National Testing Agency

Question Paper Name :	JEE Main 2024 Paper 2B (B.Planning) Jan 24 Single sitting
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Paper 2B (B.Planning)

Group Id :	4058591

Mathematics Section A

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

Question Number : 1 Question Id : 4058591 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 :

4058591. 4

4058592. 8

4058593. 12

4058594. 16

Question Number : 2 Question Id : 4058592 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 :

4058595. (i), (iii), (iv) are true but (ii) is false

4058596. All are true

4058597. (ii), (iii) and (iv) are true but (i) is false

4058598. (i), (ii) and (iv) are true but (iii) is false

Question Number : 3 Question Id : 4058593 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 :

4058599. $\frac{5}{6}$

40585910. $-\frac{5}{12}$

40585911. $\frac{3}{2}$

40585912. $\frac{5}{12}$

Question Number : 4 Question Id : 4058594 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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

Options :

40585913. 25

40585914. 50

40585915. 100

40585916. 1000

Question Number : 5 Question Id : 4058595 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 :

40585917. 297

40585918. 243

40585919. 273

40585920. 300

Question Number : 6 Question Id : 4058596 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 :

40585921. $^{12}C_6 + 3$

40585922. $^{12}C_6$

40585923. $^{12}C_6 + 1$

40585924. $^{12}C_6 + 2$

Question Number : 7 Question Id : 4058597 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 :

40585925. $\frac{n}{2}\left[(n+1)\log_e\left(\frac{a}{b}\right) - \log_e ab\right]$

40585926. $\frac{n}{2}\left[n\log_e\left(\frac{a}{b}\right) - \log_e ab\right]$

40585927. $\frac{n}{2}\left[\log_e\left(\frac{a}{b}\right) + n\log_e ab\right]$

40585928. $\frac{n}{2}\left[n\log_e\left(\frac{a}{b}\right) + \log_e ab\right]$

Question Number : 8 Question Id : 4058598 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 :

40585929. 4900

40585930. 4924

40585931. 4950

40585932. 4980

Question Number : 9 Question Id : 4058599 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 :

40585933. $\frac{5}{3}$

40585934. $\frac{7}{3}$

40585935. $\frac{8}{3}$

40585936. $\frac{10}{3}$

Question Number : 10 Question Id : 40585910 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 :

40585937. 0

40585938. π^2

40585939. $2\pi^2$

40585940. $\frac{\pi^2}{2}$

Question Number : 11 Question Id : 40585911 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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

Options :

40585941. $\tan x+\cot x+c$

40585942. $(\tan x+\cot x)^2+c$

40585943. $\tan x-\cot x+c$

40585944. $2(\sec x\tan x-\operatorname{cosec} x\cot x)+c$

Question Number : 12 Question Id : 40585912 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 :

40585945. $x=y^2+c$

40585946. $y=x^2+c$

40585947. $x = y\,(y^2 + c)$

40585948. $y = x\,(x^2 + c)$

Question Number : 13 Question Id : 40585913 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 :

40585949. $(-2, 5)$

40585950. $(2, -5)$

40585951. $(0, 3)$

40585952. $(2, 3)$

Question Number : 14 Question Id : 40585914 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 :

40585953. $(a + b)$

40585954. $(a - b)$

40585955. $\frac{1}{2}\sqrt{a^2 + b^2}$

40585956. $\frac{1}{2}\sqrt{a^2 - b^2}$

Question Number : 15 Question Id : 40585915 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 :

40585957. $\frac{1}{19}$ units

40585958. $\sqrt{19}$ units

40585959. $\frac{3}{\sqrt{19}}$ units

40585960. $\frac{1}{\sqrt{19}}$ units

Question Number : 16 Question Id : 40585916 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 :

40585961. $\frac{9}{5}\hat{i} - \frac{12}{5}\hat{j}$

40585962. $\frac{3}{\sqrt{19}}\hat{i} - \frac{4}{\sqrt{19}}\hat{j}$

40585963. $\frac{12}{5}\hat{i} - \frac{36}{5}\hat{j} - \frac{36}{5}\hat{k}$

40585964. $9\hat{i} - 12\hat{j}$

Question Number : 17 Question Id : 40585917 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 :

40585965. $-\frac{1}{2}$

40585966. $\frac{1}{2}$

40585967. $\frac{3}{2}$

40585968. $\frac{5}{2}$

Question Number : 18 Question Id : 40585918 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 :

40585969. $\frac{1}{8}$

40585970. $\frac{3}{8}$

40585971. $\frac{9}{8}$

40585972. $\frac{11}{8}$

Question Number : 19 Question Id : 40585919 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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

Options :

40585973. $4\sqrt{2}$

40585974. $3\sqrt{3}$

40585975. $-3\sqrt{3}$

40585976. $-4\sqrt{2}$

Question Number : 20 Question Id : 40585920 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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

Options :

40585977. $\cot^{-1}2$

40585978. $\cot^{-1}10$

40585979. $\cot^{-1}6$

40585980. $\cot^{-1}4$

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 : 40585921 Question Type : SA Correct Marks : 4 Wrong Marks : 1

Let α and β 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 : 40585922 Question Type : SA Correct Marks : 4 Wrong Marks : 1

If α, β, γ 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 : 40585923 Question Type : SA Correct Marks : 4 Wrong Marks : 1

If r^{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 : 40585924 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 : 40585925 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 : 40585926 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 : 40585927 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 : 40585928 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 : 40585929 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 : 40585930 Question Type : SA Correct Marks : 4 Wrong Marks : 1

In a ΔABC, $\angle A = \frac{\pi}{2}$. 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 : 40585931 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Saturation level of colors represents

Options :

40585991. Distribution

40585992. Darkness

40585993. Brilliance

40585994. Warmth

Question Number : 32 Question Id : 40585932 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which of the following is a shell structure?

