

# National Testing Agency

**Question Paper Name:** Paper II EH 8th Jan 2019 Shift 2a  
**Subject Name:** Paper II EH  
**Creation Date:** 2019-01-08 16:07:21  
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**Display Marks:** Yes  
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**Actual Answer Key:** Yes

## Paper II

**Group Number :** 1  
**Group Id :** 416529136  
**Group Maximum Duration :** 0  
**Group Minimum Duration :** 180  
**Revisit allowed for view? :** No  
**Revisit allowed for edit? :** No  
**Break time:** 0  
**Group Marks:** 390

## Mathematics

**Section Id :** 416529190  
**Section Number :** 1  
**Section type :** Online  
**Mandatory or Optional:** Mandatory  
**Number of Questions:** 30  
**Number of Questions to be attempted:** 30  
**Section Marks:** 120  
**Display Number Panel:** Yes  
**Group All Questions:** No

**Sub-Section Number:** 1  
**Sub-Section Id:** 416529244  
**Question Shuffling Allowed :** Yes

**Question Number : 1 Question Id : 41652911046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

The function  $f : \mathbb{R} \rightarrow \mathbb{R}$ , is given by

$$f(x) = \frac{x}{1 + |x|}, \text{ is :}$$

**Options :**

41652943402. one-one and onto

41652943403. onto but not one-one

41652943404. one-one but not onto

41652943405. neither one-one nor onto

Question Number : 1 Question Id : 41652911046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$f: \mathbb{R} \rightarrow \mathbb{R}, f(x) = \frac{x}{1+|x|}$  द्वारा परिभाषित फलन :

Options :

41652943402. एकैकी तथा आच्छादक है।

41652943403. आच्छादक है परन्तु एकैकी नहीं है।

41652943404. एकैकी है परन्तु आच्छादक नहीं है।

41652943405. न तो एकैकी है न ही आच्छादक है।

Question Number : 2 Question Id : 41652911047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If  $z_1, z_2$  and  $z_3$  are any three distinct complex numbers such that  $|z_1|=1, |z_2|=2, |z_3|=4,$

$\arg z_2 = \arg z_1 - \pi$  and  $\arg z_3 = \arg z_1 + \frac{\pi}{2}$

then  $z_2 z_3$  is equal to :

Options :

41652943406.  $-\frac{8i}{z_1^2}$

41652943407.  $8iz_1^2$

41652943408.  $-8iz_1^2$

41652943409.  $\frac{8i}{z_1^2}$

Question Number : 2 Question Id : 41652911047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि कोई तीन भिन्न सम्मिश्र संख्यायें  $z_1, z_2$  तथा  $z_3$  इस प्रकार हैं कि  $|z_1|=1, |z_2|=2, |z_3|=4,$

$\arg z_2 = \arg z_1 - \pi$  तथा  $\arg z_3 = \arg z_1 + \frac{\pi}{2},$

तो  $z_2 z_3$  बराबर है :

Options :

41652943406.  $-\frac{8i}{z_1^2}$

41652943407.  $8iz_1^2$

41652943408.  $-8iz_1^2$

41652943409.  $\frac{8i}{z_1^2}$

Question Number : 3 Question Id : 41652911048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If  $2\alpha$  is a root of  $ax^2 + bx + c = 0$ ,  $\beta$  is a root of  $ax^2 - 2bx - c = 0$ , and the real numbers  $a, b, c$  ( $a > 0$ ), are such that  $\beta < \alpha$ ; then a root  $\gamma$  of  $ax^2 + 4bx + 2c = 0$  always satisfies :

Options :

41652943410.  $\alpha < \gamma < 2\beta$

41652943411.  $\beta < \gamma < \alpha$

41652943412.  $\gamma < \beta < \alpha$

41652943413.  $\beta < \alpha < \gamma$

Question Number : 3 Question Id : 41652911048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि  $ax^2 + bx + c = 0$  का एक मूल  $2\alpha$  है,  $ax^2 - 2bx - c = 0$  का एक मूल  $\beta$  है तथा वास्तविक संख्यायें  $a, b, c$ , ( $a > 0$ ) इस प्रकार हैं कि  $\beta < \alpha$ , तो  $ax^2 + 4bx + 2c = 0$  का एक मूल  $\gamma$  सदा सन्तुष्ट करता है :

Options :

41652943410.  $\alpha < \gamma < 2\beta$

41652943411.  $\beta < \gamma < \alpha$

41652943412.  $\gamma < \beta < \alpha$

41652943413.  $\beta < \alpha < \gamma$

Question Number : 4 Question Id : 41652911049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If  $B = \begin{bmatrix} -2 & -2 \\ -1 & 0 \end{bmatrix}$  and A is a matrix such

that  $A^{-1}B = B^{-1}$  and  $kA^{-1} = 2B^{-1} + I$ ,  
where k is some scalar and I is the  $2 \times 2$   
identity matrix, then the value of k is :

Options :

41652943414. -2

41652943415. -1

41652943416. 1

41652943417. 2

Question Number : 4 Question Id : 41652911049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि  $B = \begin{bmatrix} -2 & -2 \\ -1 & 0 \end{bmatrix}$  तथा आव्यूह A इस प्रकार है

कि  $A^{-1}B = B^{-1}$  और  $kA^{-1} = 2B^{-1} + I$ , जहाँ k  
कोई अदिश (scalar) है तथा I,  $2 \times 2$  का तत्समक  
(identity) आव्यूह है, तो k का मान है :

Options :

41652943414. -2

41652943415. -1

41652943416. 1

41652943417. 2

Question Number : 5 Question Id : 41652911050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If for positive real numbers a, b and c, the system of linear equations

$$x = a(y + z), y = b(z + x), z = c(x + y)$$

has non-trivial solutions, then

$$\frac{1}{1+a} + \frac{1}{1+b} + \frac{1}{1+c} \text{ is equal to :}$$

Options :

41652943418.  $\frac{3}{2}$

41652943419. 3

41652943420. 2

41652943421.  $\frac{1}{2}$

Question Number : 5 Question Id : 41652911050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि धनात्मक वास्तविक संख्याओं a, b तथा c के लिए रेखिक समीकरण निकाय  $x = a(y + z)$ ,  $y = b(z + x)$ ,  $z = c(x + y)$  के अतुच्छ (non-trivial)

हल हैं, तो  $\frac{1}{1+a} + \frac{1}{1+b} + \frac{1}{1+c}$  बराबर है :

Options :

41652943418.  $\frac{3}{2}$

41652943419. 3

41652943420. 2

41652943421.  $\frac{1}{2}$

Question Number : 6 Question Id : 41652911051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $(1 + x)^n = C_0 + C_1x + C_2x^2 + \dots + C_nx^n$   
where  $C_r = {}^nC_r$  and  $(C_0 + C_1)(C_1 + C_2)\dots(C_{n-1} + C_n) = AC_1C_2\dots C_n$ . Then for  $n = 5$ ,  
A is equal to :

Options :

41652943422. 324/5

41652943423. 3125/24

41652943424. 128/3

41652943425. 625/24

Question Number : 6 Question Id : 41652911051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना  $(1+x)^n = C_0 + C_1x + C_2x^2 + \dots + C_nx^n$ ,

जहाँ  $C_r = {}^nC_r$  तथा  $(C_0 + C_1)(C_1 + C_2)\dots$

$(C_{n-1} + C_n) = AC_1C_2\dots C_n$  तो  $n=5$  के लिए

A बराबर है :

Options :

41652943422. 324/5

41652943423. 3125/24

41652943424. 128/3

41652943425. 625/24

Question Number : 7 Question Id : 41652911052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For  $\beta \neq 0$ , if the coefficient of  $x^3$  in the binomial expansion of  $(1 + \beta x)^6$  and the coefficient of  $x^4$  in the binomial expansion of  $(1 - \beta x)^8$  are equal, then the value of  $\beta$  is :

Options :

41652943426. 1/7

41652943427. -2/7

41652943428. 2/7

41652943429. -1/7

Question Number : 7 Question Id : 41652911052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$\beta \neq 0$  के लिए, यदि  $(1 + \beta x)^6$  के द्विपद प्रसार में  $x^3$  का गुणांक तथा  $(1 - \beta x)^8$  के द्विपद प्रसार में  $x^4$  का गुणांक बराबर हैं, तो  $\beta$  का मान है :

Options :

41652943426.  $1/7$

41652943427.  $-2/7$

41652943428.  $2/7$

41652943429.  $-1/7$

Question Number : 8 Question Id : 41652911053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For distinct positive numbers  $a, b$  and  $c$ , if  $a^2, b^2, c^2$  are in A.P., then which one of the following triplets is also in A.P. ?

Options :

41652943430.  $\frac{1}{b-c}, \frac{1}{c-a}, \frac{1}{a-b}$

41652943431.  $\frac{1}{b-c}, \frac{1}{a-b}, \frac{1}{c-a}$

41652943432.  $\frac{1}{b+c}, \frac{1}{c+a}, \frac{1}{a+b}$

41652943433.  $\frac{1}{b+2c}, \frac{1}{c+2a}, \frac{1}{a+2b}$

Question Number : 8 Question Id : 41652911053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

भिन्न धनात्मक वास्तविक संख्याओं  $a, b$  तथा  $c$  के लिए, यदि  $a^2, b^2, c^2$  समान्तर श्रेणी में हैं, तो निम्न में से कौन सा त्रिक (triplet) भी समान्तर श्रेणी में है?

Options :

41652943430.  $\frac{1}{b-c}, \frac{1}{c-a}, \frac{1}{a-b}$

41652943431.  $\frac{1}{b-c}, \frac{1}{a-b}, \frac{1}{c-a}$

41652943432.  $\frac{1}{b+c}, \frac{1}{c+a}, \frac{1}{a+b}$

41652943433.  $\frac{1}{b+2c}, \frac{1}{c+2a}, \frac{1}{a+2b}$

Question Number : 9 Question Id : 41652911054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $S_n$  be the sum of the first  $n$  - terms of the series

$$1^2 + 2 \cdot 5^2 + 3^2 + 2 \cdot 7^2 + 5^2 + 2 \cdot 9^2 + \dots$$

If  $S_{20} = 20A$ , then  $A$  is equal to :

Options :

41652943434. 1851

41652943435. 1951

41652943436. 2001

41652943437. 2019

Question Number : 9 Question Id : 41652911054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना श्रेणी  $1^2 + 2 \cdot 5^2 + 3^2 + 2 \cdot 7^2 + 5^2 + 2 \cdot 9^2 + \dots$

के प्रथम  $n$  पदों का योग  $S_n$  है। यदि  $S_{20} = 20A$ , तो

$A$  बराबर है :

Options :

41652943434. 1851

41652943435. 1951

41652943436. 2001

41652943437. 2019

Question Number : 10 Question Id : 41652911055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $m$  and  $k$  be positive integers ( $m \neq k$ ).

