# National Testing Agency

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| **Question Paper Name :** | JEE Main 2024 Paper 2A (B.Arch) Jan 24 Single sitting |
| **Subject Name :** | Paper 2A (B.Arch) |
| **Creation Date :** | 2024-01-27 12:14:40 |
| **Duration :** | 180 |
| **Total Marks :** | 400 |

## Paper 2A (B.Arch)

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|---|---|
| **Group Id :** | 4058593 |

## Mathematics Section A

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|---|---|
| **Section Number :** | 1 |
| **Number of Questions :** | 20 |
| **Number of Questions to be attempted :** | 20 |
| **Section Marks :** | 80 |

**Question Number : 1 Question Id : 405859213 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The domain of the function $f(x)=\sqrt{4-x^2}+\sqrt{2+x}$ is $[a, b]$, then $a^2+3b^2$ is equal to

**Options :**

405859781. 4

405859782. 8

405859783. 12

405859784. 16

**Question Number : 2 Question Id : 405859214 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Let $\mathbb{R}$ denote the set of real numbers, $\mathbb{Z}$ the set of integers and W the set of Non-negative integers, and define a map

(i) $f_1 : \mathbb{Z} \to \mathbb{Z}$ by $f_1(x) = x^3$. Then $f_1$ is one-one and not onto.

(ii) $f_2 : \mathbb{R} \to \mathbb{R}$ by $f_2(x) = x^3$. Then $f_2$ is one-one and onto.

(iii) $f_3 : \mathbb{Z} \to \mathrm{W}$ by $f_3(x) = |x|$. Then $f_3$ is not one-one but is onto.

(iv) $f_4 : \mathbb{Z} \to \mathbb{Z}$ by $f_4(x) = x^2$. Then $f_4$ is neither one-one nor onto.

Then which of the following options is correct?

**Options :**

405859785. (i), (iii), (iv) are true but (ii) is false

405859786. All are true

405859787. (ii), (iii) and (iv) are true but (i) is false

405859788. (i), (ii) and (iv) are true but (iii) is false

**Question Number : 3 Question Id : 405859215 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

If $\frac{\sqrt{5+12i}+\sqrt{5-12i}}{\sqrt{5+12i}-\sqrt{5-12i}}=a+bi$, then $a-b$ is :

**Options :**

405859789. $\frac{5}{6}$

405859790. $-\frac{5}{12}$

405859791. $\frac{3}{2}$

405859792. $\frac{5}{12}$

**Question Number : 4 Question Id : 405859216 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Let $A$ be a $3\times3$ matrix such that $adj(A)=\begin{bmatrix}25 & 0 & 100\\ 0 & 4 & 3\\ 0 & 100 & 100\end{bmatrix}$, then determinant of $A$ is

**Options :**

405859793. 25

405859794. 50

405859795. 100

405859796. 1000

**Question Number : 5 Question Id : 405859217 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The total number of times the digit 3 will be written when listing integers from 1 to 1000 is

**Options :**

405859797. 297

405859798. 243

405859799. 273

405859800. 300

**Question Number : 6 Question Id : 405859218 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The coefficient of $x^{24}$ in $(1+x^2)^{12}(1+x^{12})(1+x^{24})$ is

**Options :**

405859801. $^{12}C_6 + 3$

405859802. $^{12}C_6$

405859803. $^{12}C_6 + 1$

405859804. $^{12}C_6 + 2$

**Question Number : 7 Question Id : 405859219 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Sum to $n$ terms of the series $\log_e a + \log_e\left(\frac{a^2}{b}\right) + \log_e\left(\frac{a^3}{b^2}\right) + \log_e\left(\frac{a^4}{b^3}\right) + .....$

is

**Options :**

405859805. $\frac{n}{2}\left[(n+1)\log_e\left(\frac{a}{b}\right) - \log_e ab\right]$

405859806. $\frac{n}{2}\left[n\log_e\left(\frac{a}{b}\right) - \log_e ab\right]$

405859807. $\frac{n}{2}\left[\log_e\left(\frac{a}{b}\right) + n\log_e ab\right]$

405859808. $\frac{n}{2}\left[n\log_e\left(\frac{a}{b}\right) + \log_e ab\right]$

**Question Number : 8 Question Id : 405859220 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

If the sum of first 10 terms and first 26 terms of an A.P. are 190 and 1326 respectively, then find the sum of its first 50 terms.

**Options :**

405859809. 4900

405859810. 4924

405859811. 4950

405859812. 4980

**Question Number : 9 Question Id : 405859221 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

If $\lim\limits_{x\to 1}\frac{x^5-1}{x-1} = \lim\limits_{x\to k}\frac{x^3-k^3}{x^2-k^2}$, then $k$ is equal to

**Options :**

405859813. $\frac{5}{3}$

405859814. $\frac{7}{3}$

405859815. $\frac{8}{3}$

405859816. $\frac{10}{3}$

**Question Number : 10 Question Id : 405859222 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Let $f:[0,\pi]\to\mathbb{R}$ be a function defined by $f(x)=\begin{cases} x+\sqrt{2}a\sin x, & 0\le x<\frac{\pi}{4} \\ 2x\cot x+b, & \frac{\pi}{4}\le x\le\frac{\pi}{2} \\ a\cos 2x-b\sin x, & \frac{\pi}{2}<x\le\pi \end{cases}$.

