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| Paper: | B. Arch |
| Set Name: | Item05 |
| Exam Date: | 30 July 2022 |
| Exam Shift: | 1 |
| Language: | English |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 1 |
| Question ID: | 101201 |
| Question Type: | MCQ |
| Question: | <p>Let f and g be two twice differentiable functions in $(-2, 2)$ such that</p> $f(-1) = f(1) = 0, f\left(\frac{1}{2}\right) = 1, \text{ and}$ $g\left(-\frac{3}{2}\right) = g\left(\frac{3}{2}\right) = g(0) = 0, g(1) = 1$ <p>Then, the minimum number of roots of the equation $f(x)g''(x) + f''(x)g(x) + 2f'(x)g'(x) = 0$ in $(-2, 2)$ is :</p> |
| A: | 2 |
| B: | 4 |
| C: | 3 |
| D: | 5 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 2 |
| Question ID: | 101202 |
| Question Type: | MCQ |
| Question: | <p>Let $f: \mathbf{R} \rightarrow \mathbf{R}$ be a function defined as $f(x) = \alpha x + \beta x - \gamma$, where α, β, γ are distinct positive real numbers. Then, the maximum number of points at which $f(x)$ attains minima is equal to :</p> |
| A: | 1 |

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| B: | 4 |
| C: | 2 |
| D: | 3 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 3 |
| Question ID: | 101203 |
| Question Type: | MCQ |
| Question: | Which of the following logical statements is a tautology ? |
| A: | $p \Rightarrow \sim q$ |
| B: | $p \Rightarrow (\sim p) \vee q$ |
| C: | $(p \wedge q) \Rightarrow ((\sim p) \vee q)$ |
| D: | $(p \wedge (\sim q)) \Rightarrow ((\sim p) \vee q)$ |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 4 |
| Question ID: | 101204 |
| Question Type: | MCQ |
| Question: | The area of the region $S = \{(x, y) : 2x - x^2 \leq y^2 \leq 2x, x \leq 2, x \leq y\}$ is : |
| A: | $\frac{7}{4} - \frac{\pi}{4}$ |
| B: | $\frac{2}{3}$ |
| C: | $\frac{7}{6} - \frac{\pi}{4}$ |
| D: | $\frac{5}{3}$ |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 5 |
| Question ID: | 101205 |
| Question Type: | MCQ |
| Question: | The area bounded by the parabola $x^2 = 12y$ and the line L, where L passes through the focus S of the parabola and meets the parabola at A' and A with the condition that no point B exists on the axis of the parabola such that ASB is a right angle triangle with right angle at A, is : |
| A: | $9\sqrt{3}$ |
| B: | 18 |
| C: | 27 |
| D: | 24 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 6 |
| Question ID: | 101206 |
| Question Type: | MCQ |
| Question: | The area of the triangle whose two sides have the equations $2x - y = 1$ and $x - 2y = -1$ and whose centroid is $(2, 2)$, is : |
| A: | $\frac{3}{2}$ |
| B: | $\frac{5}{2}$ |
| C: | 3 |
| D: | $\frac{7}{2}$ |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 7 |
| Question ID: | 101207 |

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| Question Type: | MCQ |
| Question: | The area of the region $A = \{(x, y) : x + 2y \leq 4 \leq (x - 2)^2 + (y - 2)^2, x, y \geq 0\}$ is : |
| A: | $\frac{28}{5} - \pi - 2 \sin^{-1}\left(\frac{3}{5}\right)$ |
| B: | $\frac{144}{25} - \pi - 2 \sin^{-1}\left(\frac{3}{5}\right)$ |
| C: | $\frac{28}{5} - \pi + 2 \sin^{-1}\left(\frac{3}{5}\right)$ |
| D: | $\frac{28}{5} - \frac{\pi}{2} - \sin^{-1}\left(\frac{3}{5}\right)$ |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 8 |
| Question ID: | 101208 |
| Question Type: | MCQ |
| Question: | <p>Let the slope of the tangent to the curve $y = f(x)$ at any point $P(x, y)$, $x > -1$, be</p> $\frac{\sqrt{x^2 + 9} - 3x^2y}{1 + x^3}$ <p>If $f(0) = \frac{9}{2} \log_e 3 - 10$, then $f(4)$ equals :</p> |
| A: | $\frac{9 \log_e 3 + 10}{65}$ |
| B: | $\frac{9 \log_e 3 + 20}{65}$ |
| C: | $\frac{9 \log_e 3}{65}$ |