Then

$$\lim_{n \rightarrow \infty} n \left\{ \left(1 + \frac{1}{n}\right)^m + \left(1 + \frac{2}{n}\right)^m + \dots + \left(1 + \frac{k}{n}\right)^m - k \right\} \text{ is :}$$

Options :



41652943438. 0

41652943439.  $\frac{k(k+1)}{2}m$

41652943440.  $\frac{m(m+1)k}{2}$

41652943441. km

Question Number : 10 Question Id : 41652911055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना  $m$  तथा  $k$  धनात्मक पूर्णांक हैं ( $m \neq k$ ) तो

$$\lim_{n \rightarrow \infty} n \left\{ \left(1 + \frac{1}{n}\right)^m + \left(1 + \frac{2}{n}\right)^m + \dots + \left(1 + \frac{k}{n}\right)^m - k \right\}$$

है :

Options :

41652943438. 0

41652943439.  $\frac{k(k+1)}{2}m$

41652943440.  $\frac{m(m+1)k}{2}$

41652943441. km

Question Number : 11 Question Id : 41652911056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$$\text{For } f(x) = \begin{cases} x \frac{e^{1/x} - e^{-1/x}}{e^{1/x} + e^{-1/x}}, & x \neq 0 \\ 0, & x = 0 \end{cases}$$

Options :

41652943442.  $f'(0) = 1$

41652943443.  $f'(0) = 0$

41652943444.  $f$  is not continuous at 0

41652943445.  $f$  is not differentiable at 0

Question Number : 11 Question Id : 41652911056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$$f(x) = \begin{cases} x \frac{e^{1/x} - e^{-1/x}}{e^{1/x} + e^{-1/x}}, & x \neq 0 \\ 0, & x = 0 \end{cases} \text{ के लिए :}$$

Options :

41652943442.  $f'(0) = 1$

41652943443.  $f'(0) = 0$

41652943444.  $x = 0$  पर  $f$  संतत नहीं है।

41652943445.  $x = 0$  पर  $f$  अवकलनीय नहीं है।

Question Number : 12 Question Id : 41652911057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $F(x) = \int_0^x f(t) dt$ , where

$f(x) = 2 + \sin x - \cos x$ . If  $|F(x) - F(y)| \leq k|x - y|$  for all  $x$  and  $y$  in  $\mathbb{R}$ , then a possible value of  $k$  is :

Options :

41652943446.  $2 + \sqrt{2}$

41652943447.  $2 - \sqrt{2}$

41652943448.  $1 + \frac{1}{\sqrt{2}}$

41652943449.  $\sqrt{2} - 1$

Question Number : 12 Question Id : 41652911057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना  $F(x) = \int_0^x f(t) dt$ , जहाँ

$f(x) = 2 + \sin x - \cos x$ . यदि  $\mathbb{R}$  में सभी  $x$  तथा  $y$  के लिए  $|F(x) - F(y)| \leq k|x - y|$ , तो  $k$  का एक सम्भावित मान है :

Options :

41652943446.  $2 + \sqrt{2}$

41652943447.  $2 - \sqrt{2}$

41652943448.  $1 + \frac{1}{\sqrt{2}}$

41652943449.  $\sqrt{2} - 1$

Question Number : 13 Question Id : 41652911058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A real valued function

$f(x) = C \log_e |x| + Dx^3 + x$ ,  $x \neq 0$ , where C and D are constants, has critical points at  $x = -1$  and  $x = 2$ . Then the ordered pair (C, D) is :

Options :

41652943450.  $\left(-\frac{1}{9}, \frac{2}{3}\right)$

41652943451.  $\left(\frac{2}{3}, -\frac{1}{9}\right)$

41652943452.  $\left(\frac{1}{9}, -\frac{2}{3}\right)$

41652943453.  $\left(-\frac{2}{3}, \frac{1}{9}\right)$

Question Number : 13 Question Id : 41652911058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

एक वास्तविक मान फलन

$f(x) = C \log_e |x| + Dx^3 + x$ ,  $x \neq 0$ , जहाँ C तथा D अचर हैं, के  $x = -1$  तथा  $x = 2$  पर क्रान्तिक बिन्दु (critical points) हैं, तो क्रमित युग्म (C, D) है :

Options :

41652943450.  $\left(-\frac{1}{9}, \frac{2}{3}\right)$

41652943451.  $\left(\frac{2}{3}, -\frac{1}{9}\right)$

41652943452.  $\left(\frac{1}{9}, -\frac{2}{3}\right)$

41652943453.  $\left(-\frac{2}{3}, \frac{1}{9}\right)$

Question Number : 14 Question Id : 41652911059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If  $f(x) = \int_e^{e^x} \log_e \left( \frac{x}{\log_e t} \right) dt$ , then the value

of  $\frac{3f'(3)}{e}$  is :

Options :

41652943454.  $e^2 - 1$

41652943455.  $-3 \log_e 3$

41652943456.  $3 \log_e 3$

41652943457.  $e^3 - e$

Question Number : 14 Question Id : 41652911059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि  $f(x) = \int_e^{e^x} \log_e \left( \frac{x}{\log_e t} \right) dt$ , तो  $\frac{3f'(3)}{e}$  का

मान है :

Options :

41652943454.  $e^2 - 1$

41652943455.  $-3 \log_e 3$

41652943456.  $3 \log_e 3$

41652943457.  $e^3 - e$

Question Number : 15 Question Id : 41652911060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The value of the integral  $\int_{\pi/2}^{\pi} \frac{\sin(3x/2)}{\sin(x/2)} dx$  is :

Options :

41652943458.  $\frac{\pi}{2} - 2$

41652943459.  $\frac{\pi}{2}$

41652943460.  $\frac{\pi}{2} + 2$

41652943461.  $\frac{\pi}{2} - 1$

Question Number : 15 Question Id : 41652911060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

समाकल  $\int_{\pi/2}^{\pi} \frac{\sin(3x/2)}{\sin(x/2)} dx$  का मान है :

Options :

41652943458.  $\frac{\pi}{2} - 2$

41652943459.  $\frac{\pi}{2}$

41652943460.  $\frac{\pi}{2} + 2$

41652943461.  $\frac{\pi}{2} - 1$

Question Number : 16 Question Id : 41652911061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The area (in sq. units) of the region bounded by the curve  $\sqrt{x} + \sqrt{y} = 1$ ,  $x, y \geq 0$ , and

the tangent to it at the point  $\left(\frac{1}{4}, \frac{1}{4}\right)$  is :

Options :

41652943462.  $\frac{1}{36}$

41652943463.  $\frac{1}{12}$

41652943464.  $\frac{1}{8}$

41652943465.  $\frac{1}{24}$

Question Number : 16 Question Id : 41652911061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

वक्र  $\sqrt{x} + \sqrt{y} = 1, x, y \geq 0$  तथा इसके बिन्दु

$\left(\frac{1}{4}, \frac{1}{4}\right)$  पर स्पर्श रेखा द्वारा घिरे क्षेत्र का क्षेत्रफल

(वर्ग इकाइयों में) है :

Options :

41652943462.  $\frac{1}{36}$

41652943463.  $\frac{1}{12}$

41652943464.  $\frac{1}{8}$

41652943465.  $\frac{1}{24}$

Question Number : 17 Question Id : 41652911062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The solution of the differential equation

$$\frac{dy}{dx} + \frac{\sin 2y}{x} = x^3 \cos^2 y, \text{ is :}$$

(where C is a constant of integration)

Options :

41652943466.  $x^2 \tan y = \frac{x^6}{6} + C$

41652943467.  $x^2 \tan y = \frac{x^4}{4} + C$

41652943468.  $x^2 \cos 2y = \frac{x^6}{6} + C$

41652943469.  $x^2 \sin 2y = \frac{x^6}{6} + C$

Question Number : 17 Question Id : 41652911062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

अवकल समीकरण  $\frac{dy}{dx} + \frac{\sin 2y}{x} = x^3 \cos^2 y$  का

हल है :

(जबकि C एक समाकल अचर है)

Options :

41652943466.  $x^2 \tan y = \frac{x^6}{6} + C$

41652943467.  $x^2 \tan y = \frac{x^4}{4} + C$

41652943468.  $x^2 \cos 2y = \frac{x^6}{6} + C$

41652943469.  $x^2 \sin 2y = \frac{x^6}{6} + C$

Question Number : 18 Question Id : 41652911063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $P_1, P_2$  be any two points on a circle of radius  $r$  centred at the origin  $O$ , such that

$\angle P_1 O P_2 = \frac{\pi}{3}$ . If  $P$  is the point of

intersection of the tangents to the circle at  $P_1$  and  $P_2$ , then the locus of the point  $P$ , is :

Options :

41652943470.  $3(x^2 + y^2) = 4r^2$

41652943471.  $4(x^2 + y^2) = 3r^2$

41652943472.  $x^2 + y^2 = 4r^2$

41652943473.  $x^2 + y^2 = 3r^2$

Question Number : 18 Question Id : 41652911063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना  $P_1$  तथा  $P_2$ , एक वृत्त जिसकी त्रिज्या  $r$  तथा केंद्र मूलबिंदु  $O$  है, पर स्थित दो बिंदु हैं तथा

$\angle P_1OP_2 = \frac{\pi}{3}$  है। यदि  $P$  वृत्त के बिंदुओं  $P_1$  तथा

$P_2$  पर खींची गई स्पर्श रेखाओं का प्रतिच्छेदन बिंदु है, तो  $P$  का बिंदुपथ (locus) है :

Options :

41652943470.  $3(x^2 + y^2) = 4r^2$

41652943471.  $4(x^2 + y^2) = 3r^2$

41652943472.  $x^2 + y^2 = 4r^2$

41652943473.  $x^2 + y^2 = 3r^2$

Question Number : 19 Question Id : 41652911064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If any tangent to the parabola  $x^2 = 4y$  intersects the hyperbola  $xy = 2$  at two points  $P$  and  $Q$ , then the mid-point of line segment  $PQ$  lies on a parabola with axis along :

Options :

41652943474.  $x$ -axis and focus on positive  $x$ -axis

41652943475.  $x$ -axis and focus on negative  $x$ -axis

41652943476.  $y$ -axis and focus on negative  $y$ -axis

41652943477.  $y$ -axis and focus on positive  $y$ -axis

Question Number : 19 Question Id : 41652911064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



यदि परवलय  $x^2=4y$  की कोई स्पर्श रेखा अतिवर्तलय  $xy=2$  को दो बिंदुओं P तथा Q पर काटती है, तो रेखाखण्ड PQ का मध्यबिंदु एक परवलय पर स्थित है जिसका अक्ष :

Options :

$x$ -अक्ष के अनुदिश है तथा जिसकी नाभि

41652943474. धनात्मक  $x$ -अक्ष पर है।

$x$ -अक्ष के अनुदिश है तथा जिसकी नाभि

41652943475. ऋणात्मक  $x$ -अक्ष पर है।

$y$ -अक्ष के अनुदिश है तथा जिसकी नाभि

41652943476. ऋणात्मक  $y$ -अक्ष पर है।

$y$ -अक्ष के अनुदिश है तथा जिसकी नाभि

41652943477. धनात्मक  $y$ -अक्ष पर है।

Question Number : 20 Question Id : 41652911065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If  $m$  and  $n$  are the lengths of the perpendicular from the origin to the straight lines whose equations are  $x \cot \theta - y = 2 \cos \theta$  and

$$4x + 3y = -\sqrt{5} \cos 2\theta, (\theta \in (0, \pi)),$$

respectively, then the value of  $m^2 + 5n^2$  is :

Options :