If $f$ is continuous for $0\le x\le\pi$, then $a^2+140b^2$ is equal to

**Options :**

405859817. $0$

405859818. $\pi^2$

405859819. $2\pi^2$

405859820. $\frac{\pi^2}{2}$

**Question Number : 11 Question Id : 405859223 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

$\int\frac{dx}{\sin^2 x\cos^2 x}$ is equal to

**Options :**

405859821. $\tan x+\cot x+c$

405859822. $(\tan x+\cot x)^2+c$

405859823. $\tan x-\cot x+c$

405859824. $2(\sec x\tan x-\operatorname{cosec} x\cot x)+c$

**Question Number : 12 Question Id : 405859224 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The solution of differential equation $\left(x+2y^3\right)\frac{dy}{dx}=y$ is

**Options :**

405859825. $x=y^2+c$

405859826. $y=x^2+c$

405859827. $x = y\,(y^2 + c)$

405859828. $y = x\,(x^2 + c)$

**Question Number : 13 Question Id : 405859225 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The point diametrically opposite to the point $(-1, 1)$ on the circle $x^2 + y^2 - x - 4y + 1 = 0$ is

**Options :**

405859829. $(-2, 5)$

405859830. $(2, -5)$

405859831. $(0, 3)$

405859832. $(2, 3)$

**Question Number : 14 Question Id : 405859226 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The vertices of a triangle OAB are $(0, 0)$, $(a, 0)$ and $(0, b)$ respectively. The distance between its orthocentre and circumcentre is

**Options :**

405859833. $(a + b)$

405859834. $(a - b)$

405859835. $\frac{1}{2}\sqrt{a^2 + b^2}$

405859836. $\frac{1}{2}\sqrt{a^2 - b^2}$

**Question Number : 15 Question Id : 405859227 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The shortest distance between the lines $\vec{r} = \left(\hat{i} + 2\hat{j} + 3\hat{k}\right) + \lambda\left(\hat{i} - 3\hat{j} + 2\hat{k}\right)$ and $\vec{r} = \left(4\hat{i} + 5\hat{j} + 6\hat{k}\right) + \mu\left(2\hat{i} + 3\hat{j} + \hat{k}\right)$ is :

**Options :**

405859837. $\frac{1}{19}$ units

405859838. $\sqrt{19}$ units

405859839. $\frac{3}{\sqrt{19}}$ units

405859840. $\frac{1}{\sqrt{19}}$ units

**Question Number : 16 Question Id : 405859228 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The projection vector of $\vec{a} = \hat{i} - 3\hat{j} - 3\hat{k}$ on $\vec{b} = 3\hat{i} - 4\hat{j}$ is

**Options :**

405859841. $\frac{9}{5}\hat{i} - \frac{12}{5}\hat{j}$

405859842. $\frac{3}{\sqrt{19}}\hat{i} - \frac{4}{\sqrt{19}}\hat{j}$

405859843. $\frac{12}{5}\hat{i} - \frac{36}{5}\hat{j} - \frac{36}{5}\hat{k}$

405859844. $9\hat{i} - 12\hat{j}$

**Question Number : 17 Question Id : 405859229 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Given $\left|\vec{a}\right| = \left|\vec{b}\right| = 1$ and $\left|\vec{a} + \vec{b}\right| = \sqrt{3}$. If $\vec{c}$ is a vector such that $\vec{c} - \vec{a} - 2\vec{b} = 3\left(\vec{a} \times \vec{b}\right)$, then $\vec{c} \cdot \vec{b}$ is equal to

**Options :**

405859845. $-\frac{1}{2}$

405859846. $\frac{1}{2}$

405859847. $\frac{3}{2}$

405859848. $\frac{5}{2}$

**Question Number : 18 Question Id : 405859230 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

If $A$ and $B$ are two events such that $P(A \cup B) = \frac{5}{8}$ and $P(A' \cup B') = \frac{3}{4}$, then $P(A') + P(B') =$

**Options :**

405859849. $\frac{1}{8}$

405859850. $\frac{3}{8}$

405859851. $\frac{9}{8}$

405859852. $\frac{11}{8}$

**Question Number : 19 Question Id : 405859231 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The value of $\sec 15^\circ - \sqrt{3}\,\text{cosec}\,15^\circ$ is

**Options :**

405859853. $4\sqrt{2}$

405859854. $3\sqrt{3}$

405859855. $-3\sqrt{3}$

405859856. $-4\sqrt{2}$

**Question Number : 20 Question Id : 405859232 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

$\cot^{-1}7 + \cot^{-1}8 + \cot^{-1}5 =$

**Options :**

405859857. $\cot^{-1}2$

405859858. $\cot^{-1}10$

405859859. $\cot^{-1}6$

405859860. $\cot^{-1}4$

## Mathematics Section B

| | |
|---|---|
| **Section Number :** | 2 |
| **Number of Questions :** | 10 |
| **Number of Questions to be attempted :** | 5 |
| **Section Marks :** | 20 |