Options :

40585995. Millenium dome

40585996. Stansted airport

40585997. Bank of China tower

40585998. Louvre, Museum

Question Number : 33 Question Id : 40585933 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Identify the building material represented in the given figure



Options :

40585999. Tile

405859100. Paving Block

405859101. Wooden Plank

405859102. Granite

Question Number : 34 Question Id : 40585934 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Before plastering, the surface has to be :

Options :

405859103. Cemented

405859104. Polished

405859105. Smooth

405859106. Rough

Question Number : 35 Question Id : 40585935 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Who designed the 'Sydney Opera House'?

Options :

405859107. Jorn Utzon

405859108. Jan Gehl

405859109. Bjarke Ingels

405859110. Henning Lorsen

Question Number : 36 Question Id : 40585936 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

The design elements which are associated with the sense of touch

Options :

405859111. Pattern, Shape, Form

405859112. Texture, Shape, Form

405859113. Shape, Pattern, Texture

405859114. Form, Pattern, Texture

Question Number : 37 Question Id : 40585937 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

The First World Environment Day was held in which year?

Options :

405859115. 1973

405859116. 1976

405859117. 1978

405859118. 1970

Question Number : 38 Question Id : 40585938 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Elephanta Caves are dedicated to which God?

Options :

405859119. Budha

405859120. Tirthankar Mahavir

405859121. Shiva

405859122. Vishnu

Question Number : 39 Question Id : 40585939 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which one of the following is not a city type?

Options :

405859123. Garden City

405859124. Linear City

405859125. Radiant City

405859126. Stack City

Question Number : 40 Question Id : 40585940 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 :

405859127. Konark Sun temple

405859128. Golden temple

405859129. Meenakshi temple

405859130. Dilwara temple

Question Number : 41 Question Id : 40585941 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Who built the Moti Masjid in Red Fort at Delhi?

Options :

405859131. Shah Jahan

405859132. Aurangzeb

405859133. Qutub-Ud-Din Aibak

405859134. Akbar

Question Number : 42 Question Id : 40585942 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Spray painting is used to :

Options :

405859135. Get a textured pain

405859136. Reach high areas

405859137. Apply paint without touching surface

405859138. Apply large amount of paint

Question Number : 43 Question Id : 40585943 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

An escalator looks like which one of the following?

Options :

405859139. Ladder

405859140. Stair case

405859141. Ramp

405859142. Lift

Question Number : 44 Question Id : 40585944 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Concrete is a mixture of

Options :

405859143. Cement + Sand + Water

405859144. Cement + Coarse Aggregate + Fine Aggregate + Water

405859145. Cement + Water + Brick Bat

405859146. Cement + Sand + Water + Brick Bat

Question Number : 45 Question Id : 40585945 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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

Options :

405859147. Cork Tile

405859148. Ceramic Tile

405859149. Concrete Tile

405859150. Wooden Tile

Question Number : 46 Question Id : 40585946 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Famous Tassel House was designed by

Options :

405859151. Victor Horta

405859152. Gerrit Rietvelt

405859153. Mies Van der Rohe

405859154. Frank Lloyd Wright

Question Number : 47 Question Id : 40585947 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Who is the Author of "Toward an Architecture"?

Options :

405859155. Frank Ching

405859156. Le Corbusier

405859157. Kevin A. Lynch

405859158. Frank Wright

Question Number : 48 Question Id : 40585948 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Hiroshima Peace Memorial Museum in Japan was designed by :

Options :

405859159. I. M. Pie

405859160. Tadao Ando

405859161. Kenzo Tange

405859162. Kisho Kurokawa

Question Number : 49 Question Id : 40585949 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which of the following is not a principle of Design?

Options :

405859163. Emphasis

405859164. Focal Point

405859165. Unity

405859166. Rhythm

Question Number : 50 Question Id : 40585950 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which of the following software is not used by architects

Options :

405859167. Staad. Pro

405859168. 3D Max

405859169. Revit

405859170. Sketch Up

Question Number : 51 Question Id : 40585951 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Who built the Shalimar Bagh, Srinagar?

Options :

405859171. Bega Begum

405859172. Akbar

405859173. Shah Jahan

405859174. Jahangir

Question Number : 52 Question Id : 40585952 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Kanpur, Uttar Pradesh is also known as :

Options :

405859175. The Leather City

405859176. Wine Capital of India

405859177. The Orange City

405859178. City of Nawabs

Question Number : 53 Question Id : 40585953 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 :

405859179. A, B, E, D, C

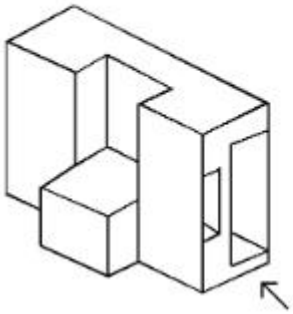
405859180. E, A, C, B, D

405859181. A, B, C, D, E

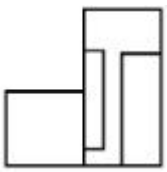
405859182. B, A, E, C, D

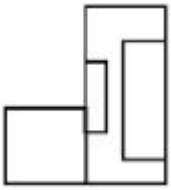
Question Number : 54 Question Id : 40585954 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

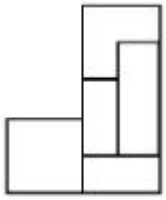
The Question figure shows the 3D view of an object. Identify the correct view, looking in the direction of Arrow, identify the correct view of the object.