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| D: | $\frac{9\log_e 3 - 10}{65}$ |
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| Topic: | Mathematics – Part I-Section A |
| Item No: | 9 |
| Question ID: | 101209 |
| Question Type: | MCQ |
| Question: | <p>Let \vec{a}, \vec{b} and \vec{c} be non-coplanar vectors in space. Let the components of a vector \vec{u} along \vec{a}, \vec{b} and \vec{c} be 4, -5 and 3 respectively. If the components of \vec{u} along the vectors $-\vec{a} + \vec{b} + 2\vec{c}$, $\vec{a} - \vec{b} - \vec{c}$ and $-\vec{a} - \vec{b} + \vec{c}$ are α, β, γ respectively, then the value of $\alpha + 2\beta + 2\gamma$ is :</p> |
| A: | 31 |
| B: | 35 |
| C: | 37 |
| D: | 61 |

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|----------------|--|---------|---------|----------|---------|---------|---------|---------|---------|-------------|---|---|---|----------|---|---|---|
| Topic: | Mathematics – Part I-Section A | | | | | | | | | | | | | | | | |
| Item No: | 10 | | | | | | | | | | | | | | | | |
| Question ID: | 101210 | | | | | | | | | | | | | | | | |
| Question Type: | MCQ | | | | | | | | | | | | | | | | |
| Question: | <p>If the mean of the distribution :</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Class :</td> <td>15 - 25</td> <td>25 - 35</td> <td>35 - 45</td> <td>45 - 55</td> <td>55 - 65</td> <td>65 - 75</td> <td>75 - 85</td> </tr> <tr> <td>Frequency :</td> <td>2</td> <td>4</td> <td>7</td> <td>α</td> <td>8</td> <td>4</td> <td>2</td> </tr> </table> <p>is $\frac{201}{4}$, then its variance is equals to :</p> | Class : | 15 - 25 | 25 - 35 | 35 - 45 | 45 - 55 | 55 - 65 | 65 - 75 | 75 - 85 | Frequency : | 2 | 4 | 7 | α | 8 | 4 | 2 |
| Class : | 15 - 25 | 25 - 35 | 35 - 45 | 45 - 55 | 55 - 65 | 65 - 75 | 75 - 85 | | | | | | | | | | |
| Frequency : | 2 | 4 | 7 | α | 8 | 4 | 2 | | | | | | | | | | |
| A: | $\frac{3319}{19}$ | | | | | | | | | | | | | | | | |

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| B: | $\frac{3519}{29}$ |
| C: | $\frac{3319}{16}$ |
| D: | $\frac{3519}{16}$ |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 11 |
| Question ID: | 101211 |
| Question Type: | MCQ |
| Question: | The probability that a randomly chosen one-one function $f: \{1, 2, 3, 4, 5\} \rightarrow \{1, 2, 3, 4, 5, 6\}$ satisfies $f(1) + f(2) = f(3)$ is : |
| A: | $\frac{1}{12}$ |
| B: | $\frac{1}{10}$ |
| C: | $\frac{1}{6}$ |
| D: | $\frac{1}{5}$ |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 12 |
| Question ID: | 101212 |
| Question Type: | MCQ |
| Question: | Let $4, A_1, A_2, \dots, A_n, 102$ and $12, B_1, B_2, \dots, B_n, 110$ be two arithmetic progressions. If $A_r = B_s$ with $1 \leq r - s \leq 100$, then the number of possible values of n is : |
| A: | 20 |

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| B: | 25 |
| C: | 50 |
| D: | 75 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 13 |
| Question ID: | 101213 |
| Question Type: | MCQ |
| Question: | The sum of all the coefficients in the expression $(1 + x + x^2 + \dots + x^{49}) + (1 + x)(1 + x + x^2 + \dots + x^{48}) + (1 + x + x^2)(1 + x + x^2 + \dots + x^{47}) + \dots + (1 + x + x^2 + \dots + x^{48})(1 + x) + (1 + x + x^2 + \dots + x^{49})$ is equal to : |
| A: | 21675 |
| B: | 22525 |
| C: | 22100 |
| D: | 21660 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 14 |
| Question ID: | 101214 |
| Question Type: | MCQ |
| Question: | The remainder when $(2023)^{2021}$ is divided by 12 is : |
| A: | 1 |
| B: | 5 |
| C: | 7 |
| D: | 11 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 15 |
| Question ID: | 101215 |
| Question Type: | MCQ |