**Question Number : 21 Question Id : 405859233 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

Let $\alpha$ and $\beta$ be the roots of the equation $x^2 - 6x - 2 = 0$, with $\alpha > \beta$. If $a_n = \alpha^n - \beta^n$ for $n \geq 1$, then the value of $\frac{a_{10} - 2a_8}{3a_9}$ is equal to_____

**Question Number : 22 Question Id : 405859234 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

If $\alpha$, $\beta$, $\gamma$ are the angles of a triangle, then the value of the determinant

$$\begin{vmatrix} \cot\alpha & \cot\beta & \cot\gamma \\ 1 & 1 & 1 \\ \sin^2\alpha & \sin^2\beta & \sin^2\gamma \end{vmatrix}$$ is equal to_____

**Question Number : 23 Question Id : 405859235 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

If $r^{\text{th}}$ term in the expansion of $\left(\sqrt[3]{\frac{a}{\sqrt{b}}} + \sqrt{\frac{b}{\sqrt[3]{a}}}\right)^{21}$ contains equal powers of $a$ and $b$, then value of $r$ is_____

**Question Number : 24 Question Id : 405859236 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

If $y = \tan^{-1}\left(\frac{3x}{1+54x^2}\right) + \tan^{-1}\left(\frac{3x}{1+18x^2}\right)$, then $\frac{dy}{dx}$ at $x = 0$ is_____

**Question Number : 25 Question Id : 405859237 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

The value of $\int_1^5 f(x)dx$, where $f(x) = |x-1| + |x-2| + |x-3|$ is_____

**Question Number : 26 Question Id : 405859238 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

Let $y = y(x)$ be the solution of differential equation $\sin x\frac{dy}{dx} + y\cos x = 4x$. If $y\left(\frac{\pi}{2}\right) = 0$ and $y\left(-\frac{\pi}{6}\right) = \frac{\alpha}{\beta}\pi^2$, where α and β are co-prime numbers, then value of $(\alpha + \beta)$ is_____

**Question Number : 27 Question Id : 405859239 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

Let $L$ denote the line in the $xy$-plane with $x$ and $y$ intercepts as 2 and 1 respectively. If the image of the point $(-1, -3)$ in this line is $\left(\frac{\alpha}{5}, \frac{\beta}{5}\right)$, then $\alpha + \beta$ is equal to_____

**Question Number : 28 Question Id : 405859240 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

The length of projection of the line segment joining the points $(1, 0, -1)$ and $(-1, 2, 2)$ on the plane $x + 3y - 5z = 6$ is $d$, then find $70d^2$_____

**Question Number : 29 Question Id : 405859241 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

There are two bags. The first bag contains 3 white and 4 red balls and the second bag contains 4 white and 3 red balls. Two balls are drawn at random from the first bag and are put into the second bag without noticing their colours. Then two balls are drawn from the second bag. If the probability that one ball is white and the other is red is $\frac{x}{y}$, where $\frac{x}{y}$ is in the simplest form, then value of $(2x - y)$ is_____

**Question Number : 30 Question Id : 405859242 Question Type : SA Correct Marks : 4 Wrong Marks : 1**

In a $\Delta ABC$, $\angle A = \frac{\pi}{2}$. If $\tan\frac{B}{2}$ and $\tan\frac{C}{2}$ are the roots of $2x^2 - bx - c = 0$, then what is the value of $(b-c)^3$_____?

## Aptitude Test

**Section Number :** 3
**Number of Questions :** 50
**Number of Questions to be attempted :** 50
**Section Marks :** 200

**Question Number : 31 Question Id : 405859243 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Saturation level of colors represents

**Options :**

405859871. Distribution

405859872. Darkness

405859873. Brilliance

405859874. Warmth

**Question Number : 32 Question Id : 405859244 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Which of the following is a shell structure?

**Options :**

405859875. Millenium dome

405859876. Stansted airport

405859877. Bank of China tower

405859878. Louvre, Museum

**Question Number : 33 Question Id : 405859245 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the building material represented in the given figure



**Options :**

405859879. Tile

405859880. Paving Block

405859881. Wooden Plank

405859882. Granite

**Question Number : 34 Question Id : 405859246 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Before plastering, the surface has to be :

**Options :**

405859883. Cemented

405859884. Polished

405859885. Smooth

405859886. Rough

**Question Number : 35 Question Id : 405859247 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Who designed the 'Sydney Opera House'?

**Options :**

405859887. Jorn Utzon

405859888. Jan Gehl

405859889. Bjarke Ingels

405859890. Henning Lorsen

**Question Number : 36 Question Id : 405859248 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The design elements which are associated with the sense of touch

**Options :**

405859891. Pattern, Shape, Form

405859892. Texture, Shape, Form

405859893. Shape, Pattern, Texture

405859894. Form, Pattern, Texture

**Question Number : 37 Question Id : 405859249 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

The First World Environment Day was held in which year?

**Options :**

405859895. 1973

405859896. 1976

405859897. 1978

405859898. 1970

**Question Number : 38 Question Id : 405859250 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Elephanta Caves are dedicated to which God?

**Options :**

405859899. Budha

405859900. Tirthankar Mahavir

405859901. Shiva

405859902. Vishnu

**Question Number : 39 Question Id : 405859251 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Which one of the following is not a city type?