41652943478. 3

41652943479. 1

41652943480. 5

41652943481. 7

Question Number : 20 Question Id : 41652911065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि  $m$  तथा  $n$  क्रमशः रेखाओं जिनके समीकरण

$$x \cot \theta - y = 2 \cos \theta \text{ तथा}$$

$$4x + 3y = -\sqrt{5} \cos 2\theta, (\theta \in (0, \pi)) \text{ पर मूलबिंदु}$$

से खींची गई लंबवत रेखाओं की लंबाइयाँ हैं, तो

$m^2 + 5n^2$  का मान है :

Options :

41652943478. 3

41652943479. 1

41652943480. 5

41652943481. 7

Question Number : 21 Question Id : 41652911066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If an ellipse has its foci at  $(2, 0)$  and  $(-2, 0)$   
and its length of the latus rectum is 6, then  
the equation of the ellipse is :

Options :

41652943482.  $\frac{x^2}{16} + \frac{y^2}{12} = 1$

41652943483.  $\frac{x^2}{24} + \frac{y^2}{64} = 1$

41652943484.  $\frac{x^2}{36} + \frac{y^2}{18} = 1$

41652943485.  $\frac{x^2}{64} + \frac{y^2}{24} = 1$

Question Number : 21 Question Id : 41652911066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

यदि एक दीर्घवृत्त की नाभियाँ  $(2, 0)$  तथा  $(-2, 0)$  पर  
हैं तथा इसके नाभिलंब की लंबाई 6 है, तो दीर्घवृत्त का  
समीकरण है :

Options :

41652943482.  $\frac{x^2}{16} + \frac{y^2}{12} = 1$

41652943483.  $\frac{x^2}{24} + \frac{y^2}{64} = 1$

41652943484.  $\frac{x^2}{36} + \frac{y^2}{18} = 1$

$$\frac{x^2}{64} + \frac{y^2}{24} = 1$$

41652943485.

Question Number : 22 Question Id : 41652911067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let C be the circle whose diameter is the line segment formed by the line  $3x + 2y = 6$  intercepted by the coordinate axes. Then C also passes through the point :

Options :

41652943486. (1, 1)

41652943487. (3, 2)

41652943488. (2, 3)

41652943489. (2, 2)

Question Number : 22 Question Id : 41652911067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना C वह वृत्त है जिसका व्यास रेखा  $3x + 2y = 6$  का निर्देशांक अक्षों से बना अन्तःखण्ड, है, तो C जिस बिंदु से होकर जाता है, वह है :

Options :

41652943486. (1, 1)

41652943487. (3, 2)

41652943488. (2, 3)

41652943489. (2, 2)

Question Number : 23 Question Id : 41652911068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The distance of the point (1, 2, 3) from the plane  $x + y + z = 2$  measured parallel to the

line  $\frac{x+1}{-1} = \frac{y}{-2} = \frac{z-3}{1}$  is :

Options :

41652943490.  $\sqrt{21}$

41652943491.  $\sqrt{22}$

41652943492.  $\sqrt{23}$

41652943493.  $\sqrt{24}$

Question Number : 23 Question Id : 41652911068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

बिंदु  $(1, 2, 3)$  की समतल  $x + y + z = 2$  से वह दूरी

जो रेखा  $\frac{x + 1}{-1} = \frac{y}{-2} = \frac{z - 3}{1}$  की दिशा में मापी

गई है, है :

Options :

41652943490.  $\sqrt{21}$

41652943491.  $\sqrt{22}$

41652943492.  $\sqrt{23}$

41652943493.  $\sqrt{24}$

Question Number : 24 Question Id : 41652911069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The value of  $\alpha$  for which the shortest distance between the lines represented by  $y + z = 0, z + x = 0$  and  $x + y = 0, x + y + z = \alpha$  is 1, is :

Options :

41652943494.  $\sqrt{\frac{3}{5}}$

41652943495.  $\sqrt{\frac{5}{3}}$

41652943496.  $\sqrt{\frac{2}{3}}$

41652943497.  $\sqrt{\frac{3}{2}}$

Question Number : 24 Question Id : 41652911069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$\alpha$  का वह मान जिसके लिए  $y+z=0, z+x=0$  और  $x+y=0, x+y+z=\alpha$  द्वारा प्रदर्शित रेखाओं के बीच की न्यूनतम दूरी 1 है, है :

Options :

41652943494.  $\sqrt{\frac{3}{5}}$

41652943495.  $\sqrt{\frac{5}{3}}$

41652943496.  $\sqrt{\frac{2}{3}}$

41652943497.  $\sqrt{\frac{3}{2}}$

Question Number : 25 Question Id : 41652911070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $\vec{a} = 2\hat{i} + \hat{j} - 2\hat{k}$  and  $\vec{b} = \hat{i} + \hat{j}$ . If

$\vec{c}$  be a vector such that

$\vec{a} \cdot \vec{c} = |\vec{c}|, |\vec{c} - \vec{a}| = 2\sqrt{2}$  and the angle

between  $\vec{a} \times \vec{b}$  and  $\vec{c}$  is  $30^\circ$ , then the

value of  $\left| (\vec{a} \times \vec{b}) \times \vec{c} \right|$  is :

Options :

41652943498.  $\frac{1}{2}$

41652943499.  $\frac{3}{2}$

41652943500. 3

41652943501. 6

Question Number : 25 Question Id : 41652911070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना  $\vec{a} = 2\hat{i} + \hat{j} - 2\hat{k}$  तथा  $\vec{b} = \hat{i} + \hat{j}$  हैं।

यदि  $\vec{c}$  एक ऐसा सदिश है कि

$\vec{a} \cdot \vec{c} = |\vec{c}|, |\vec{c} - \vec{a}| = 2\sqrt{2}$  है तथा  $\vec{a} \times \vec{b}$

तथा  $\vec{c}$  के बीच का कोण  $30^\circ$  है, तो

$\left| \left( \vec{a} \times \vec{b} \right) \times \vec{c} \right|$  का मान है :

Options :

41652943498.  $\frac{1}{2}$

41652943499.  $\frac{3}{2}$

41652943500. 3

41652943501. 6

Question Number : 26 Question Id : 41652911071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A and B try to hit a target. The probability

that A hits the target is  $\frac{7}{10}$  and the

probability that B hits the target is  $\frac{4}{10}$ . If

these two events are independent, the probability that B hits the target, given that the target is hit, is :

Options :

41652943502.  $\frac{17}{41}$

41652943503.  $\frac{18}{41}$

41652943504.  $\frac{19}{41}$

20

41

41652943505.

Question Number : 26 Question Id : 41652911071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A तथा B एक लक्ष्य को भेदने का प्रयास करते हैं। A

के लक्ष्य को भेदने की प्रायिकता  $\frac{7}{10}$  है तथा B के

लक्ष्य को भेदने की प्रायिकता  $\frac{4}{10}$  है। यदि यह दोनों

घटनाएँ स्वतंत्र है तो प्रायिकता, कि B लक्ष्य भेद करे,  
जबकि दिया है कि लक्ष्य का भेदन हुआ है, है :

Options :

17

41

41652943502.

18

41

41652943503.

19

41

41652943504.

20

41

41652943505.

Question Number : 27 Question Id : 41652911072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Let  $x_1, x_2, \dots, x_{20}$  be 20 observations and  $d_i = 2(x_i - 5), i = 1, 2, \dots, 20$ . If the mean and variance of  $d_1, d_2, \dots, d_{20}$  are 20 and 12 respectively, then the mean and variance of  $x_1, x_2, \dots, x_{20}$  are respectively,

Options :

10 and 4

41652943506.

15 and 3

41652943507.

10 and 3

41652943508.

15 and 4

41652943509.

Question Number : 27 Question Id : 41652911072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

माना  $x_1, x_2, \dots, x_{20}$  20 प्रेक्षण हैं तथा  $d_i = 2(x_i - 5)$ ,  
 $i = 1, 2, \dots, 20$  है। यदि  $d_1, d_2, \dots, d_{20}$  का माध्य  
तथा प्रसरण क्रमशः 20 तथा 12 है, तो  $x_1, x_2, \dots, x_{20}$   
के क्रमशः माध्य तथा प्रसरण हैं :

Options :

41652943506. 10 तथा 4

41652943507. 15 तथा 3

41652943508. 10 तथा 3

41652943509. 15 तथा 4

Question Number : 28 Question Id : 41652911073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$$\text{If } \cos(\alpha + \beta) = \frac{4}{5} \text{ and } \sin(\alpha - \beta) = \frac{5}{13},$$

where  $\alpha, \beta \in \left(0, \frac{\pi}{4}\right)$ , then the value of

$\tan 2\alpha$  is :

Options :

41652943510.  $\frac{56}{33}$

41652943511.  $\frac{54}{33}$

41652943512.  $\frac{55}{33}$

41652943513.  $\frac{58}{33}$

Question Number : 28 Question Id : 41652911073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$$\text{यदि } \cos(\alpha + \beta) = \frac{4}{5} \text{ तथा } \sin(\alpha - \beta) = \frac{5}{13}$$

है जबकि  $\alpha, \beta \in \left(0, \frac{\pi}{4}\right)$ , तो  $\tan 2\alpha$  का मान

है :

Options :



56

33

41652943510.

54

33

41652943511.

55

33

41652943512.

58

33

41652943513.

Question Number : 29 Question Id : 41652911074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Two parallel chords are drawn on the same side of the centre of a circle of radius 20. It is found that they subtend  $60^\circ$  and  $120^\circ$  angles at the centre of the circle. Then the perpendicular distance between the chords is :

Options :

$10(\sqrt{2} - 1)$

41652943514.

$5(\sqrt{3} - 1)$

41652943515.

$10(\sqrt{3} - 1)$

41652943516.

$5(\sqrt{3} + 1)$

41652943517.

Question Number : 29 Question Id : 41652911074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

त्रिज्या 20 वाले एक वृत्त के केंद्र के एक ही ओर दो समांतर जीवाएँ खींची गई हैं। यह पाया गया कि यह जीवाएँ वृत्त के केंद्र पर  $60^\circ$  तथा  $120^\circ$  के कोण अंतरित करती हैं। तो जीवाओं के बीच की लंबवत दूरी है :

Options :

$10(\sqrt{2} - 1)$

41652943514.

41652943515.  $5(\sqrt{3} - 1)$

41652943516.  $10(\sqrt{3} - 1)$

41652943517.  $5(\sqrt{3} + 1)$

Question Number : 30 Question Id : 41652911075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The compound statement

$$(\sim C \wedge A \wedge B) \vee (\sim C \wedge \sim A \wedge B) \vee (C \wedge B)$$

is equivalent to :

Options :

41652943518. A

41652943519.  $\sim A$

41652943520. B

41652943521. C

Question Number : 30 Question Id : 41652911075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्न मिश्र कथन

$$(\sim C \wedge A \wedge B) \vee (\sim C \wedge \sim A \wedge B) \vee (C \wedge B)$$

निम्न में किसके तुल्य है?