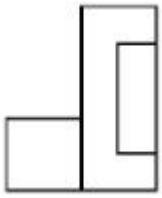


Options :

405859183. 

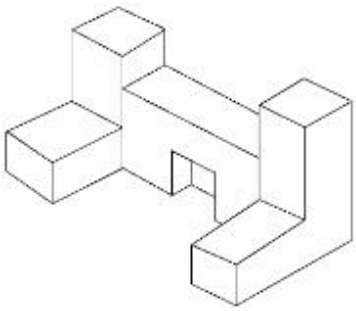
405859184. 

405859185. 

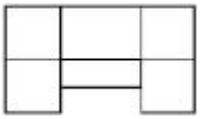
405859186. 

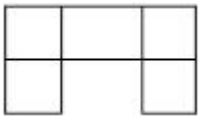
Question Number : 55 Question Id : 40585955 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

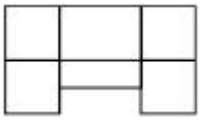
The question figure shows the 3D view of an object. Identify the correct top view amongst the answer figures.



Options :

405859187. 

405859188. 

405859189. 

405859190. 

Question Number : 56 Question Id : 40585956 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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



Options :

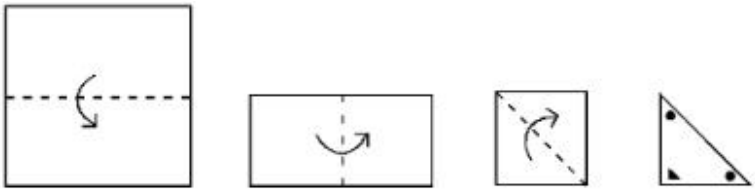
405859191. 

405859192. 

405859193. MOUSE

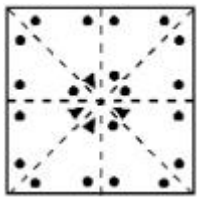
405859194. MOUSE

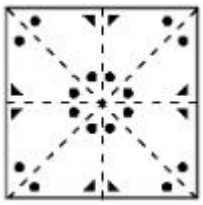
Question Number : 57 Question Id : 40585957 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1



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 :

405859195. 

405859196. 

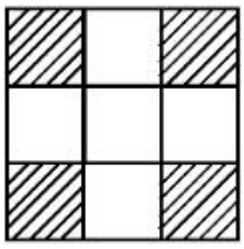
405859197. 

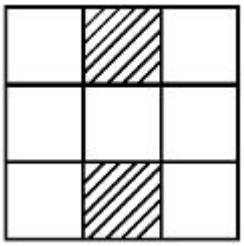
405859198. 

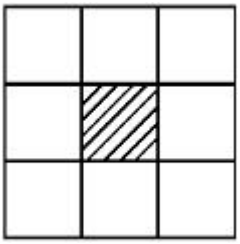
Question Number : 58 Question Id : 40585958 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

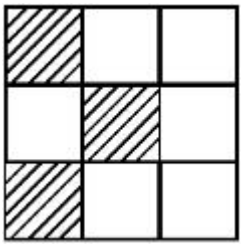
Identify the figure which is odd from rest of the figures.

Options :

405859199. 

405859200. 

405859201. 

405859202. 

Question Number : 59 Question Id : 40585959 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 :

405859203. Both Statement I and Statement II are true

405859204. Both Statement I and Statement II are false

405859205. Statement I is true but Statement II is false

405859206. Statement I is false but Statement II is true

Question Number : 60 Question Id : 40585960 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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



Options :

405859207. Roman Garden

405859208. Japanese Garden

405859209. French Garden

405859210. Chinese Garden

Question Number : 61 Question Id : 40585961 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 :

405859211. A-IV, B-III ,C-I ,D-II

405859212. A-II, B-IV ,C-I ,D-III

405859213. A-IV, B-I ,C-II ,D-III

405859214. A-II, B-IV ,C-III ,D-I

Question Number : 62 Question Id : 40585962 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Identify the name of the monument :



Options :

405859215. The Pantheon

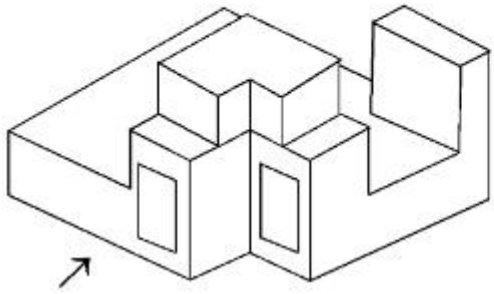
405859216. The Cathedral of Pisa

405859217. The Parthenon

405859218. Great Temple of Karnak

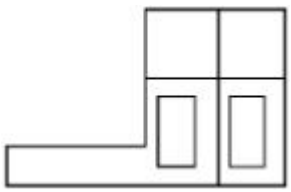
Question Number : 63 Question Id : 40585963 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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

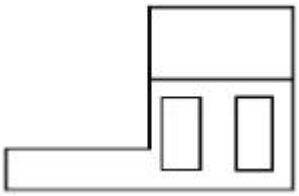


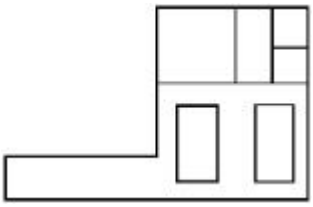
Options :

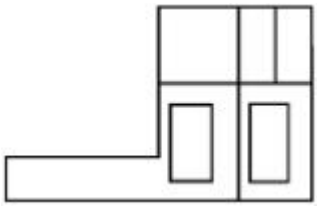
405859219.