**Options :**

405859903. Garden City

405859904. Linear City

405859905. Radiant City

405859906. Stack City

**Question Number : 40 Question Id : 405859252 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

A gigantic chariot with elaborately carved stone wheels, pillars and walls are the characteristics of :

**Options :**

405859907. Konark Sun temple

405859908. Golden temple

405859909. Meenakshi temple

405859910. Dilwara temple

**Question Number : 41 Question Id : 405859253 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Who built the Moti Masjid in Red Fort at Delhi?

**Options :**

405859911. Shah Jahan

405859912. Aurangzeb

405859913. Qutub-Ud-Din Aibak

405859914. Akbar

**Question Number : 42 Question Id : 405859254 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Spray painting is used to :

**Options :**

405859915. Get a textured pain

405859916. Reach high areas

405859917. Apply paint without touching surface

405859918. Apply large amount of paint

**Question Number : 43 Question Id : 405859255 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

An escalator looks like which one of the following?

**Options :**

405859919. Ladder

405859920. Stair case

405859921. Ramp

405859922. Lift

**Question Number : 44 Question Id : 405859256 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Concrete is a mixture of

**Options :**

405859923. Cement + Sand + Water

405859924. Cement + Coarse Aggregate + Fine Aggregate + Water

405859925. Cement + Water + Brick Bat

405859926. Cement + Sand + Water + Brick Bat

**Question Number : 45 Question Id : 405859257 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

What type of tile are suitable for air - conditioned rooms and gymnasium?

**Options :**

405859927. Cork Tile

405859928. Ceramic Tile

405859929. Concrete Tile

405859930. Wooden Tile

**Question Number : 46 Question Id : 405859258 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Famous Tassel House was designed by

**Options :**

405859931. Victor Horta

405859932. Gerrit Rietvelt

405859933. Mies Van der Rohe

405859934. Frank Lloyd Wright

**Question Number : 47 Question Id : 405859259 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Who is the Author of "Toward an Architecture"?

**Options :**

405859935. Frank Ching

405859936. Le Corbusier

405859937. Kevin A. Lynch

405859938. Frank Wright

**Question Number : 48 Question Id : 405859260 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Hiroshima Peace Memorial Museum in Japan was designed by :

**Options :**

405859939. I. M. Pie

405859940. Tadao Ando

405859941. Kenzo Tange

405859942. Kisho Kurokawa

**Question Number : 49 Question Id : 405859261 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Which of the following is not a principle of Design?

**Options :**

405859943. Emphasis

405859944. Focal Point

405859945. Unity

405859946. Rhythm

**Question Number : 50 Question Id : 405859262 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Which of the following software is not used by architects

**Options :**

405859947. Staad. Pro

405859948. 3D Max

405859949. Revit

405859950. Sketch Up

**Question Number : 51 Question Id : 405859263 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Who built the Shalimar Bagh, Srinagar?

**Options :**

405859951. Bega Begum

405859952. Akbar

405859953. Shah Jahan

405859954. Jahangir

**Question Number : 52 Question Id : 405859264 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Kanpur, Uttar Pradesh is also known as :

**Options :**

405859955. The Leather City

405859956. Wine Capital of India

405859957. The Orange City

405859958. City of Nawabs

**Question Number : 53 Question Id : 405859265 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

How the load is transfered from the super structure to sub structure?

A. Beam
B. Slab
C. Foundation
D. Earth
E. column

Choose the correct answer from the options given below:

**Options :**

405859959. A, B, E, D, C

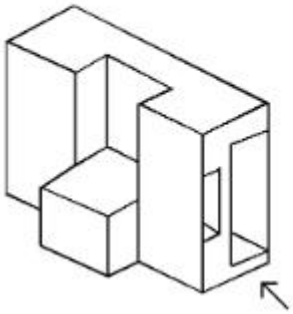
405859960. E, A, C, B, D

405859961. A, B, C, D, E

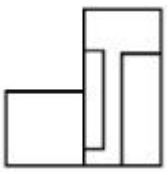
405859962. B, A, E, C, D

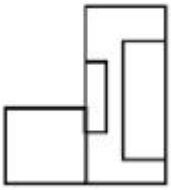
**Question Number : 54 Question Id : 405859266 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

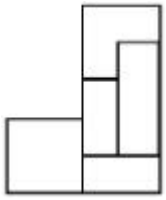
The Question figure shows the 3D view of an object. Identify the correct view, looking in the direction of Arrow, identify the correct view of the object.

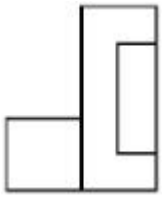


**Options :**

405859963. 

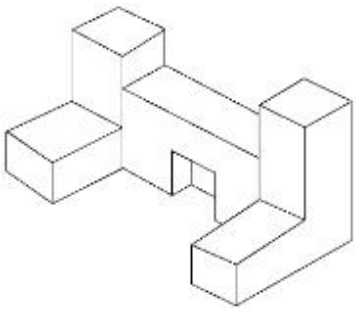
405859964. 

405859965. 

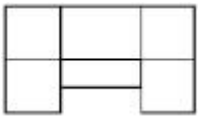
405859966. 