Options :

41652943518. A

41652943519.  $\sim A$

41652943520. B

41652943521. C

Aptitude Test

Section Id :

416529191

Section Number :

2

Section type :

Online

<b>Mandatory or Optional:</b>	Mandatory
<b>Number of Questions:</b>	8
<b>Number of Questions to be attempted:</b>	8
<b>Section Marks:</b>	200
<b>Display Number Panel:</b>	Yes
<b>Group All Questions:</b>	No

<b>Sub-Section Number:</b>	1
<b>Sub-Section Id:</b>	416529245
<b>Question Shuffling Allowed :</b>	Yes

Question Id : 41652911076 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (31 to 35)

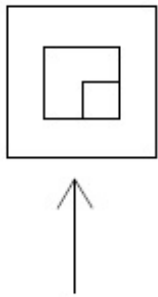
Question Label : Comprehension

**Directions :** 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.

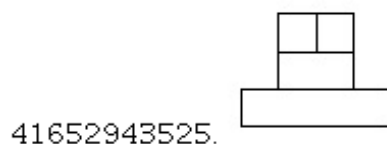
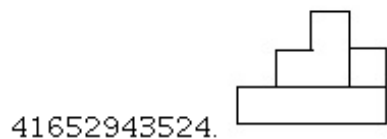
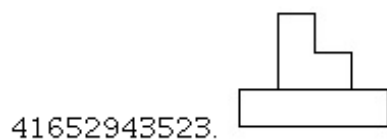
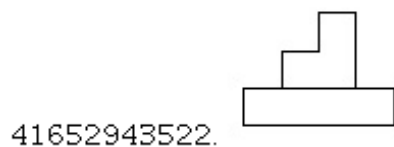
Sub questions

Question Number : 31 Question Id : 41652911077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

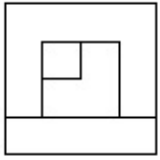


Options :

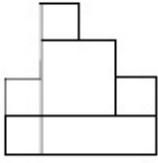


Question Number : 32 Question Id : 41652911078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

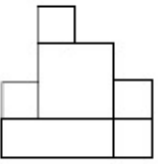
Correct Marks : 4 Wrong Marks : 1



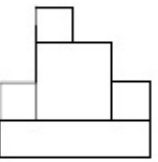
Options :



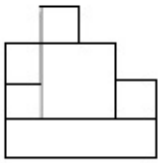
41652943526.



41652943527.



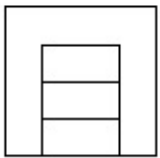
41652943528.



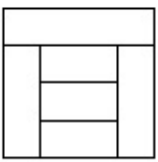
41652943529.

Question Number : 33 Question Id : 41652911079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

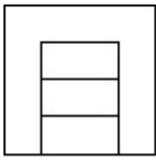


Options :

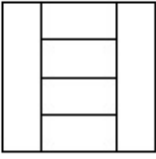


41652943530.

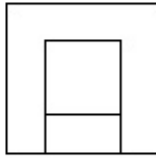
41652943531.



41652943532.

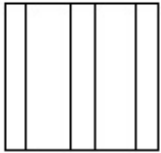


41652943533.



Question Number : 34 Question Id : 41652911080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943534.



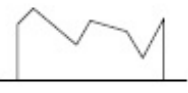
41652943535.



41652943536.



41652943537.



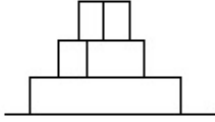
Question Number : 35 Question Id : 41652911081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

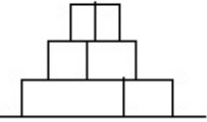


Options :

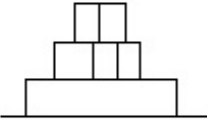
41652943538.



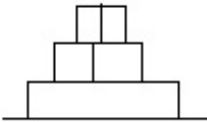
41652943539.



41652943540.



41652943541.



Question Id : 41652911076 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (31 to 35)

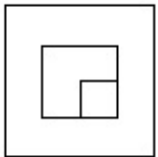
Question Label : Comprehension

निर्देश : प्रश्न आकृति में किसी वस्तु का ऊपरी दृश्य दिखाया गया है। तीर की दिशा में देखते हुए उत्तर आकृतियों में से इसका सही सम्मुख दृश्य पहचानिये।

Sub questions

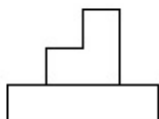
Question Number : 31 Question Id : 41652911077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

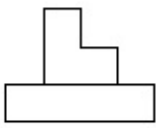


Options :

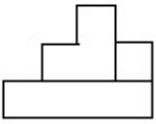
41652943522.



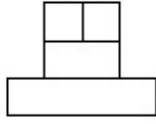
41652943523.



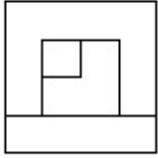
41652943524.



41652943525.

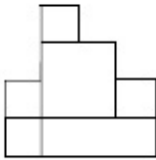


Question Number : 32 Question Id : 41652911078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 4 Wrong Marks : 1

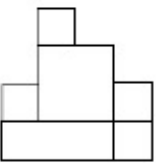


Options :

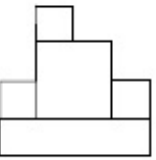
41652943526.



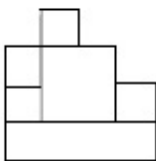
41652943527.



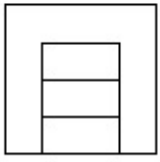
41652943528.



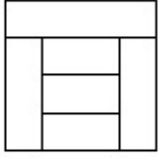
41652943529.



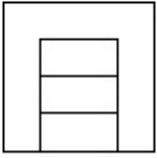
Question Number : 33 Question Id : 41652911079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 4 Wrong Marks : 1



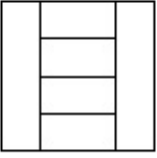
Options :



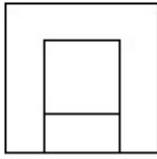
41652943530.



41652943531.



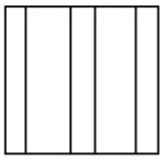
41652943532.



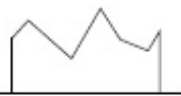
41652943533.

Question Number : 34 Question Id : 41652911080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

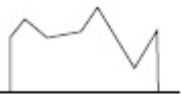
Correct Marks : 4 Wrong Marks : 1



Options :



41652943534.



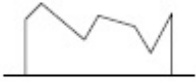
41652943535.



41652943536.

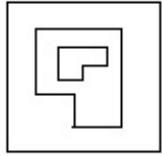


41652943537.



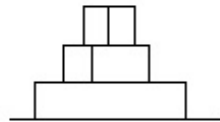
Question Number : 35 Question Id : 41652911081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

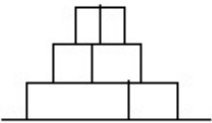


Options :

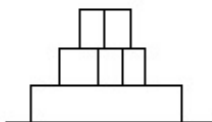
41652943538.



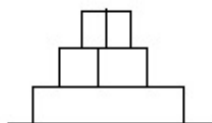
41652943539.



41652943540.



41652943541.



Sub-Section Number: 2  
Sub-Section Id: 416529246  
Question Shuffling Allowed : Yes

Question Id : 41652911082 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (36 to 40)

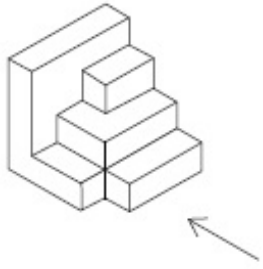
Question Label : Comprehension

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

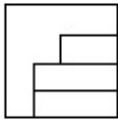
Sub questions

Question Number : 36 Question Id : 41652911083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

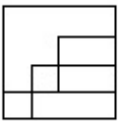
Correct Marks : 4 Wrong Marks : 1



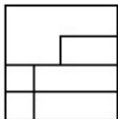
Options :



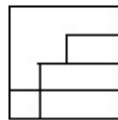
41652943542.



41652943543.



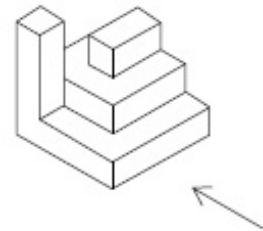
41652943544.



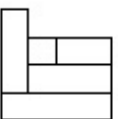
41652943545.

Question Number : 37 Question Id : 41652911084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

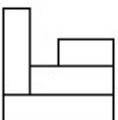
Correct Marks : 4 Wrong Marks : 1



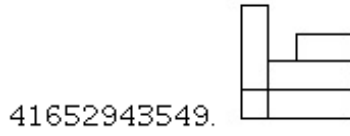
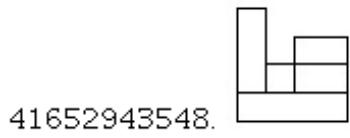
Options :



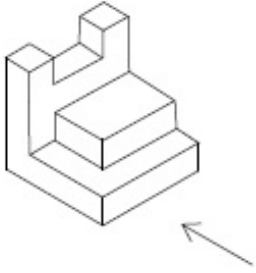
41652943546.



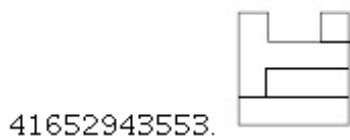
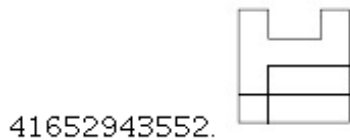
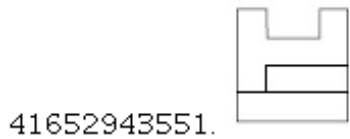
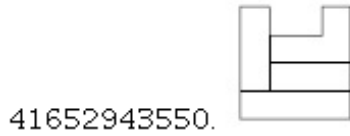
41652943547.



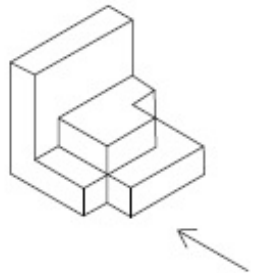
**Question Number : 38 Question Id : 41652911085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1**



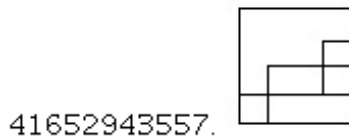
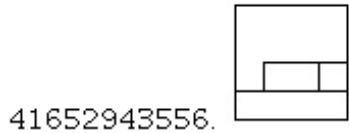
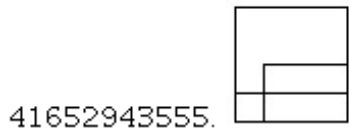
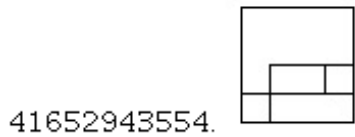
**Options :**



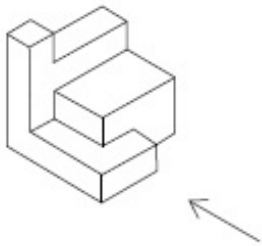
**Question Number : 39 Question Id : 41652911086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1**



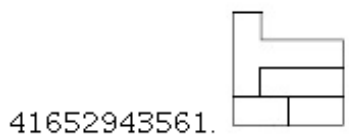
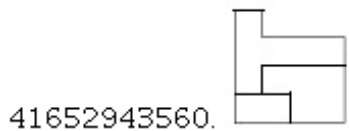
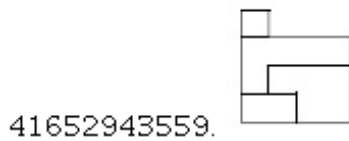
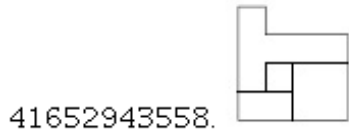
**Options :**



**Question Number : 40 Question Id : 41652911087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1**



**Options :**



**Question Id : 41652911082 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No**

**Question Numbers : (36 to 40)**

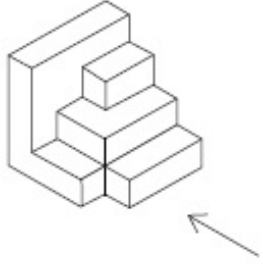
**Question Label : Comprehension**

निर्देश : 3 - D प्रश्न आकृति में एक वस्तु के एक दृश्य को दिखाया गया है। तीर की दिशा में देखते हुए, इसके सम्मुख दृश्य को उत्तर आकृतियों में से पहचानिये।

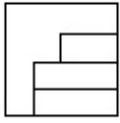
Sub questions

Question Number : 36 Question Id : 41652911083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

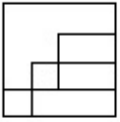
Correct Marks : 4 Wrong Marks : 1



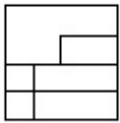
Options :



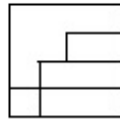
41652943542.