405859220.

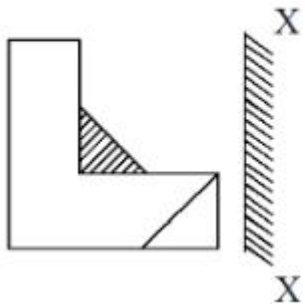


405859221. 

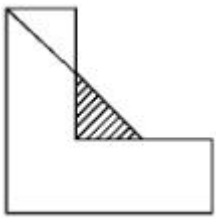
405859222. 

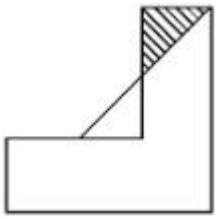
Question Number : 64 Question Id : 40585964 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

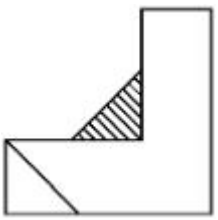
Identify the correct mirror image of the given figure along X-axis.

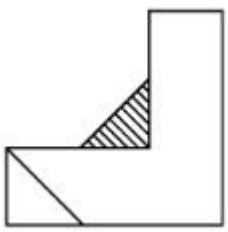


Options :

405859223. 

405859224. 

405859225. 

405859226. 

Question Number : 65 Question Id : 40585965 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Identify the Mirror image of given word

ARCHITECTURE

Options :

405859227. ARCHITƎCTURƎ

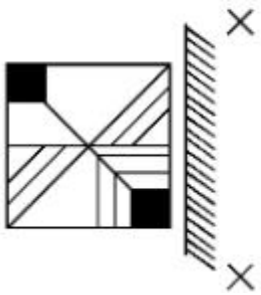
405859228. ƎRUTCƎTIHCRA

405859229. ƎRUTCƎTIHCRA

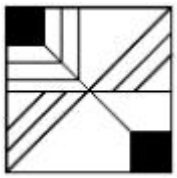
405859230. ƎRUTCƎTIHCRA

Question Number : 66 Question Id : 40585966 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 :

405859231. 

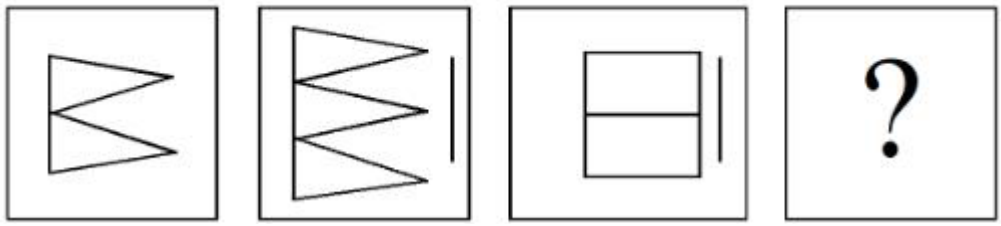
405859232. 

405859233. 

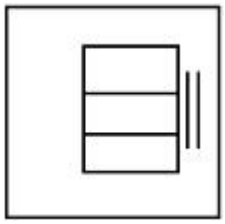
405859234. 

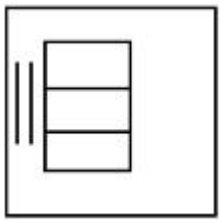
Question Number : 67 Question Id : 40585967 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

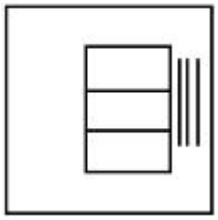
Identify the correct figure to complete the sequence :

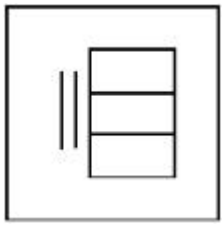


Options :

405859235. 

405859236. 

405859237. 

405859238. 

Question Number : 68 Question Id : 40585968 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Complete the number series

10, 30, 68, 130, ____, 350

Options :

405859239. 222

405859240. 192

405859241. 220

405859242. 216

Question Number : 69 Question Id : 40585969 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 :

405859243. South- East

405859244. South-West

405859245. North-West

405859246. North- East

Question Number : 70 Question Id : 40585970 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 :

405859247. A-IV, B-II, C-I, D-III

405859248. A-II, B-I, C-III, D-IV

405859249. A-III, B-I, C-II, D-IV

405859250. A-II, B-IV, C-III, D-I

Question Number : 71 Question Id : 40585971 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 :

405859251. A-II, B-I, C-IV, D-III

405859252. A-IV, B-II, C-III, D-I

405859253. A-IV, B-I, C-II, D-III

405859254. A-I, B-III, C-IV, D-II

Question Number : 72 Question Id : 40585972 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 : 40585973 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

'LEED' stands for :

Options :

405859259. Leadership in Energy and Environmental Design

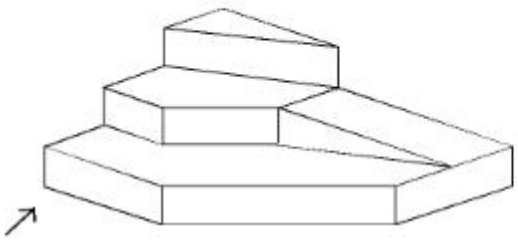
405859260. Leadership in Environmental and Energy Design