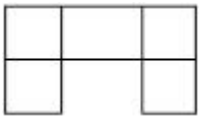
**Question Number : 55 Question Id : 405859267 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

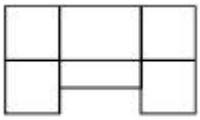
The question figure shows the 3D view of an object. Identify the correct top view amongst the answer figures.



**Options :**

405859967. 

405859968. 

405859969. 

405859970. 

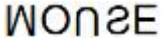
**Question Number : 56 Question Id : 405859268 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the mirror image of the given word with respect to X-X




**Options :**

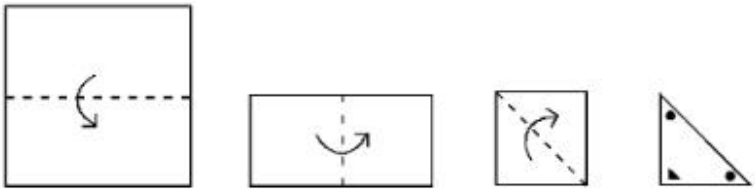
405859971. 


405859972. 

405859973. MOUSE

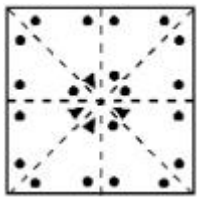
405859974. MOUSE

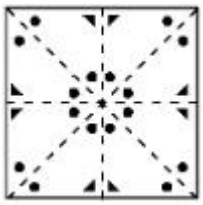
**Question Number : 57 Question Id : 405859269 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**



When the paper is folded in a given pattern and it is cut at the end. Identify which pattern is formed when the paper is unfold.

**Options :**

405859975. 

405859976. 

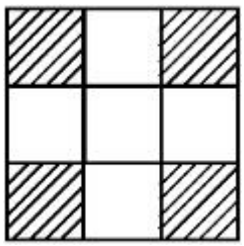
405859977. 

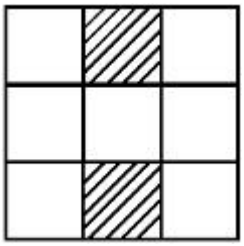
405859978. 

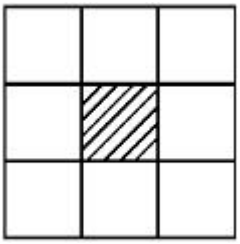
**Question Number : 58 Question Id : 405859270 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

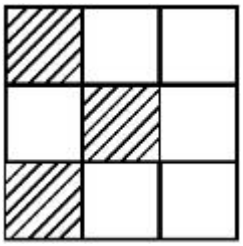
Identify the figure which is odd from rest of the figures.

**Options :**

405859979. 

405859980. 

405859981. 

405859982. 

**Question Number : 59 Question Id : 405859271 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Given below are two statements :

**Statement I** : Stone masonary is classified into two parts - Random rubble and ashlar masonary.

**Statement II** : Random Rubble masonary, each stone is cut to uniform size and shape with all sides rectangular so that stones gives perfect joints.

In the light of the above statements, choose the ***correct*** answer from the options given below :

**Options :**

405859983. Both Statement I and Statement II are true

405859984. Both Statement I and Statement II are false

405859985. Statement I is true but Statement II is false

405859986. Statement I is false but Statement II is true

**Question Number : 60 Question Id : 405859272 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the type of Garden by understanding the elements used in the given picture:



**Options :**

405859987. Roman Garden

405859988. Japanese Garden

405859989. French Garden

405859990. Chinese Garden

**Question Number : 61 Question Id : 405859273 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Match List I with List II

| LIST I | | LIST II | |
|---|---|---|---|
| A. | Rila Monastery | I. | Egypt |
| B. | Moha Bodhi Temple | II. | Bulgaria |
| C. | Wadi al Hitan | III. | Malta |
| D. | Valletta | IV. | India |

Choose the correct answer from the options given below:

**Options :**

405859991. A-IV, B-III ,C-I ,D-II

405859992. A-II, B-IV ,C-I ,D-III

405859993. A-IV, B-I ,C-II ,D-III

405859994. A-II, B-IV ,C-III ,D-I

**Question Number : 62 Question Id : 405859274 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the name of the monument :



**Options :**

405859995. The Pantheon

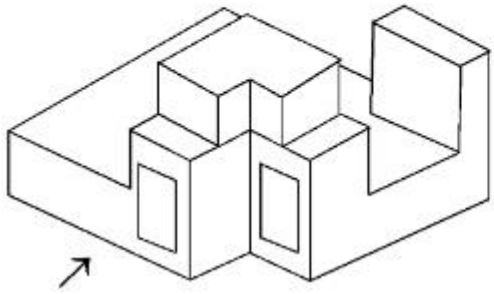
405859996. The Cathedral of Pisa

405859997. The Parthenon

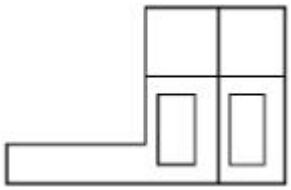
405859998. Great Temple of Karnak

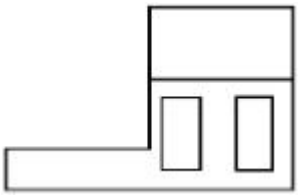
**Question Number : 63 Question Id : 405859275 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