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| Question: | The number of positive integers that are ≤ 1000 and divisible by 7 or 13, is : |
| A: | 218 |
| B: | 208 |
| C: | 228 |
| D: | 192 |

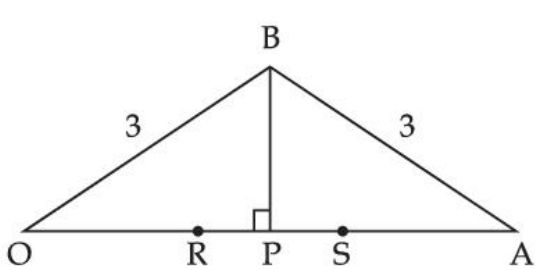
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| Topic: | Mathematics – Part I-Section A |
| Item No: | 16 |
| Question ID: | 101216 |
| Question Type: | MCQ |
| Question: | Let A and B be $n \times n$ real matrices such that $A = A^T$ and $B = -B^T$. If $C = A^5B^2 - B^2A^5$ and $D = A^4B^3 - B^3A^4$, then : |
| A: | C is symmetric and D is skew-symmetric |
| B: | Both C and D are symmetric |
| C: | Both C and D are skew-symmetric |
| D: | C is skew-symmetric and D is symmetric |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 17 |
| Question ID: | 101217 |
| Question Type: | MCQ |
| Question: | The sum of the real and imaginary parts of all the complex numbers z satisfying $\bar{z} = i(\operatorname{Re}(z) + z^2)$ is equal to : |
| A: | 0 |
| B: | 1 |
| C: | -1 |

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| D: | $-\frac{\sqrt{3}}{2}$ |
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| Topic: | Mathematics – Part I-Section A |
| Item No: | 18 |
| Question ID: | 101218 |
| Question Type: | MCQ |
| Question: | Let a, b, c respectively be the sides of the triangle ABC opposite the angles A, B, C. If $\frac{\sin A}{\sin C} = \frac{\sin(A - B)}{\sin(B - C)}$, then the value of $\frac{1 + \cos(A - B) \cos C}{1 + \cos(A - C) \cos B} - \frac{a^2}{2b^2}$ is equal to : |
| A: | $\frac{1}{4}$ |
| B: | $\frac{1}{2}$ |
| C: | 1 |
| D: | 2 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 19 |
| Question ID: | 101219 |
| Question Type: | MCQ |
| Question: | If (a, b, c) is the ortho-centre of the triangle whose sides have the equations $\frac{x - 2}{-3} = \frac{y - 3}{-2} = \frac{z + 2}{4}$, $\frac{x - 2}{-1} = \frac{y - 3}{-2} = \frac{z + 2}{3}$ and $\frac{x}{1} = \frac{y - 1}{0} = \frac{z - \frac{3}{2}}{-\frac{1}{2}}$, then a - 2b + 2c is equal to _____. |
| A: | 9 |
| B: | 11 |
| C: | 13 |
| D: | 15 |