405859261. Leadership in Energy Efficient Design

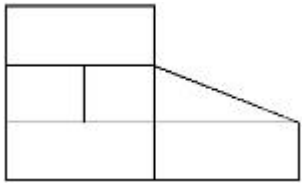
405859262. Leadership in Environmental Energy Design

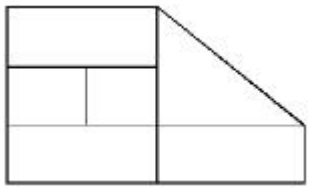
Question Number : 74 Question Id : 40585974 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

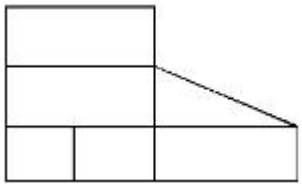
From the given 3D view of an object, identify the most appropriate elevation looking in the direction of the given arrow :

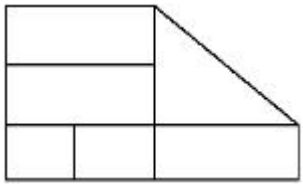


Options :

405859263. 

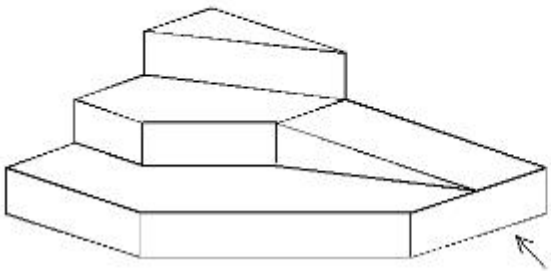
405859264. 

405859265. 

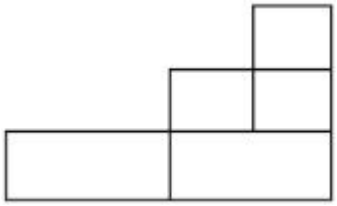
405859266. 

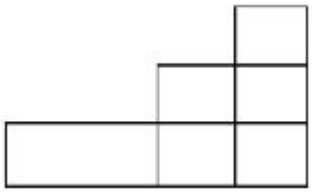
Question Number : 75 Question Id : 40585975 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

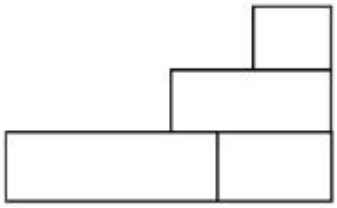
From the given 3D view of an object, identify the most appropriate elevation looking in the direction of the given arrow.

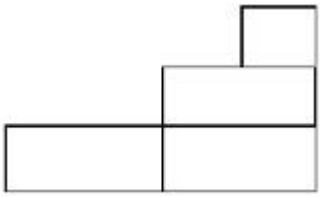


Options :

405859267. 

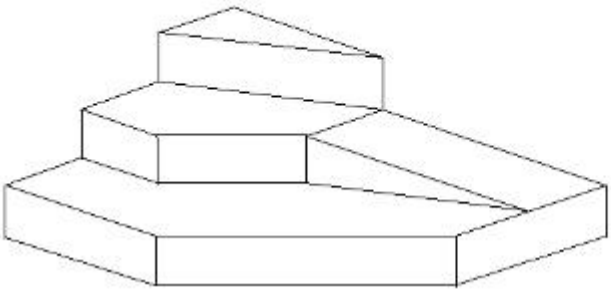
405859268. 

405859269. 

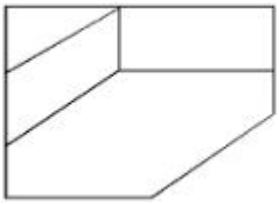
405859270. 

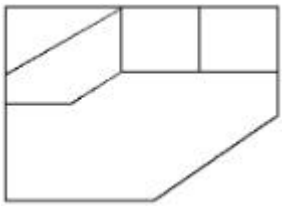
Question Number : 76 Question Id : 40585976 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

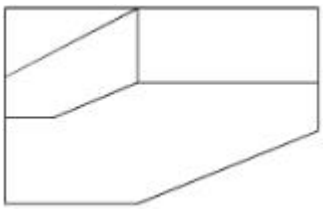
Choose the correct top view of the given 3D image from the options.

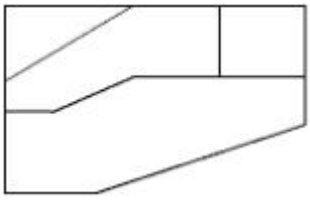


Options :

405859271. 

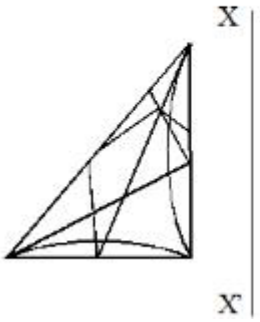
405859272. 

405859273. 

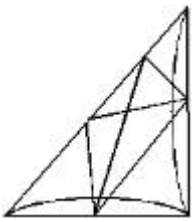
405859274. 

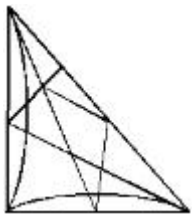
Question Number : 77 Question Id : 40585977 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

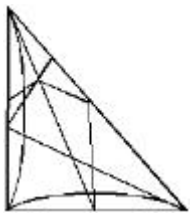
Identify the True mirror image of the figure amongst the answer figures with respect to X-X.