41652943543.



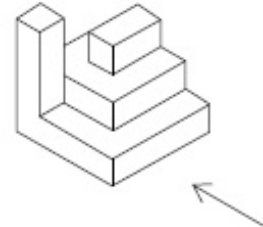
41652943544.



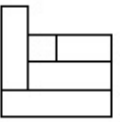
41652943545.

Question Number : 37 Question Id : 41652911084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

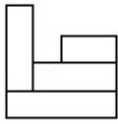


Options :

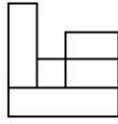


41652943546.

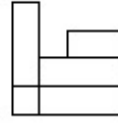
41652943547.



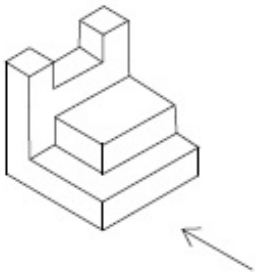
41652943548.



41652943549.

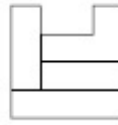


**Question Number : 38 Question Id : 41652911085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1**

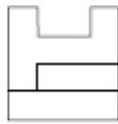


**Options :**

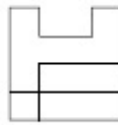
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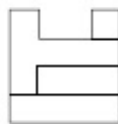
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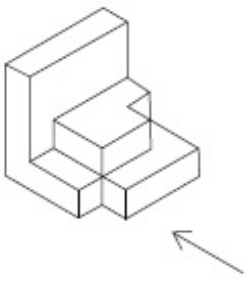
41652943552.



41652943553.

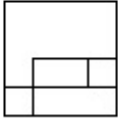


**Question Number : 39 Question Id : 41652911086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1**

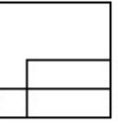


Options :

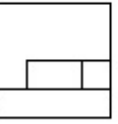
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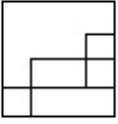
41652943555.



41652943556.

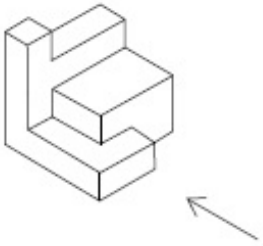


41652943557.



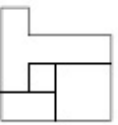
Question Number : 40 Question Id : 41652911087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

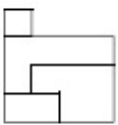


Options :

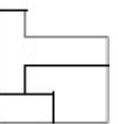
41652943558.



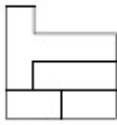
41652943559.



41652943560.



41652943561.



Sub-Section Number: 3  
 Sub-Section Id: 416529247  
 Question Shuffling Allowed : Yes

Question Id : 41652911088 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (41 to 45)

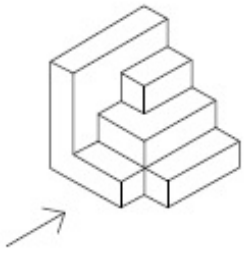
Question Label : Comprehension

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

Sub questions

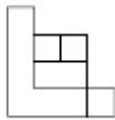
Question Number : 41 Question Id : 41652911089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

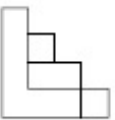


Options :

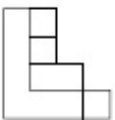
41652943562.



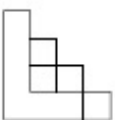
41652943563.



41652943564.



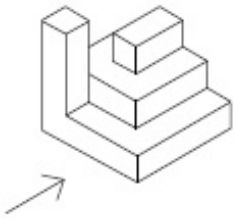
41652943565.



Question Number : 42 Question Id : 41652911090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

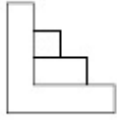
Correct Marks : 4 Wrong Marks : 1



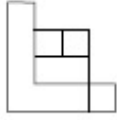


Options :

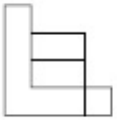
41652943566.



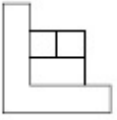
41652943567.



41652943568.

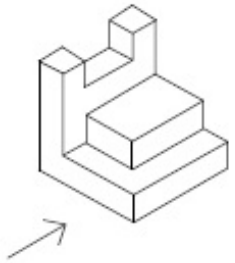


41652943569.



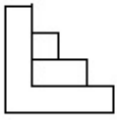
Question Number : 43 Question Id : 41652911091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

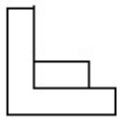


Options :

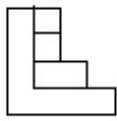
41652943570.



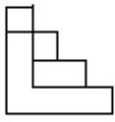
41652943571.



41652943572.

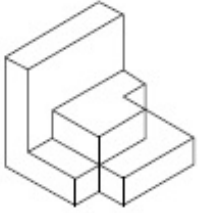


41652943573.



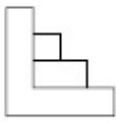
**Question Number : 44 Question Id : 41652911092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

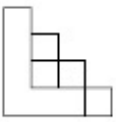


**Options :**

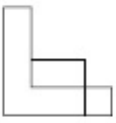
41652943574.



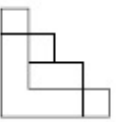
41652943575.



41652943576.

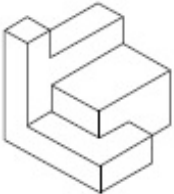


41652943577.



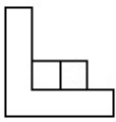
**Question Number : 45 Question Id : 41652911093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

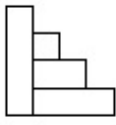


**Options :**

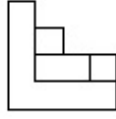
41652943578.



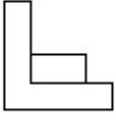
41652943579.



41652943580.



41652943581.



**Question Id : 41652911088 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No**

**Question Numbers : (41 to 45)**

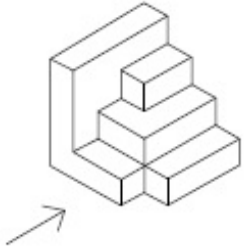
**Question Label : Comprehension**

**निर्देश : 3 - D प्रश्न आकृति में एक वस्तु के एक दृश्य को दिखाया गया है। तीर की दिशा में देखते हुए, इसके सम्मुख दृश्य को उत्तर आकृतियों में से पहचानिये।**

**Sub questions**

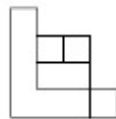
**Question Number : 41 Question Id : 41652911089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

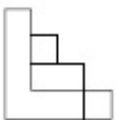


**Options :**

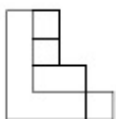
41652943562.



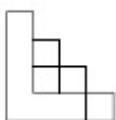
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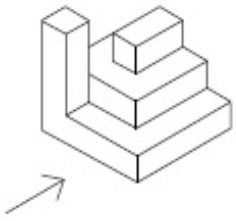


41652943565.

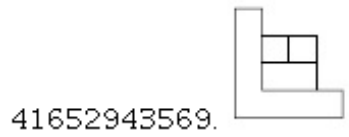
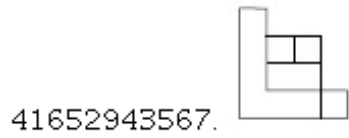
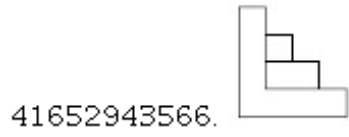


**Question Number : 42 Question Id : 41652911090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

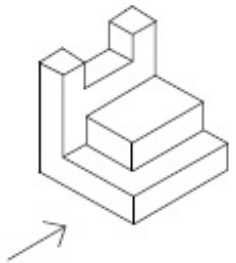


Options :

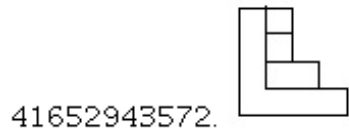
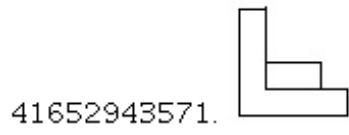
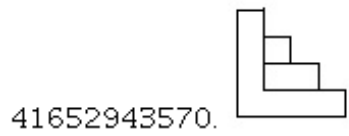


Question Number : 43 Question Id : 41652911091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

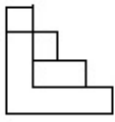
Correct Marks : 4 Wrong Marks : 1



Options :

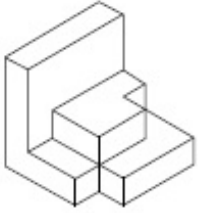


41652943573.



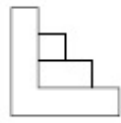
Question Number : 44 Question Id : 41652911092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

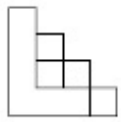


Options :

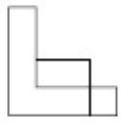
41652943574.



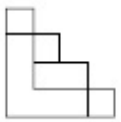
41652943575.



41652943576.

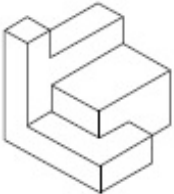


41652943577.



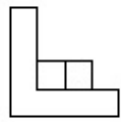
Question Number : 45 Question Id : 41652911093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

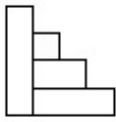


Options :

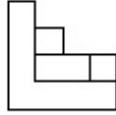
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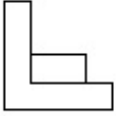
41652943579.



41652943580.



41652943581.



Sub-Section Number: 4  
 Sub-Section Id: 416529248  
 Question Shuffling Allowed : Yes

Question Id : 41652911094 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (46 to 50)

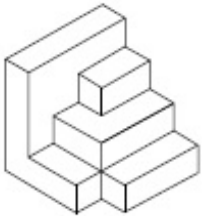
Question Label : Comprehension

**Directions :** The 3 - D figure shows the view of an object. Identify the correct top view from amongst the answer figures.