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| Topic: | Mathematics – Part I-Section A |
| Item No: | 20 |
| Question ID: | 101220 |
| Question Type: | MCQ |
| Question: | <p>In the below diagram, let $OB = OS = AB = AR = 3$. If the area of the triangle OAB is 1 then the maximum value of $(OP)^2$ is :</p>  |
| A: | $\frac{9 + \sqrt{77}}{2}$ |
| B: | $\frac{9 - \sqrt{77}}{2}$ |
| C: | $\frac{3 + \sqrt{77}}{2}$ |
| D: | $\frac{12 - \sqrt{77}}{2}$ |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 21 |
| Question ID: | 101221 |
| Question Type: | Numeric Answer |
| Question: | <p>The least value of $\alpha \in \mathbf{R}$ for which</p> $\lim_{x \rightarrow 0} \frac{(2^x - 1)^2 \tan^\alpha x}{(\sin^{-1} x) \log_e (1 + x^6)}$ <p>exists and is finite, is equal to _____.</p> |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 22 |
| Question ID: | 101222 |
| Question Type: | Numeric Answer |
| Question: | Let $\vec{a} = 2\hat{i} - \hat{j} + \hat{k}$ and $\vec{b} = \hat{i} + \hat{j} - \hat{k}$. Let a vector \vec{c} be coplanar with the vectors \vec{a} and \vec{b} . If $ \vec{c} ^2 = 66$ and $\vec{c} \cdot (\vec{a} + \vec{b}) = 12$, then the value of $ \vec{b} \cdot \vec{c} - 4 $ is equal to _____. |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 23 |
| Question ID: | 101223 |
| Question Type: | Numeric Answer |
| Question: | Let P_1 and P_2 be the images of the point $P(-1, 1, 1)$ in the planes $-2x + y + z + 1 = 0$ and $x - y - z + 2 = 0$ respectively. If the length of the line segment joining P_1 and P_2 is α , then the value of $9\alpha^2$ is equal to _____. |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 24 |
| Question ID: | 101224 |
| Question Type: | Numeric Answer |
| Question: | If the line segment joining the points $A(a, 2)$ and $B(2, 3)$ subtends an angle $\frac{\pi}{4}$ at the origin, then the maximum absolute value of a is equal to _____. |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 25 |
| Question ID: | 101225 |
| Question Type: | Numeric Answer |

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| Question: | <p>Let the slope of the tangent at (x, y) to a curve passing through the point $(2, 4)$ be $\frac{(x + y)^2}{(x + 1)(y - 1)}$.</p> <p>If the equation of the curve is</p> $(x + 1)^\alpha (x + 2y - \beta) = \alpha^5 e^{\left(\frac{2y - \gamma x - 4}{x + 1}\right)},$ <p>then the value of $\alpha + \beta + \gamma$ is equal to _____.</p> |
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| Topic: | Mathematics – Part I-Section B |
| Item No: | 26 |
| Question ID: | 101226 |
| Question Type: | Numeric Answer |
| Question: | <p>Let $f(t) = \int_{-t}^t e^{x^2} \left((1 + 2x^2) \sin x + x \cos x \right) dx$. Then the value of $f\left(\frac{\pi}{2}\right) + f(\pi)$ is equal to _____.</p> |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 27 |
| Question ID: | 101227 |
| Question Type: | Numeric Answer |
| Question: | <p>All possible 6-digit odd numbers formed with the digits 1, 1, 2, 3, 7, 8 are written in descending order. If 378121 is the K^{th} term of the sequence so formed, then K is equal to _____.</p> |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 28 |
| Question ID: | 101228 |
| Question Type: | Numeric Answer |
| Question: | <p>Let $A = [a_{ij}]$ be 3×3 real matrix and $\text{Adj}(A) = [A_{ij}]$. If $a_{1j} + a_{2j} + a_{3j} = 1$, for $j = 1, 2, 3$ and $A_{11} = 2$, $A_{31} = 4$ and $\det(A) = 10$, then A_{21} equals _____.</p> |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 29 |
| Question ID: | 101229 |

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| Question Type: | Numeric Answer |
| Question: | The least value of a real number K for which the equation $4x^2 - 8(K - 1)x + 3K^2 + 10 - 9K = 0$ has atleast one positive root is _____. |

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| Topic: | Mathematics – Part I-Section B |
| Item No: | 30 |
| Question ID: | 101230 |
| Question Type: | Numeric Answer |
| Question: | The number of transitive relations from the set $\{x, y\}$ to $\{x, y\}$ is equal to _____. |

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| Topic: | Aptitude Test – Part II |
| Item No: | 31 |
| Question ID: | 101231 |
| Question Type: | MCQ |
| Question: | A plan for selecting colours for composition is also known as _____. |
| A: | Colour spectrum |
| B: | Colour wheel |
| C: | Colour scheme |
| D: | Colour mix |

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| Topic: | Aptitude Test – Part II |
| Item No: | 32 |
| Question ID: | 101232 |
| Question Type: | MCQ |
| Question: | <p>'Rowlatt Act' passed in which year ?</p> <p>(A) 1919</p> <p>(B) 1920</p> <p>(C) 1918</p> <p>(D) 1921</p> <p>Choose the most appropriate answer from the options given below :</p> |

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| A: | (A) only |
| B: | (A) and (B) only |
| C: | (B) only |
| D: | (B) and (C) only |