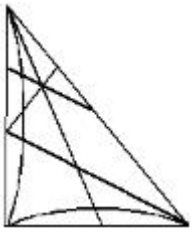


Options :

405859275. 

405859276. 

405859277. 

405859278. 

Question Number : 78 Question Id : 40585978 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 :

405859279. Both **A** and **R** are correct and **R** is the correct explanation of **A**

405859280. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**

405859281. **A** is correct but **R** is not correct

405859282. **A** is not correct but **R** is correct

Question Number : 79 Question Id : 40585979 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 :

405859283. A-III, B-II, C-IV, D-I

405859284. A-IV, B-III, C-I, D-II

405859285. A-III, B-II, C-I, D-IV

405859286. A-IV, B-I, C-II, D-III

Question Number : 80 Question Id : 40585980 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

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



Options :

405859287. Dolomite

405859288. Lime

405859289. Marble

405859290. Granite

Planning

Section Number :	4
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	100

Question Number : 81 Question Id : 40585981 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

What is the full form of NABARD?

Options :

405859291. National Bank for Agriculture and Rural Development

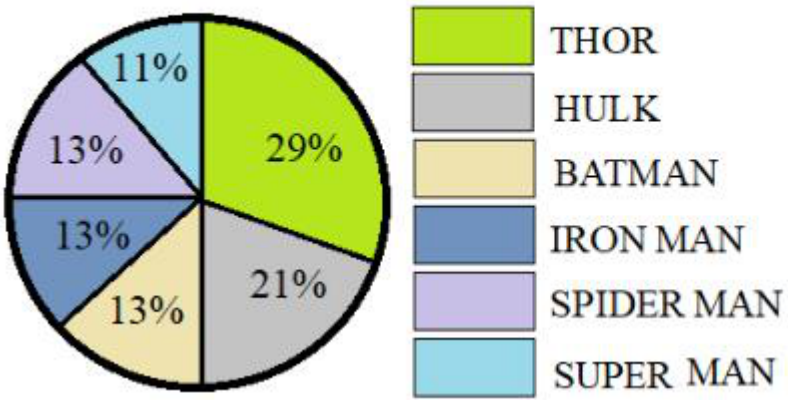
405859292. National Bank for Agriculture and Road Development

405859293. National Bank for Agriculture and River Development

405859294. National Bank for Agro farming and Reproduction

Question Number : 82 Question Id : 40585982 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

As per the following pie chart which superhero is second most popular hero ?



Options :

405859295. HULK

405859296. THOR

405859297. SUPERMAN

405859298. SPIDERMAN

Question Number : 83 Question Id : 40585983 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

When was Indian National Congress set-up?

Options :

405859299. 28th December 1885

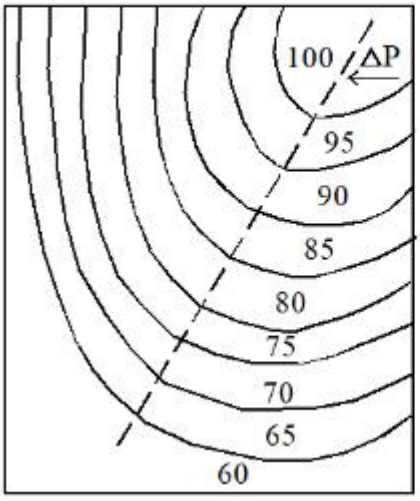
405859300. 28th November 1887

405859301. 28th October 1886

405859302. 28th December 1888

Question Number : 84 Question Id : 40585984 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

In the given diagram the ΔP line represents a _____.



Options :

405859303. Ridge line

405859304. Slope line

405859305. Valley line

405859306. Vertical line

Question Number : 85 Question Id : 40585985 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Match List I with List II

LIST I (World Heritage site)		LIST II (State)	
A.	Agra fort	I.	Chittorgarh, Kumbhalgarh
B.	Ellora caves	II.	Uttar Pradesh
C.	Hills forts of Rajasthan	III.	Maharashtra
D.	Buddhist Monuments at Sanchi	IV.	Madhya Pradesh

Choose the correct answer from the options given below:

Options :

405859307. A-II, B-III, C-I, D-IV

405859308. A-I, B-II, C-III, D-IV

405859309. A-IV, B-III, C-II, D-I

405859310. A-I, B-II, C-IV, D-III

Question Number : 86 Question Id : 40585986 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

"Jai Vigyan" slogan was given by which Prime Minister of India?

Options :

405859311. Rajiv Gandhi

405859312. Atal Bihari Vajpayee

405859313. Narendra Modi

405859314. H.D. Deve Gowda

Question Number : 87 Question Id : 40585987 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement I : Planning Commission of India was launched in the year of 1952.

Statement II : From 1st January 2015, Planning Commission of India was replaced by NITI Ayog.

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

Options :

405859315. Both Statement I and Statement II are true

405859316. Both Statement I and Statement II are false

405859317. Statement I is true but Statement II is false

405859318. Statement I is false but Statement II is true

Question Number : 88 Question Id : 40585988 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

GST was introduced as which amendment act?

Options :

405859319. 100^{th}

405859320. 101^{st}

405859321. 102^{nd}

405859322. 103^{rd}

Question Number : 89 Question Id : 40585989 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which of the following trade did the early enterpreneurs make a fortune ?

A. Textile trade
B. Trade in tea
C. Industries
D. China trade
E. Wooden

Choose the correct answer from the options given below:

Options :

405859323. A only

405859324. B only

405859325. D only

405859326. C only

Question Number : 90 Question Id : 40585990 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Who gave the statement "Agriculture is the soul of India" ?

