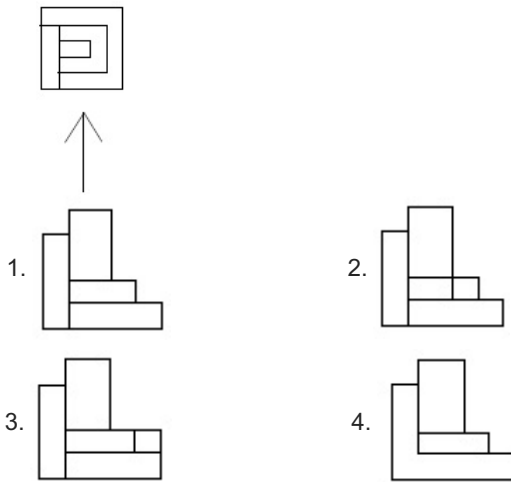
Q.45 The 3 – D figure shows the view of an object. Identify the correct view in the direction of the arrow, from amongst the answer figures.

1.
2.
3.
4.
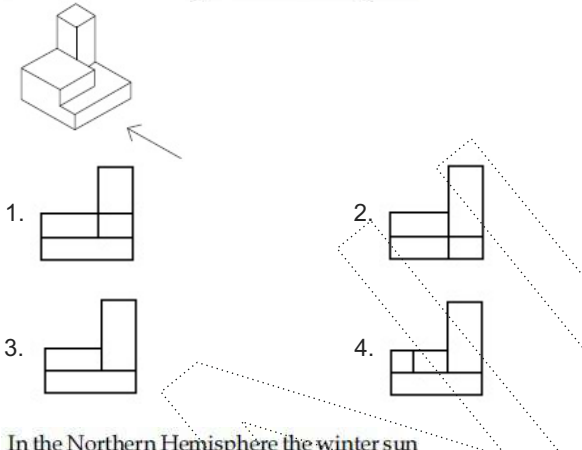
**Q.46** In the Northern Hemisphere the winter sun rises from which one of the following directions ?

1. North East
2. South West
3. South East
4. North West

Q.47 The 3 – D figure shows the view of an object. Identify the correct top view from amongst the answer figures.


1.
2.
3.
4.
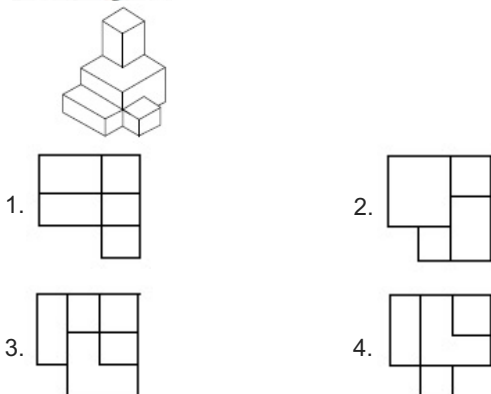
Q.48 The problem figure shows the top view of objects. Looking in the direction of the arrow, correct elevation, from amongst the answer figures?

1.
2.
3.
4.
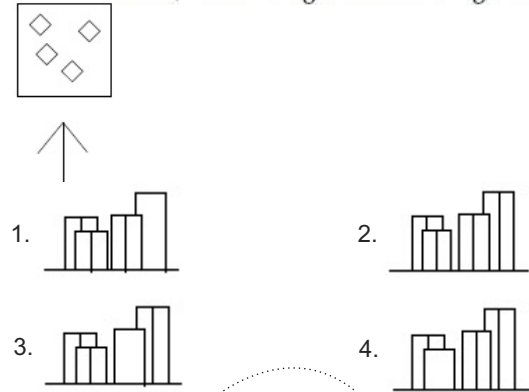
Q.49 Which one of the following is considered to be a calming color ?

1. Red
2. Orange
3. Blue
4. Green

Q.50 The problem figure shows the top view of objects. Looking in the direction of the arrow, identify the correct elevation, from amongst the answer figures.

1.
2.
3.
4.
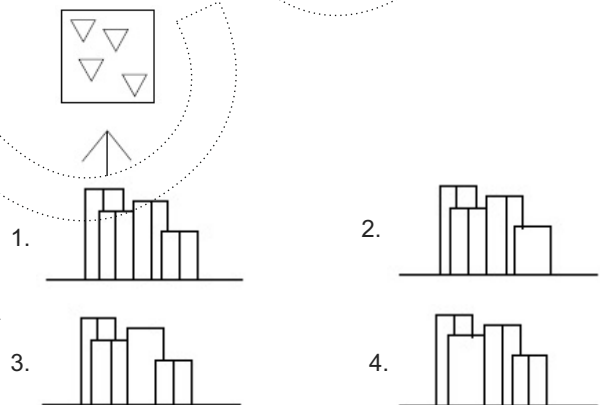
B. Arch. JEE Paper (2) - 2020
January (Shift-First)
Section : Drawing

Q.1 In the space provided for the answer of this [50 marks] question, draw an aesthetic composition appropriate to this space using only cylinders. There is no restriction to numbers, sizes, placement and directions of these shapes. Color this composition so that it becomes visually exciting.

Q.2 Draw from imagination a gymnast doing [50 marks] exercise.

OR

Draw from imagination a scene of a school playground with children playing.

OR

Draw from memory a grand parents face.

B. Arch. JEE Paper (2) - 2020
January (Shift-Second)
Section : Drawing

Q. 1 In the space provided for the answer of this [50 marks] question, draw an aesthetic composition appropriate to this space using only equilateral triangles. There is no restriction to numbers, sizes, placement and directions of these shapes. Color this composition so that it becomes visually exciting.

Q. 2 Draw from imagination a mother cooking [50 marks] in the kitchen.

OR

Draw from imagination a beautiful building.

OR

Draw from memory the face of one of your parent.