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| Topic: | Aptitude Test – Part II |
| Item No: | 33 |
| Question ID: | 101233 |
| Question Type: | MCQ |
| Question: | The marble inlay work with precious and semi-precious stone in ‘Taj Mahal’ or elsewhere is popularly known as : |
| A: | Mondrian inlay work |
| B: | Kalamkari |
| C: | Pietra Dura/Parchinkari |
| D: | Zardosi |

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| Topic: | Aptitude Test – Part II |
| Item No: | 34 |
| Question ID: | 101234 |
| Question Type: | MCQ |
| Question: | ‘Shaking Minaret’ situated in the city of _____. |
| A: | Hyderabad |
| B: | Lucknow |
| C: | Ahmedabad |
| D: | Aurangabad |

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| Topic: | Aptitude Test – Part II |
| Item No: | 35 |
| Question ID: | 101235 |

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| Question Type: | MCQ |
| Question: | Which of the following personalities is not an Architect ? |
| A: | Renzo Piano |
| B: | Richard Gere |
| C: | Charles Correa |
| D: | Richard Rogers |

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| Topic: | Aptitude Test – Part II |
| Item No: | 36 |
| Question ID: | 101236 |
| Question Type: | MCQ |
| Question: | In which state 'Bihu' is most widely celebrated ? |
| A: | Rajasthan |
| B: | Uttar Pradesh |
| C: | Nagaland |
| D: | Assam |

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| Topic: | Aptitude Test – Part II |
| Item No: | 37 |
| Question ID: | 101237 |
| Question Type: | MCQ |
| Question: | 'NRCP' stands for _____. |
| A: | National River Concept Plan |
| B: | National River Conserve Plan |
| C: | National River & Conservation Plan |
| D: | National River Conservation Plan |

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| Topic: | Aptitude Test – Part II |
| Item No: | 38 |
| Question ID: | 101238 |

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| Question Type: | MCQ |
| Question: | Vernacular Architecture mainly involves : |
| A: | Use of modern/contemporary materials |
| B: | Use of automation technology |
| C: | Use of composite & hightech materials |
| D: | Use of locally available material & traditional construction technology |

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| Topic: | Aptitude Test – Part II |
| Item No: | 39 |
| Question ID: | 101239 |
| Question Type: | MCQ |
| Question: | A discomfort caused by light contrast is known as _____. |
| A: | Heat |
| B: | Glare |
| C: | Skin allergy |
| D: | Reflection of light |

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| Topic: | Aptitude Test – Part II |
| Item No: | 40 |
| Question ID: | 101240 |
| Question Type: | MCQ |
| Question: | 'Red Fort' of Agra was commissioned by whom ? |
| A: | Akbar |
| B: | Bahadur Shah Zafar |
| C: | Shahjahan |
| D: | Babar |

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| Topic: | Aptitude Test – Part II |
| Item No: | 41 |

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| Question ID: | 101241 |
| Question Type: | MCQ |
| Question: | The unit of measuring sound absorption in a room is : |
| A: | Sabin |
| B: | Phon |
| C: | Hertz |
| D: | Decibel |

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| Topic: | Aptitude Test – Part II |
| Item No: | 42 |
| Question ID: | 101242 |
| Question Type: | MCQ |
| Question: | A land size of 60 meter × 30 meter for a house design is drawn on paper at scale of 1 : 100, then what size is drawn on paper to represent land ? |
| A: | 6 meter × 3 meter |
| B: | 60 cm × 30 cm |
| C: | 6 cm × 3 cm |
| D: | 3 m × 1.5 m |

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| Topic: | Aptitude Test – Part II |
| Item No: | 43 |
| Question ID: | 101243 |
| Question Type: | MCQ |
| Question: | <p>Albedo refers to :</p> <p>The diagram shows two scenarios of solar radiation. In the first, labeled 'High Albido', 100% of the incident sun rays are reflected, leaving 80% of the original energy. In the second, labeled 'Low Albido', only 10% of the incident sun rays are reflected, leaving 90% of the original energy.</p> |
| A: | Thermal properties of external surface material |