Sub questions

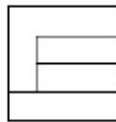
Question Number : 46 Question Id : 41652911095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

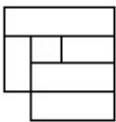


Options :

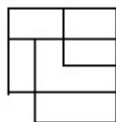
41652943582.



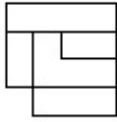
41652943583.



41652943584.

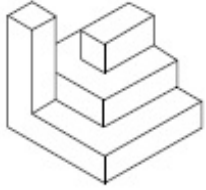


41652943585.



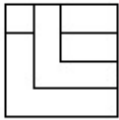
Question Number : 47 Question Id : 41652911096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

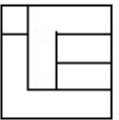
41652943586.



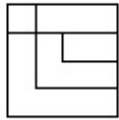
41652943587.



41652943588.

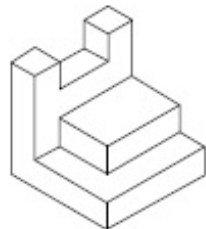


41652943589.



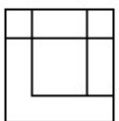
Question Number : 48 Question Id : 41652911097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

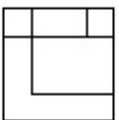


Options :

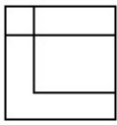
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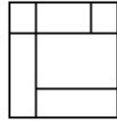
41652943591.



41652943592.

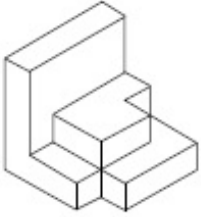


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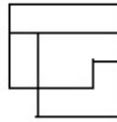
**Question Number : 49 Question Id : 41652911098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

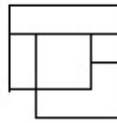


**Options :**

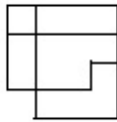
41652943594.



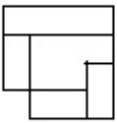
41652943595.



41652943596.

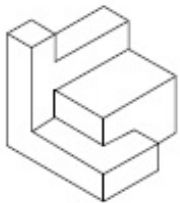


41652943597.



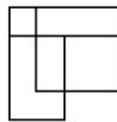
**Question Number : 50 Question Id : 41652911099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**



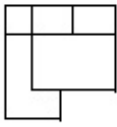
**Options :**

41652943598.

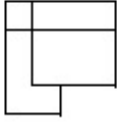




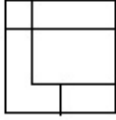
41652943599.



41652943600.



41652943601.



Question Id : 41652911094 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (46 to 50)

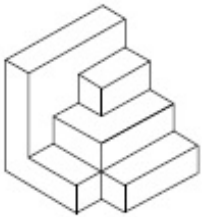
Question Label : Comprehension

निर्देश : 3 - D प्रश्न आकृति में एक वस्तु के एक दृश्य को दिखाया गया है। इसका सही ऊपरी दृश्य, उत्तर आकृतियों में से पहचानिये।

Sub questions

Question Number : 46 Question Id : 41652911095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

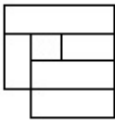


Options :

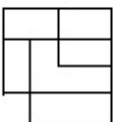
41652943582.



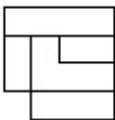
41652943583.



41652943584.

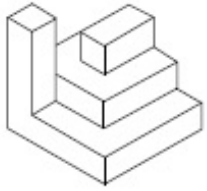


41652943585.

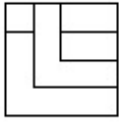


Question Number : 47 Question Id : 41652911096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

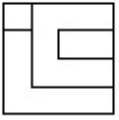
Correct Marks : 4 Wrong Marks : 1



Options :



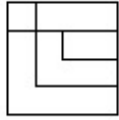
41652943586.



41652943587.



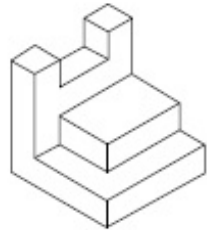
41652943588.



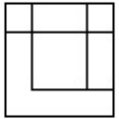
41652943589.

Question Number : 48 Question Id : 41652911097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

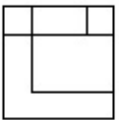
Correct Marks : 4 Wrong Marks : 1



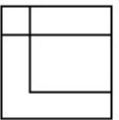
Options :



41652943590.

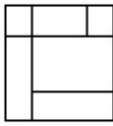


41652943591.



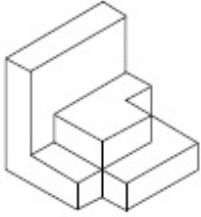
41652943592.

41652943593.



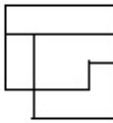
Question Number : 49 Question Id : 41652911098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

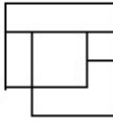


Options :

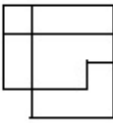
41652943594.



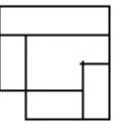
41652943595.



41652943596.

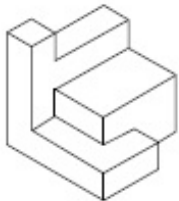


41652943597.



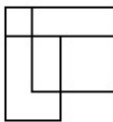
Question Number : 50 Question Id : 41652911099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

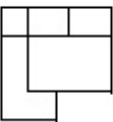


Options :

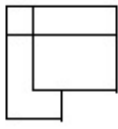
41652943598.



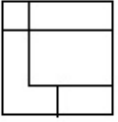
41652943599.



41652943600.



41652943601.



Sub-Section Number: 5  
 Sub-Section Id: 416529249  
 Question Shuffling Allowed : Yes

Question Id : 41652911100 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (51 to 55)

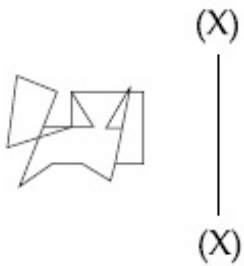
Question Label : Comprehension

Directions : Which one of the answer figure is the correct mirror image of the problem figure with respect to X - X ?

Sub questions

Question Number : 51 Question Id : 41652911101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

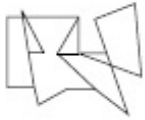


Options :

41652943602.



41652943603.



41652943604.

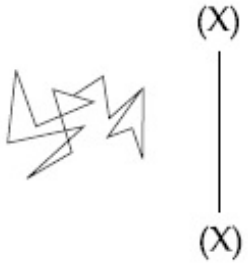


41652943605.

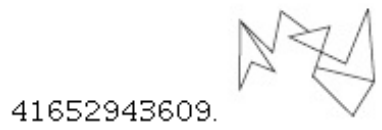
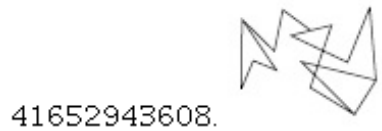
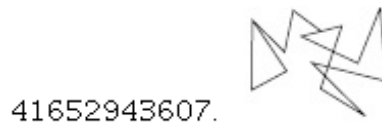
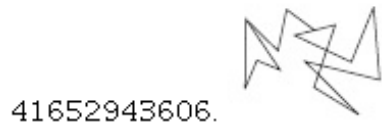


Question Number : 52 Question Id : 41652911102 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

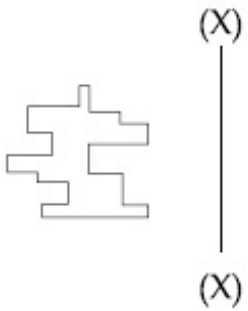


Options :

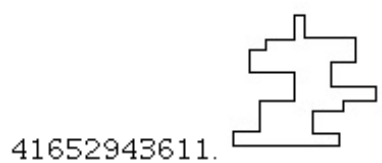
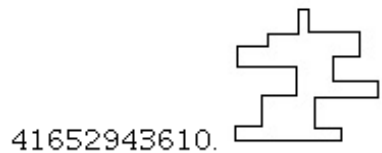


Question Number : 53 Question Id : 41652911103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

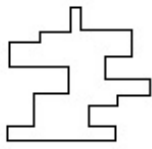
Correct Marks : 4 Wrong Marks : 1



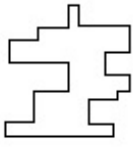
Options :



41652943612.

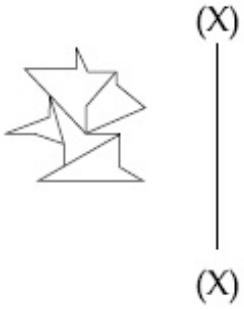


41652943613.



Question Number : 54 Question Id : 41652911104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943614.



41652943615.



41652943616.

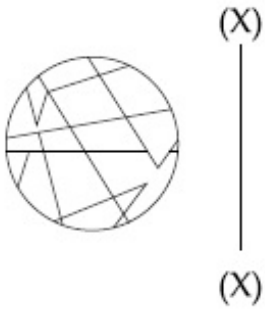


41652943617.



Question Number : 55 Question Id : 41652911105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943618.



41652943619.



41652943620.



41652943621.



Question Id : 41652911100 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (51 to 55)

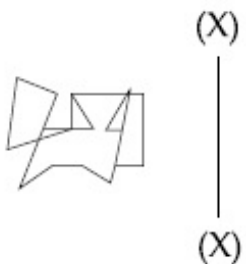
Question Label : Comprehension

निर्देश : उत्तर आकृतियों में से कौनसी आकृति दी गयी प्रश्न आकृति का X - X से सम्बंधित सही दर्पण प्रतिबिम्ब है ?

Sub questions

Question Number : 51 Question Id : 41652911101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943602.



41652943603.



41652943604.

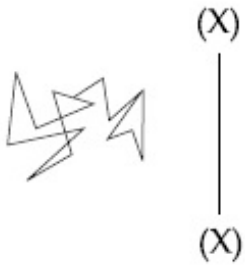


41652943605.



**Question Number : 52 Question Id : 41652911102 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**



**Options :**

41652943606.



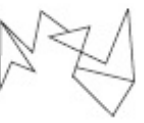
41652943607.



41652943608.



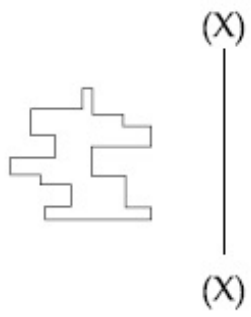
41652943609.