Options :

405859327. Sardar Vallabhbhai Patel

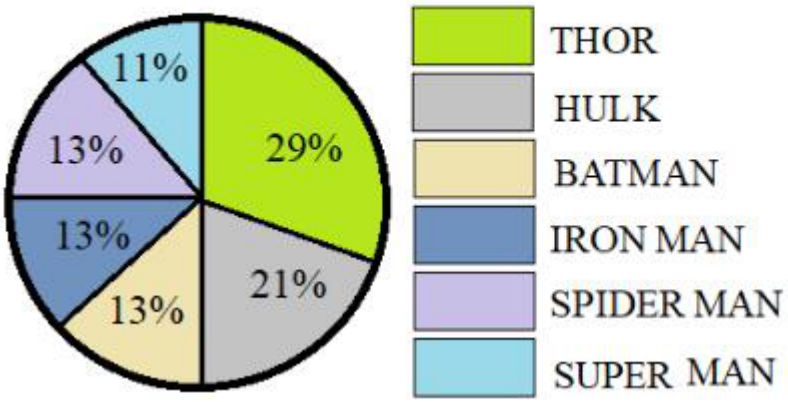
405859328. Jawaharlal Nehru

405859329. Mahatma Gandhi

405859330. Sarojini Naidu

Question Number : 91 Question Id : 40585991 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

As per the following pie chart which super hero is the most popular hero?



Options :

405859331. HULK

405859332. SUPER MAN

405859333. BAT MAN

405859334. THOR

Question Number : 92 Question Id : 40585992 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Name of the ports which grew during the colonial period.

A. Bombay
B. Calcutta
C. Surat
D. Shillong
E. Kanpur

Choose the correct answer from the options given below:

Options :

405859335. A, C only

405859336. A, B only

405859337. A, D only

405859338. A, E only

Question Number : 93 Question Id : 40585993 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 : Ninteenth century indenture has been described as a 'new system of slavery'.

Reason R : New races of slaves were bought and encouraged to work far away from their home land.

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

Options :

405859339. Both **A** and **R** are correct and **R** is the correct explanation of **A**

405859340. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**

405859341. **A** is correct but **R** is not correct

405859342. **A** is not correct but **R** is correct

Question Number : 94 Question Id : 40585994 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which of the following are included in basic services in a developing country

A. Water supply
B. Broad Band
C. Transport
D. Electricity

Options :

405859343. A, B, C

405859344. A, B, D

405859345. B, C, D

405859346. A, C, D

Question Number : 95 Question Id : 40585995 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

The first garden city 'Letchworth' was designed by

Options :

405859347. Clarence Perry

405859348. Ebenezar Howard

405859349. Raymond Unwin

405859350. Patrick Geddes

Question Number : 96 Question Id : 40585996 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

In case of residential apartments, the effective floor area available for use within an apartment is known as:

Options :

405859351. Carpet area

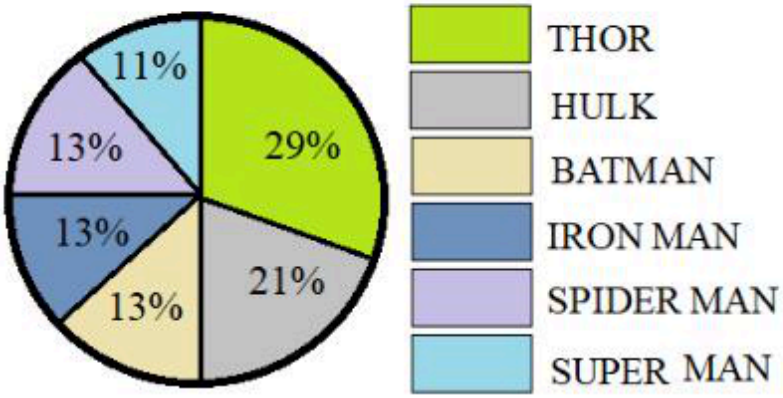
405859352. Built up area

405859353. Plinth area

405859354. Super built up area

Question Number : 97 Question Id : 40585997 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

The following pie chart gives us a picture of popularity of super hero. From this pie chart identify which of the following statement is/are correct.



A. Spider man is the most popular super hero
B. Iron man is the least popular super hero
C. Popurlity of Batman and Spider man are equal.

Options :

405859355. A only

405859356. B and A only

405859357. C only

405859358. A and C only

Question Number : 98 Question Id : 40585998 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement I : America's civil war is responsible for cut off raw cotton from US.

Statement II : America's civil war is responsible for cut off crops that came from US.

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

Options :

405859359. Both Statement I and Statement II are correct

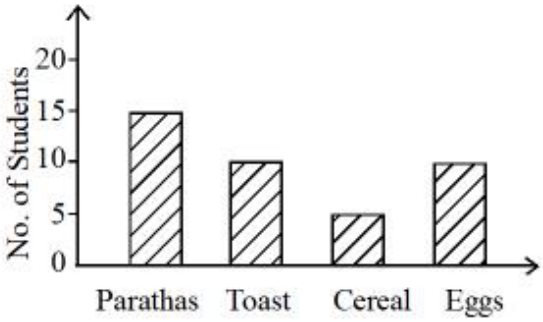
405859360. Both Statement I and Statement II are incorrect

405859361. Statement I is correct but Statement II is incorrect

405859362. Statement I is incorrect but Statement II is correct

Question Number : 99 Question Id : 40585999 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

The bar graph shows the preferred breakfast food for 40 students. The number of students who prefer parathas as a percentage of the total number of students is



Options :

405859363. 25%

405859364. 40%

405859365. 37.5%

405859366. 27.5%

Question Number : 100 Question Id : 405859100 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Which city planning is related to Lutyens?