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| B: | Sound absorption properties of material |
| C: | Roughness of surface |
| D: | Porous properties of surface/material |

| Topic: | Aptitude Test – Part II | | | | | | | | | | |
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| Item No: | 44 | | | | | | | | | | |
| Question ID: | 101244 | | | | | | | | | | |
| Question Type: | MCQ | | | | | | | | | | |
| Question: | <p>Match List - I with List - II.</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; width: 50%;">List - I</th> <th style="text-align: left; width: 50%;">List - II</th> </tr> </thead> <tbody> <tr> <td>(A) Solid lines</td> <td>(I) Relatively long line segments separated by zigzag strokes</td> </tr> <tr> <td>(B) Dashed lines</td> <td>(II) Delineate form of objects, edge of plane & intersection of planes</td> </tr> <tr> <td>(C) Grid lines</td> <td>(III) Indicate hidden segments</td> </tr> <tr> <td>(D) Break lines</td> <td>(IV) Rectangular or radial system of lines for regulating plan</td> </tr> </tbody> </table> <p>Choose the correct answer from the options given below :</p> | List - I | List - II | (A) Solid lines | (I) Relatively long line segments separated by zigzag strokes | (B) Dashed lines | (II) Delineate form of objects, edge of plane & intersection of planes | (C) Grid lines | (III) Indicate hidden segments | (D) Break lines | (IV) Rectangular or radial system of lines for regulating plan |
| List - I | List - II | | | | | | | | | | |
| (A) Solid lines | (I) Relatively long line segments separated by zigzag strokes | | | | | | | | | | |
| (B) Dashed lines | (II) Delineate form of objects, edge of plane & intersection of planes | | | | | | | | | | |
| (C) Grid lines | (III) Indicate hidden segments | | | | | | | | | | |
| (D) Break lines | (IV) Rectangular or radial system of lines for regulating plan | | | | | | | | | | |
| A: | (A) - (IV), (B) - (I), (C) - (II), (D) - (III) | | | | | | | | | | |
| B: | (A) - (II), (B) - (I), (C) - (IV), (D) - (III) | | | | | | | | | | |
| C: | (A) - (II), (B) - (III), (C) - (IV), (D) - (I) | | | | | | | | | | |
| D: | (A) - (II), (B) - (I), (C) - (III), (D) - (IV) | | | | | | | | | | |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 45 |
| Question ID: | 101245 |
| Question Type: | MCQ |
| Question: | <p>Given below are two statements :</p> <p>Statement I : Modular Proportioning system was developed by German Architect Mies Van der Rohe.</p> <p>Statement II : It combines the aesthetic dimensions of Golden ratio & Fibonacci series.</p> <p>In the light of the above statements, choose the most appropriate answer from the options given below :</p> |

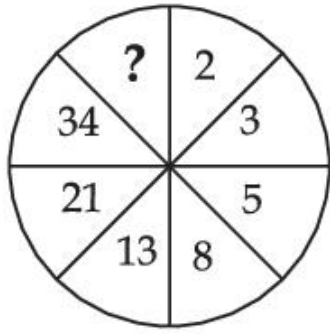
| | |
|----|--|
| A: | Both Statement I and Statement II are correct |
| B: | Both Statement I and Statement II are incorrect |
| C: | Statement I is correct but Statement II is incorrect |
| D: | Statement I is incorrect but Statement II is correct |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 46 |
| Question ID: | 101246 |
| Question Type: | MCQ |
| Question: | 'My Architect' 'A son's journey' documentary is on which of the following Architect ? |
| A: | Louis Kahn |
| B: | Moshe Shafdi |
| C: | Zaha Hadid |
| D: | I.M. Pei |

| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 47 |
| Question ID: | 101247 |
| Question Type: | MCQ |
| Question: | Which one of the following is not related to prestigious international awards in Architecture ? |
| A: | Royal Gold Medal (RIBA) |
| B: | Pritzker Prize |
| C: | Aga Khan Award |
| D: | META Award |

| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 48 |
| Question ID: | 101248 |
| Question Type: | MCQ |

Identify the missing number in the given image :



Question:

A: 83

B: 48

C: 55

D: 84

Topic: Aptitude Test – Part II

Item No: 49

Question ID: 101249

Question Type: MCQ

Question:

Match List - I with List - II.