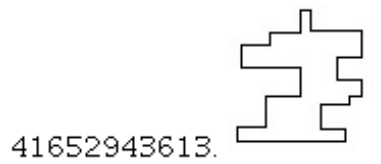
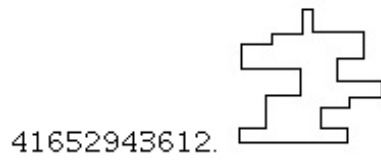
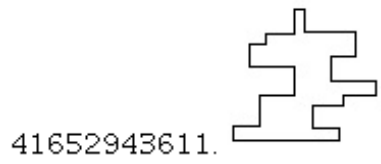
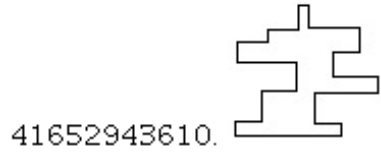
**Question Number : 53 Question Id : 41652911103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

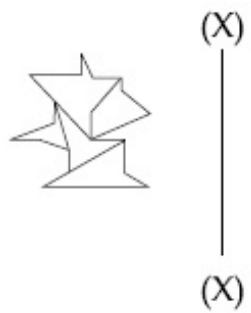




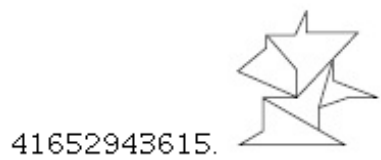
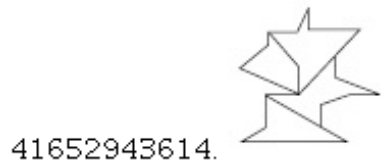
Options :



Question Number : 54 Question Id : 41652911104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 4 Wrong Marks : 1



Options :



41652943616.



41652943617.



**Question Number : 55 Question Id : 41652911105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**



(X)

(X)

**Options :**

41652943618.



41652943619.



41652943620.



41652943621.



**Sub-Section Number:**

6

**Sub-Section Id:**

416529250

**Question Shuffling Allowed :**

Yes

Question Id : 41652911106 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (56 to 60)

Question Label : Comprehension

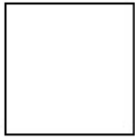
Directions : Find the odd figure out of the answer figures given below :

Sub questions

Question Number : 56 Question Id : 41652911107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Options :



41652943622.



41652943623.



41652943624.



41652943625.

Question Number : 57 Question Id : 41652911108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

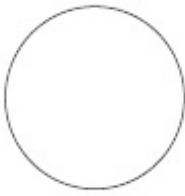
Options :



41652943626.



41652943627.



41652943628.

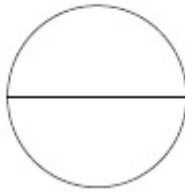


41652943629.

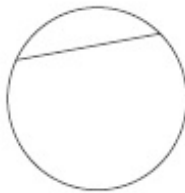
**Question Number : 58 Question Id : 41652911109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

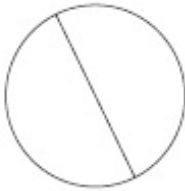
**Options :**



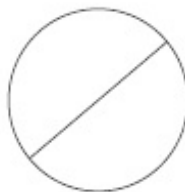
41652943630.



41652943631.



41652943632.



41652943633.

**Question Number : 59 Question Id : 41652911110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

**Options :**



41652943634.

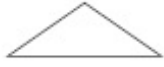
41652943635.



41652943636.



41652943637.



**Question Number : 60 Question Id : 41652911111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

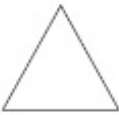
**Correct Marks : 4 Wrong Marks : 1**

**Options :**

41652943638.



41652943639.



41652943640.



41652943641.



**Question Id : 41652911106 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No**

**Question Numbers : (56 to 60)**

**Question Label : Comprehension**

**निर्देश : नीचे दी गयी उत्तर आकृतियों में से विषम आकृति पहचानिये ।**

**Sub questions**

**Question Number : 56 Question Id : 41652911107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

**Options :**

41652943622.



41652943623.



41652943624.



41652943625.

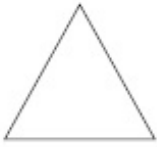


**Question Number : 57 Question Id : 41652911108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

**Options :**

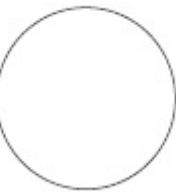
41652943626.



41652943627.



41652943628.



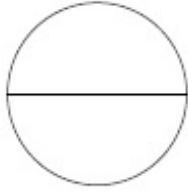
41652943629.



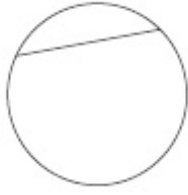
**Question Number : 58 Question Id : 41652911109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

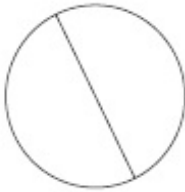
Options :



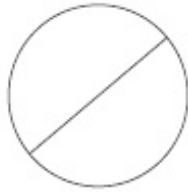
41652943630.



41652943631.



41652943632.

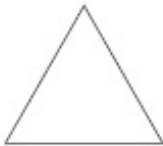


41652943633.

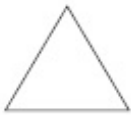
Question Number : 59 Question Id : 41652911110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Options :



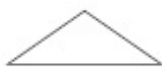
41652943634.



41652943635.



41652943636.



41652943637.

Question Number : 60 Question Id : 41652911111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

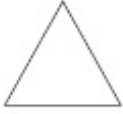
Correct Marks : 4 Wrong Marks : 1

Options :

41652943638.



41652943639.



41652943640.



41652943641.



Sub-Section Number: 7  
 Sub-Section Id: 416529251  
 Question Shuffling Allowed : Yes

Question Id : 41652911112 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (61 to 65)

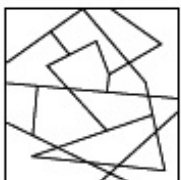
Question Label : Comprehension

Directions : One of the following answer figure is hidden in the problem figure in the same size and direction. Select the correct one.

Sub questions

Question Number : 61 Question Id : 41652911113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943642.

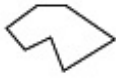


41652943643.





41652943644.

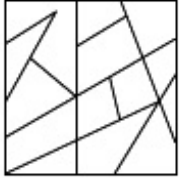


41652943645.



Question Number : 62 Question Id : 41652911114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943646.



41652943647.



41652943648.

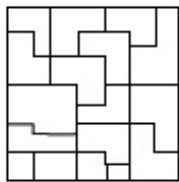


41652943649.



Question Number : 63 Question Id : 41652911115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943650.



41652943651.



41652943652.

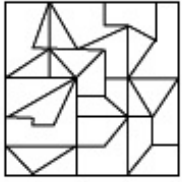


41652943653.



Question Number : 64 Question Id : 41652911116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943654.

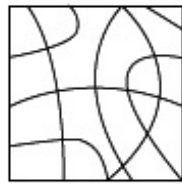
41652943655.

41652943656.

41652943657.

Question Number : 65 Question Id : 41652911117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943658.

41652943659.

41652943660.

41652943661.

Question Id : 41652911112 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension  
Questions : No

Question Numbers : (61 to 65)

Question Label : Comprehension

निर्देश : नीचे दी गयी उत्तर आकृतियों में से एक आकृति माप और दिशा में समान रूप से प्रश्न आकृति में छुपी है। कौन सी सही है, चुनिए।

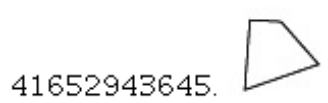
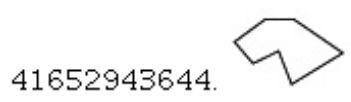
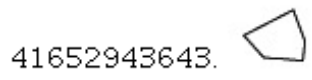
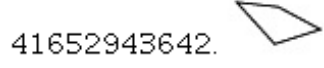
Sub questions

Question Number : 61 Question Id : 41652911113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

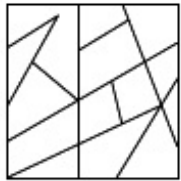


Options :

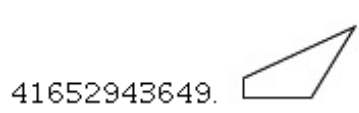
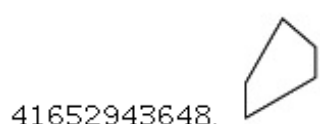
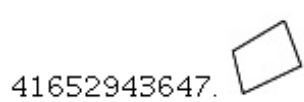
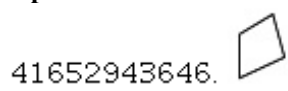


Question Number : 62 Question Id : 41652911114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

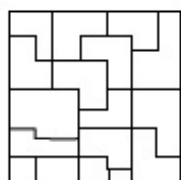


Options :





Question Number : 63 Question Id : 41652911115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

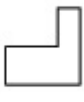
Correct Marks : 4 Wrong Marks : 1




Options :

41652943650. 

41652943651. 

41652943652. 


41652943653. 


Question Number : 64 Question Id : 41652911116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical


Correct Marks : 4 Wrong Marks : 1




Options :

41652943654. 

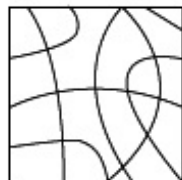
41652943655. 

41652943656. 


41652943657. 


Question Number : 65 Question Id : 41652911117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1



Options :

41652943658. 

41652943659. 

41652943660.



41652943661.



**Sub-Section Number:** 8  
**Sub-Section Id:** 416529252  
**Question Shuffling Allowed :** Yes

**Question Id : 41652911118 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No**

**Question Numbers : (66 to 80)**

**Question Label : Comprehension**

#### **Sub questions**

**Question Number : 66 Question Id : 41652911119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

Which one of the following is a primary color ?

**Options :**

41652943662. Purple

41652943663. Orange

41652943664. Red

41652943665. Green

**Question Number : 67 Question Id : 41652911120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

In the Northern Hemisphere the winter sun rises from which direction amongst the following ?

**Options :**

41652943666. North East

41652943667. North West

41652943668. South East

41652943669. South West

Question Number : 68 Question Id : 41652911121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A byte is which one of the following ?

Options :

41652943670. A group of stars

41652943671. A unit of digital memory

41652943672. An act of an acrobat

41652943673. A unit of sound

Question Number : 69 Question Id : 41652911122 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

What does the abbreviation ISRO stand for amongst the following ?

Options :

41652943674. Indian Studies and Result Office

41652943675. International Sea and Rain Office

41652943676. Indian Space Research Organization

41652943677. International Settlements and Relief Organization

Question Number : 70 Question Id : 41652911123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

What does the abbreviation NASA stand for amongst the following ?

Options :

41652943678. National Architecture and Science Association

41652943679. National Archeology Studies Academy

41652943680. National Aeronautics and Space Administration

41652943681. National Art and Science Association

Question Number : 71 Question Id : 41652911124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is a horizontal element that supports the loads above openings in walls in a building ?

Options :

41652943682. Lintel

41652943683. Column

41652943684. Foundation

41652943685. Pillar

Question Number : 72 Question Id : 41652911125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which color amongst the following represents danger ?

Options :

41652943686. Black

41652943687. Green

41652943688. Red

41652943689. White

Question Number : 73 Question Id : 41652911126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which Indian city is abutting the Arabian Sea ?

Options :

41652943690. Kolkata

41652943691. Mumbai

41652943692. Chennai

41652943693. Surat

Question Number : 74 Question Id : 41652911127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In which of the following Indian city are the 'Shaking Minarets' located ?

Options :

41652943694. Hyderabad

41652943695. Lucknow

41652943696. Ahmedabad

41652943697. Delhi

Question Number : 75 Question Id : 41652911128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In which of the following Indian city is the 'Bara Immambara' located ?

Options :

41652943698. Hyderabad

41652943699. Lucknow

41652943700. Ahmedabad

41652943701. Delhi

Question Number : 76 Question Id : 41652911129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Cavity walls are which one of the following ?