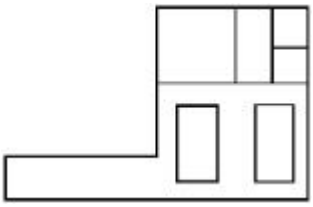
The question figure shows the 3D view of an object. Identify the correct view, looking in the direction of Arrow :

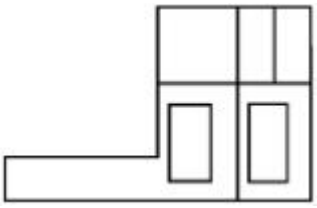


**Options :**

405859999. 

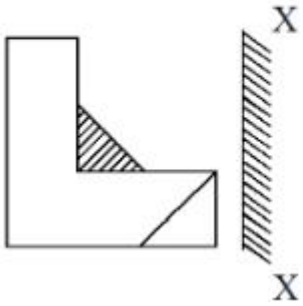
4058591000. 

4058591001. 

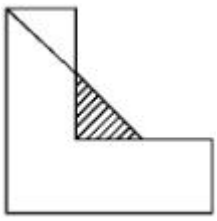
4058591002. 

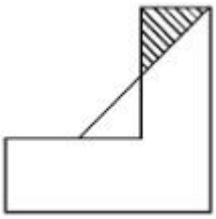
**Question Number : 64 Question Id : 405859276 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

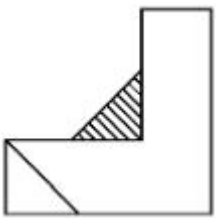
Identify the correct mirror image of the given figure along X-axis.

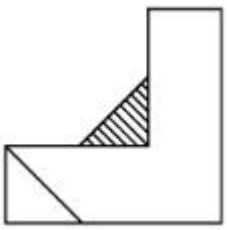



**Options :**

4058591003. 

4058591004. 

4058591005. 

4058591006. 

**Question Number : 65 Question Id : 405859277 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the Mirror image of given word

ARCHITECTURE

**Options :**

4058591007. ARCHITƎCTURƎ

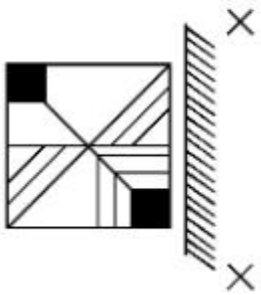
4058591008. ƎRUTCƎTIHCRA

4058591009. ƎRUTCETIHCRA

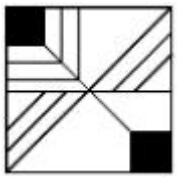
4058591010. ƎRUTCETIHCRA

**Question Number : 66 Question Id : 405859278 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

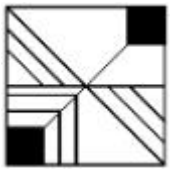
Identify the true mirror image of the figure amongst the answer figures with respect to X-X




**Options :**

4058591011. 

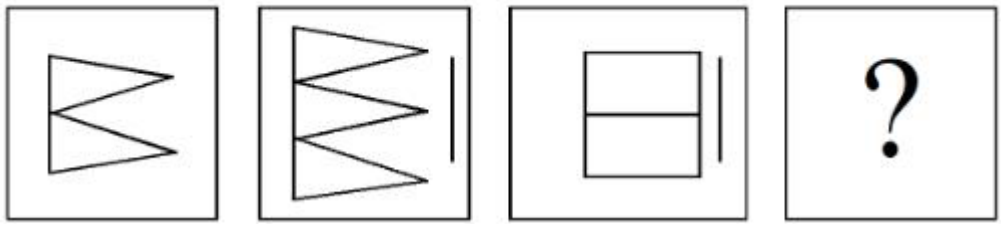
4058591012. 

4058591013. 

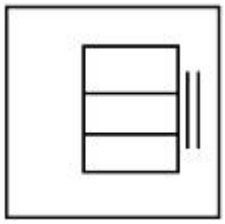
4058591014. 

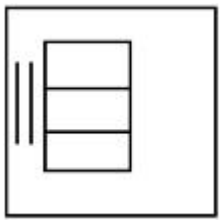
**Question Number : 67 Question Id : 405859279 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

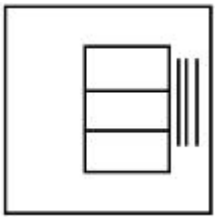
Identify the correct figure to complete the sequence :

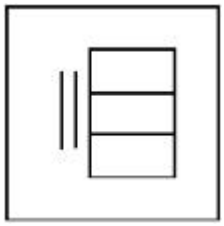


**Options :**

4058591015. 

4058591016. 

4058591017. 

4058591018. 

**Question Number : 68 Question Id : 405859280 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Complete the number series

10, 30, 68, 130, ____, 350

**Options :**

4058591019. 222

4058591020. 192

4058591021. 220

4058591022. 216

**Question Number : 69 Question Id : 405859281 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

In a clock, the time is 11:35 AM. The clock is so placed that its hour hand is facing North-West. In which direction will be minute hand facing?