List - I

List - II

(A)



(I) The Shard, London by Renzo Piano

(B)



(II) Infosys Building, Pune by Hafeez Contractor

(C)



(III) Jubilee Church, Rome by Richard Mier

(D)



(IV) LIC Building, New Delhi by Charles Correa

Choose the **correct** answer from the options given below :

A: (A) - (I), (B) - (III), (C) - (IV), (D) - (II)

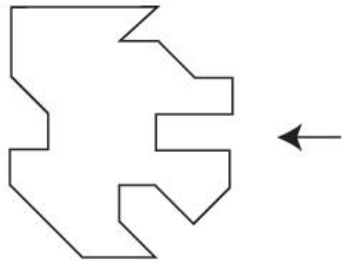
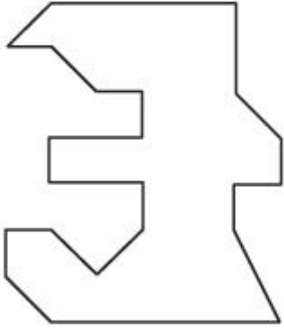

B: (A) - (IV), (B) - (II), (C) - (I), (D) - (III)

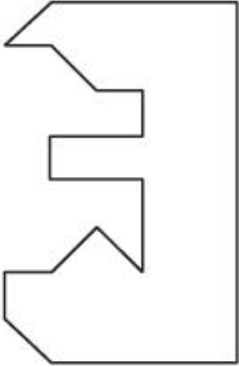
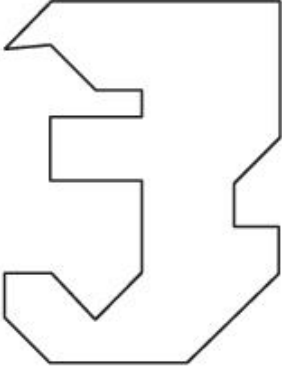
C: (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

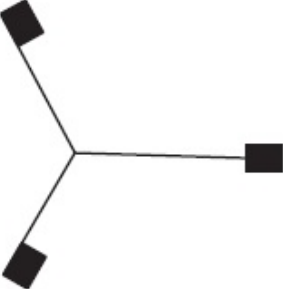
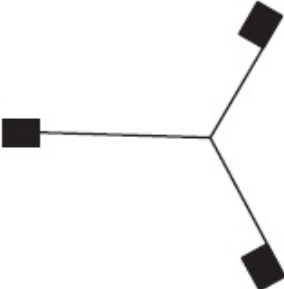
D: (A) - (III), (B) - (II), (C) - (I), (D) - (IV)

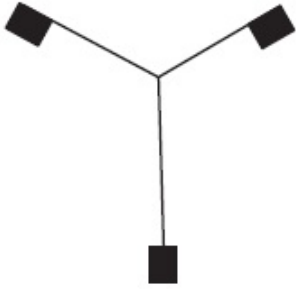
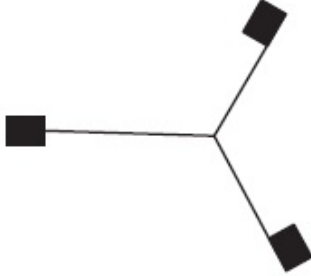
| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 50 |
| Question ID: | 101250 |
| Question Type: | MCQ |
| Question: | 'Green is Red' book is written by which of the following Architect ? |
| A: | Revathi Kamath |

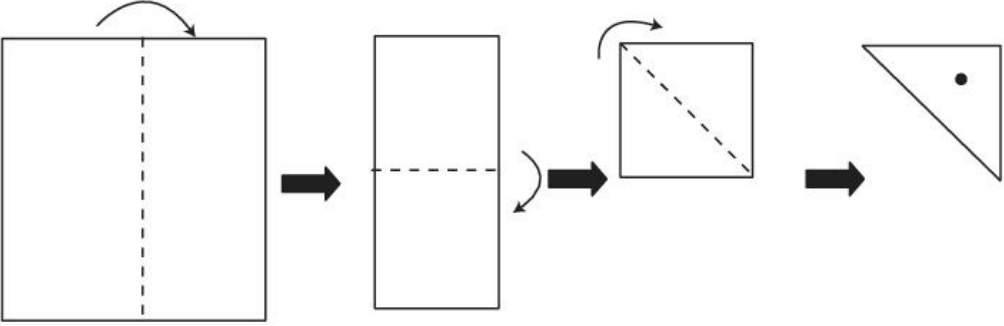
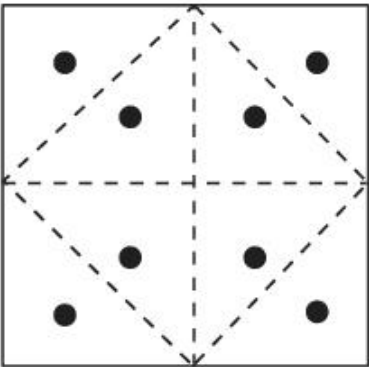
| | |
|----|---------------|
| B: | Anupama Kundu |
| C: | Anil Laul |
| D: | P.K. Das |