Options :

41652943702. Walls with holes

41652943703. Walls with air gap

41652943704. Walls with windows

41652943705. Walls with doors

Question Number : 77 Question Id : 41652911130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Green buildings are associated with which of the following :

Options :



41652943706. Landscape

41652943707. Beauty

41652943708. Environmental suitability

41652943709. Location

**Question Number : 78 Question Id : 41652911131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

Frame structure in high rise building  
pertains to which one of the following ?

**Options :**

41652943710. Structure with squares on the facade

41652943711. Columns and Beams structure

41652943712. Load bearing wall structure

41652943713. A square building

**Question Number : 79 Question Id : 41652911132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

Chajjas above windows are meant to  
protect the building from which of the  
following ?

**Options :**

41652943714. Wind

41652943715. Birds

41652943716. Sun

41652943717. Typhoon

**Question Number : 80 Question Id : 41652911133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

Which one of the following is not a planned  
city ?

**Options :**

41652943718. Gandhi nagar

41652943719. Chandigarh

41652943720. Bhubaneswar

41652943721. Kanpur

Question Id : 41652911118 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (66 to 80)

Question Label : Comprehension

Sub questions

Question Number : 66 Question Id : 41652911119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से कौन सा रंग प्राथमिक है?

Options :

41652943662. बैंगनी

41652943663. नारंगी

41652943664. लाल

41652943665. हरा

Question Number : 67 Question Id : 41652911120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

उत्तरी गोलार्द्ध में सर्दियों का सूर्य निम्नलिखित दिशा में किस दिशा से उगता है?

Options :

41652943666. उत्तर पूर्व

41652943667. उत्तर पश्चिम

41652943668. दक्षिण पूर्व

41652943669. दक्षिण पश्चिम

Question Number : 68 Question Id : 41652911121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

एक बाइट निम्नलिखित में से कौन सा है?

Options :

41652943670. सितारों का एक समूह

41652943671. डिजिटल मेमोरी की एक इकाई

41652943672. एक एक्रोबैट का एक अधिनियम

41652943673. ध्वनि की एक इकाई

**Question Number : 69 Question Id : 41652911122 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

निम्नलिखित में से किस के लिए संक्षेप में ISRO खड़ा है?

**Options :**

41652943674. भारतीय अध्ययन और परिणाम कार्यालय

41652943675. अंतर्राष्ट्रीय सागर और वर्षा कार्यालय

41652943676. भारतीय अंतरिक्ष अनुसंधान संगठन

41652943677. अंतर्राष्ट्रीय निपटान और राहत संगठन

**Question Number : 70 Question Id : 41652911123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

निम्नलिखित में से NASA का संक्षिप्त नाम क्या है?

**Options :**

41652943678. नेशनल आर्किटेक्चर एंड साइंस एसोसिएशन

41652943679. नेशनल पुरातत्व अध्ययन अकादमी

41652943680. नेशनल एयरोनॉटिक्स एंड स्पेस एडमिनिस्ट्रेशन

41652943681. नेशनल आर्ट एंड साइंस एसोसिएशन

**Question Number : 71 Question Id : 41652911124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 4 Wrong Marks : 1**

निम्नलिखित में से कौन सा शैतिज तत्व है जो इमारत में दीवारों में खुलने वाले भारों को सहारा देता है?

**Options :**

41652943682. सरदल

41652943683. कॉलम

41652943684. फाउंडेशन

41652943685. स्तंभ

Question Number : 72 Question Id : 41652911125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से कौन सा रंग खतरे का प्रतिनिधित्व करता है?

Options :

41652943686. काला

41652943687. हरा

41652943688. लाल

41652943689. सफ़ेद

Question Number : 73 Question Id : 41652911126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

कौन सा भारतीय शहर अरब सागर से सटा हुआ है?

Options :

41652943690. कोलकाता

41652943691. मुंबई

41652943692. चेन्नई

41652943693. सूरत

Question Number : 74 Question Id : 41652911127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित किस भारतीय शहर में 'शेकिंग मीनारेट्स' स्थित है?

Options :

41652943694. हैदराबाद

41652943695. लखनऊ

41652943696. अहमदाबाद

41652943697. दिल्ली

Question Number : 75 Question Id : 41652911128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित भारतीय शहर में से किसमें 'बड़ा इमामबारा'  
स्थित है?

Options :

41652943698. हैदराबाद

41652943699. लखनऊ

41652943700. अहमदाबाद

41652943701. दिल्ली

Question Number : 76 Question Id : 41652911129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

गुहा दीवारें निम्नलिखित में से कौन सी हैं?

Options :

41652943702. छेद के साथ दीवारें

41652943703. हवा के अंतर के साथ दीवारें

41652943704. खिड़कियों के साथ दीवारें

41652943705. दरवाजे के साथ दीवारें

Question Number : 77 Question Id : 41652911130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

ग्रीन बिल्डिंग निम्नलिखित में से किसके साथ जुड़े हुए  
हैं?

Options :

41652943706. लैंडस्केप

41652943707. सौंदर्य

41652943708. पर्यावरण उपयुक्ता

41652943709. स्थान

Question Number : 78 Question Id : 41652911131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

उच्च वृद्धि इमारत में एक फ्रेम संरचना निम्नलिखित में से किस एक से संबंधित है?

Options :

41652943710. अग्रभाग पर वर्गों के साथ संरचना

41652943711. कॉलम और बीम संरचना

41652943712. भार असर दीवार संरचना

41652943713. एक वर्ग इमारत

Question Number : 79 Question Id : 41652911132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

खिड़कियों के ऊपर छज्जा निम्नलिखित में से किससे इमारत की रक्षा करने के लिए हैं?

Options :

41652943714. पवन

41652943715. पक्षी

41652943716. सूर्य

41652943717. आंधी

Question Number : 80 Question Id : 41652911133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से कौन सा योजनाबद्ध शहर नहीं है?

Options :

41652943718. गांधीनगर

41652943719. चंडीगढ़

41652943720. भुवनेश्वर

41652943721. कानपुर

	Drawing
Section Id :	416529192
Section Number :	3
Section type :	Offline
Mandatory or Optional:	Mandatory
Number of Questions:	3
Number of Questions to be attempted:	3
Section Marks:	70
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	416529253
Question Shuffling Allowed :	No

Question Number : 81 Question Id : 41652911134 Question Type : SUBJECTIVE Display Question Number : Yes  
Correct Marks : 20

- (a) In the space provided in the answer sheet for this question, draw margin lines to form a frame. In this frame create an aesthetic composition using only curved lines. The shapes created by these curved lines can be of any size, and may be placed separate, overlapping or within each other. The idea is to produce an aesthetic and visually exciting composition of these shapes in the frame without making it represent any realistic form like house face etc. The composition should be filled with some colors of your choice so that the visual quality of the composition is enhanced.

20 Marks

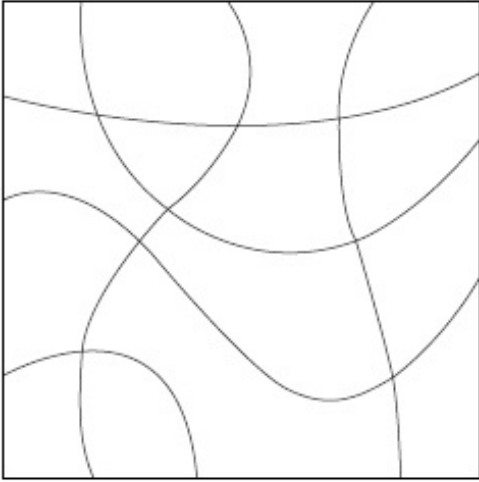
Question Number : 81 Question Id : 41652911134 Question Type : SUBJECTIVE Display Question Number : Yes  
Correct Marks : 20

- (a) इस प्रश्न के उत्तर पत्र में दिए गए स्थान में एक फ्रेम बनाने के लिए मार्जिन लाइनें खींचें। इस फ्रेम में केवल घुमावदार लाइनों का उपयोग करते हुए एक सौंदर्य रचना बनाएं। इन घुमावदार लाइनों से बने आकार किसी भी आकार के हो सकते हैं, और अलग-अलग, अतिव्यापी या एक-दूसरे के भीतर हो सकते हैं। इस रचना का विचार फ्रेम में इन आकृतियों की एक सौंदर्य और दृष्टि से रोमांचक रचना का उत्पादन करना है, बिना किसी वास्तविक यथार्थवादी रूप का प्रतिनिधित्व करना, जैसे घर का चेहरा इत्यादी। संरचना को अपनी पसंद के कुछ रंगों से भरा जाना चाहिए ताकि संरचना की दृश्य गुणवत्ता बढ़ाई जा सके।

20 Marks

Question Number : 82 Question Id : 41652911135 Question Type : SUBJECTIVE Display Question Number : Yes Correct Marks : 20

- (b) Draw the graphic image shown below to double its size in the space provided for the answer of this question. Each component line should be drawn double its length and correctly positioned direction wise as shown in the question figure.

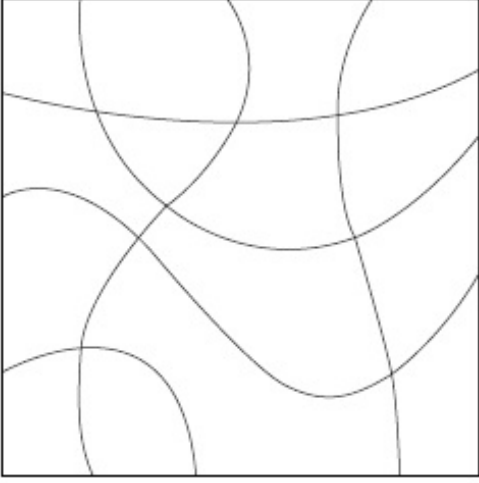


20 Marks

Question Number : 82 Question Id : 41652911135 Question Type : SUBJECTIVE Display Question Number : Yes Correct Marks : 20



- (b) नीचे दी गई छवि को, इस प्रश्न के उत्तर के लिए दिए गए स्थान में, इसके दुगने आकार का बनाओ। उत्तर में छवि की हर लकीर का आकार एवं दिशा प्रश्न में दी गयी छवि से दुगनी एवं सही जगह पर खींची जाना चाहिए।



**20 Marks**

**Sub-Section Number:** 2  
**Sub-Section Id:** 416529254  
**Question Shuffling Allowed :** No

**Question Number : 83 Question Id : 41652911136 Question Type : SUBJECTIVE Display Question Number : Yes Correct Marks : 30**

- (c) Design an appropriate pattern for a curtain for a small girl's room. Draw and color it. **30 Marks**

**OR**

Draw a picture of your favorite film star's face as realistic as possible.

**OR**

Draw from imagination a picture of some people sitting around a bonfire.

**Question Number : 83 Question Id : 41652911136 Question Type : SUBJECTIVE Display Question Number : Yes Correct Marks : 30**

- (c) एक छोटी लड़की के कमरे के लिए एक पर्दे के लिए एक उपयुक्त पैटर्न डिजाइन करें। इसे खींचें और रंग दें। **30 Marks**

या

यथासंभव यथार्थवादी अपने पसंदीदा फिल्म स्टार की चेहरे की एक तस्वीर बनाएं।

या

एक बोनफायर के आसपास बैठे कुछ लोगों की तस्वीर कल्पना से खींचें।