**Options :**

4058591023. South- East

4058591024. South-West

4058591025. North-West

4058591026. North- East

**Question Number : 70 Question Id : 405859282 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Match List I with List II

| LIST I | | LIST II | |
|---|---|---|---|
| A. | Brick | I. | Dampness Prevention |
| B. | Arch | II. | Bevelled closer |
| C. | Lintel | III. | Openings |
| D. | Cavity wall | IV. | Span |

Choose the correct answer from the options given below:

**Options :**

4058591027. A-IV, B-II, C-I, D-III

4058591028. A-II, B-I, C-III, D-IV

4058591029. A-III, B-I, C-II, D-IV

4058591030. A-II, B-IV, C-III, D-I

**Question Number : 71 Question Id : 405859283 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Match List I with List II

| LIST I (Buildings) | | LIST II (Architects) | |
|---|---|---|---|
| A. | Habital 67 | I. | F. L. Wright |
| B. | Falling Water | II. | Moshe Safdi |
| C. | Gherkin Tower | III. | Louis Kahn |
| D. | Fisher House | IV. | Norman Foster |

Choose the correct answer from the options given below:

**Options :**

4058591031. A-II, B-I, C-IV, D-III

4058591032. A-IV, B-II, C-III, D-I

4058591033. A-IV, B-I, C-II, D-III

4058591034. A-I, B-III, C-IV, D-II

**Question Number : 72 Question Id : 405859284 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the famous building in the given picture :



**Options :**

1. Mysore Palace

2. Khalsa Heritage Complex

3. Hotel Taj Mahal Palace

4. Victoria Memorial

**Question Number : 73 Question Id : 405859285 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

'LEED' stands for :

**Options :**

4058591039. Leadership in Energy and Environmental Design

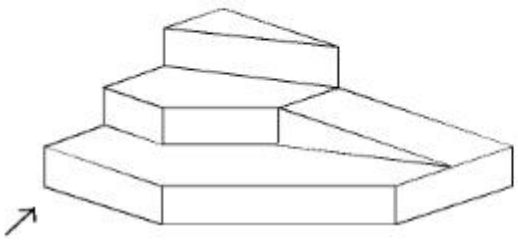
4058591040. Leadership in Environmental and Energy Design

4058591041. Leadership in Energy Efficient Design

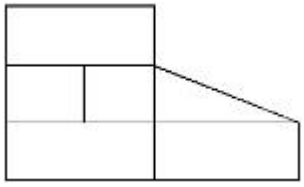
4058591042. Leadership in Environmental Energy Design

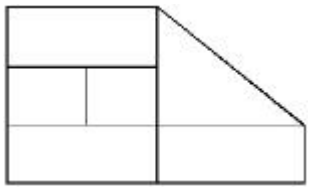
**Question Number : 74 Question Id : 405859286 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

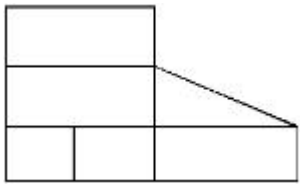
From the given 3D view of an object, identify the most appropriate elevation looking in the direction of the given arrow :

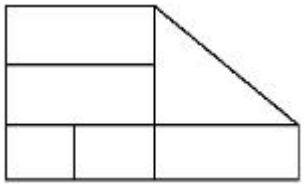


**Options :**

4058591043. 

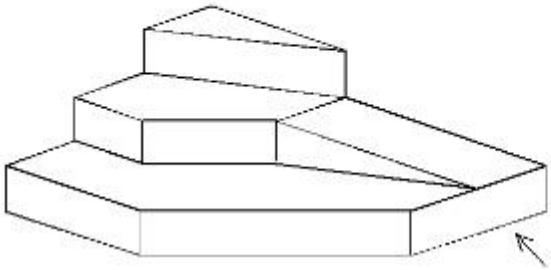
4058591044. 

4058591045. 

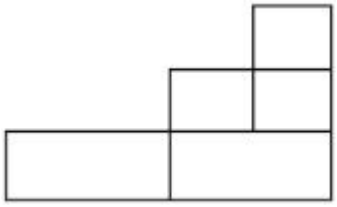
4058591046. 

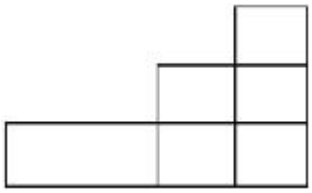
**Question Number : 75 Question Id : 405859287 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

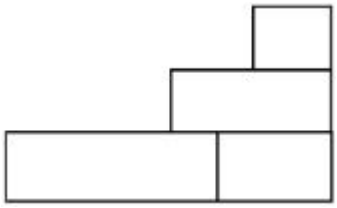
From the given 3D view of an object, identify the most appropriate elevation looking in the direction of the given arrow.

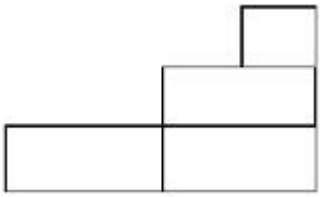


**Options :**

4058591047. 