A. Chandigarh
B. Gandhinagar
C. New Delhi
D. Chennai
E. Kolkata

Choose the correct answer from the options given below:

Options :

405859367. A only

405859368. C only

405859369. D only

405859370. E only

Question Number : 101 Question Id : 405859101 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement I : Fourth five year plan was launched in 1969 under the leadership of Indira Gandhi.

Statement II : Green revolution was an important aspect of third five year plan.

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

Options :

405859371. Both Statement I and Statement II are true

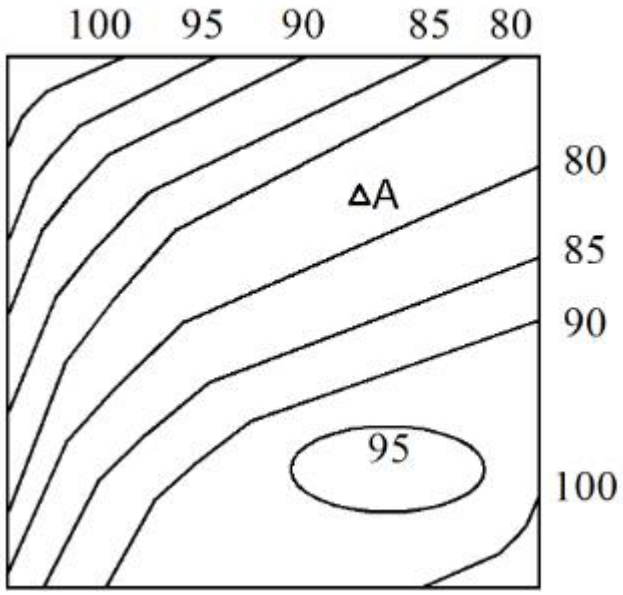
405859372. Both Statement I and Statement II are false

405859373. Statement is correct but Statement II is false

405859374. Statement I is incorrect but Statement II is true

Question Number : 102 Question Id : 405859102 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

In the given diagram the ΔA is located in a _____



Options :

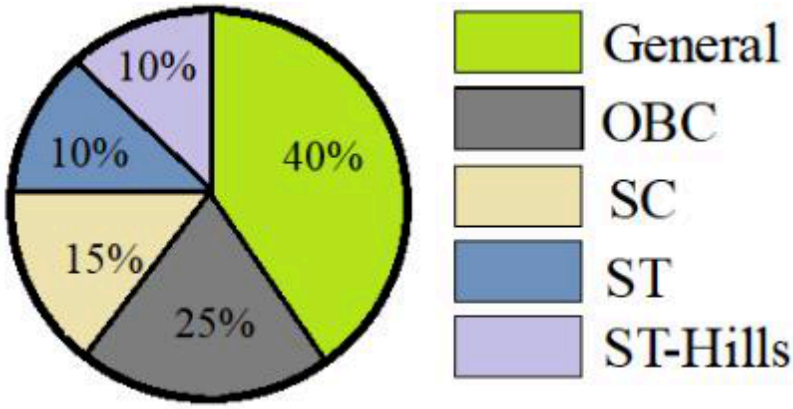
405859375. Ridge

405859376. Lake

405859377. Plain Land

405859378. Valley

Question Number : 103 Question Id : 405859103 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1



In reference to the given pie chart. Two statements are given

statements I : The population of ST-hills is equal to SC category

statements II : The population of OBC category is lesser than combined population of SC & ST Hills.

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

Options :

405859379. Both Statement I and Statement II are true

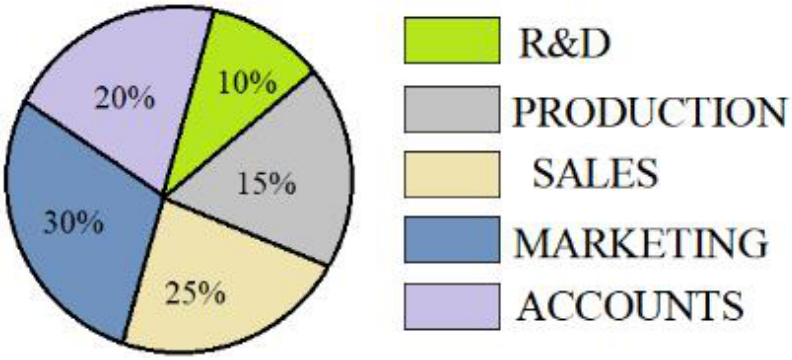
405859380. Both Statement I and Statement II are false

405859381. Statement I is true but Statement II is false

405859382. Statement I is false but Statement II is true

Question Number : 104 Question Id : 405859104 Question Type : MCQ Correct Marks : 4 Wrong Marks : 1

The given pie chart shows the division of employees in different department of a company where the total no. of employees is 3000. Find out the number of employees working in accounts and R & D department respectively.



Options :

405859383. 600, 200

405859384. 600, 300

405859385. 900, 300

405859386. 900, 200

Question Number : 105 Question Id : 405859105 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 : In 20^{th} century, handloom cloth production expanded steadly.

Reason R : This was partly reason of the technological changes.

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

Options :

405859387. Both **A** and **R** are true and **R** is the correct explanation of **A**

405859388. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**

405859389. **A** is true but **R** is false

405859390. **A** is false but **R** is true