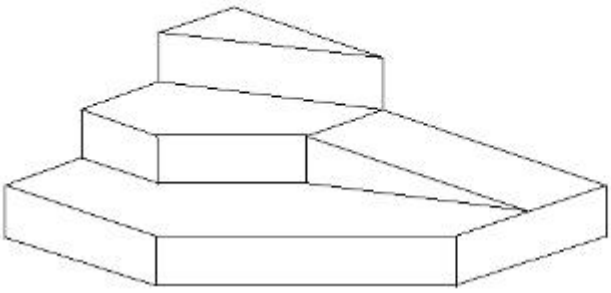
4058591048. 

4058591049. 

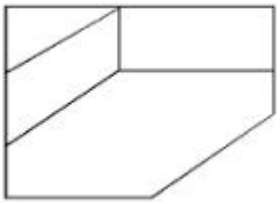
4058591050. 

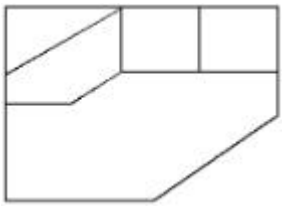
**Question Number : 76 Question Id : 405859288 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

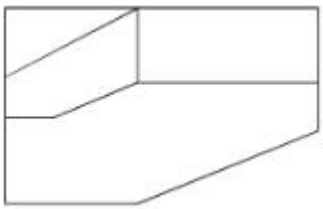
Choose the correct top view of the given 3D image from the options.

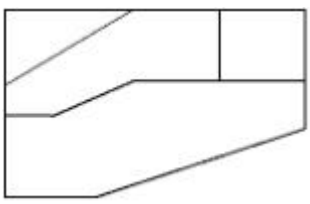


**Options :**

4058591051. 

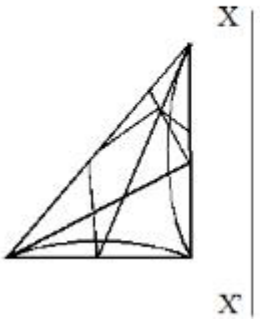
4058591052. 

4058591053. 

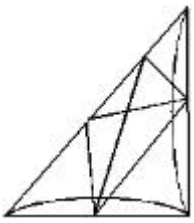
4058591054. 

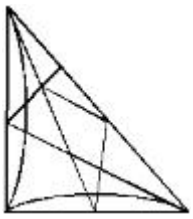
**Question Number : 77 Question Id : 405859289 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

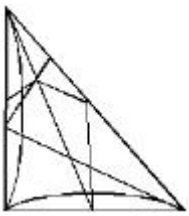
Identify the True mirror image of the figure amongst the answer figures with respect to X-X.

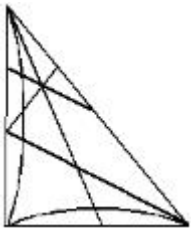



**Options :**

4058591055. 

4058591056. 

4058591057. 

4058591058. 

**Question Number : 78 Question Id : 405859290 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Given below are two statements : One is labelled as **Assertion A** and the other is labelled as **Reason R**.

**Assertion A** : Green buildings have a lower life cycle cost than conventional buildings.

**Reason R** : Green buildings require less maintenance and have lower energy and water consumption.

In the light of the above statements, choose the ***most appropriate*** answer from the options given below :

**Options :**

4058591059. Both **A** and **R** are correct and **R** is the correct explanation of **A**

4058591060. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**

4058591061. **A** is correct but **R** is not correct

4058591062. **A** is not correct but **R** is correct

**Question Number : 79 Question Id : 405859291 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Match List I with List II

| LIST I | | LIST II | |
|---|---|---|---|
| A. | Tower Bridge | I. |  |
| B. | Torii | II. |  |
| C. | Stonehenge | III. |  |
| D. | Petronas Tower | IV. |  |

Choose the correct answer from the options given below:

**Options :**

4058591063. A-III, B-II, C-IV, D-I

4058591064. A-IV, B-III, C-I, D-II

4058591065. A-III, B-II, C-I, D-IV

4058591066. A-IV, B-I, C-II, D-III

**Question Number : 80 Question Id : 405859292 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1**

Identify the building material primarily used for cladding in Lotus Temple :



**Options :**

4058591067. Dolomite

4058591068. Lime

4058591069. Marble

4058591070. Granite

## Drawing

| | |
|---|---|
| **Section Number :** | 4 |
| **Number of Questions :** | 2 |
| **Number of Questions to be attempted :** | 2 |
| **Section Marks :** | 100 |

**Question Number : 81 Question Id : 405859293 Question Type : SUBJECTIVE Correct Marks : 50 Wrong Marks : 0**

Draw a proportionate Sketch of the image given below in detail. Sketch this using Black and White Medium only.



**Question Number : 82 Question Id : 405859294 Question Type : SUBJECTIVE Correct Marks : 50 Wrong Marks : 0**

Combine Musical Instruments like Guitar, Microphone (mic), Drums, Tabla, Keyboard, etc. into a 3D Abstract Sculpture, using different colors to represent various Texture and Instruments. You can scale each object to any size of your choice. Apply the effect of light and shadow on your Sculpture.

OR

Considering yourself as one of the spectators, draw a beautiful sketch of a Football stadium where a match is going on.