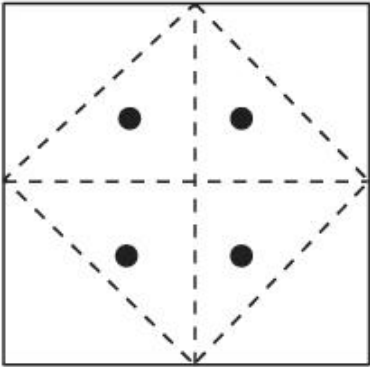
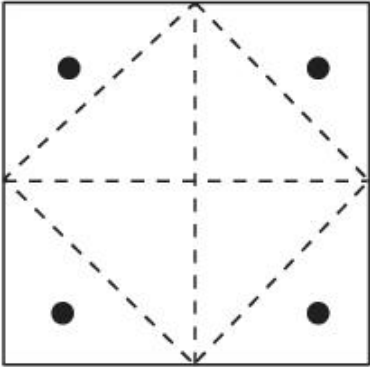
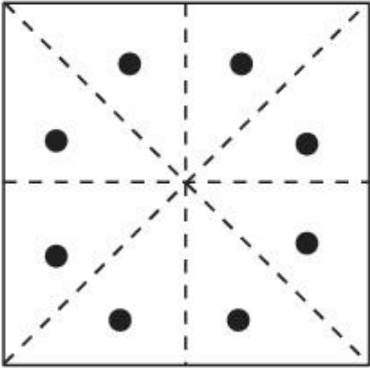
| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 51 |
| Question ID: | 101251 |
| Question Type: | MCQ |
| Question: | <p>Given figure shows plan of an object. Identify the correct option from answer figure which will perfectly fit on right hand side of the question figure ?</p>  |
| A: |  |
| B: |  |

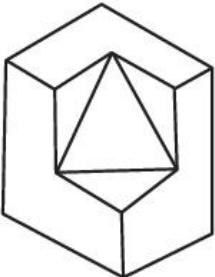
| | |
|----|---|
| C: |  |
| D: |  |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 52 |
| Question ID: | 101252 |
| Question Type: | MCQ |
| Question: | Find the odd figure in the problem figure given below. |
| A: |  |
| B: |  |

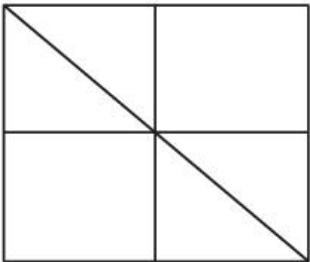
| | |
|----|---|
| C: |  |
| D: |  |

| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 53 |
| Question ID: | 101253 |
| Question Type: | MCQ |
| Question: |  <p>A square paper is folded as shown in the figure (above). A circular hole is created in the triangular portion. Now paper is unfolded. What will be the right diagram ?</p> |
| A: |  |

| | |
|----|--|
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 54 |
| Question ID: | 101254 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows 3 D view of an object. Identify number of surfaces in given object.</p>  |

| | |
|----|----|
| A: | 11 |
| B: | 10 |
| C: | 9 |
| D: | 13 |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 55 |
| Question ID: | 101255 |
| Question Type: | MCQ |
| Question: | <p>How many total number of triangles are hidden in the problem figure given below ?</p>  |
| A: | 16 |
| B: | 12 |
| C: | 06 |
| D: | 08 |

| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 56 |
| Question ID: | 101256 |
| Question Type: | MCQ |
| Question: | In a code language if 'PLEASE' is written as '573183' then 'LAPSE' will be written as _____. |
| A: | 71853 |
| B: | 81573 |
| C: | 71583 |
| D: | 715831 |

| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 57 |
| Question ID: | 101257 |
| Question Type: | MCQ |
| Question: | <p>Which one of the answer figures will complete the sequence of the three problem figures ?</p> |
| A: | |
| B: | |
| C: | |
| D: | |

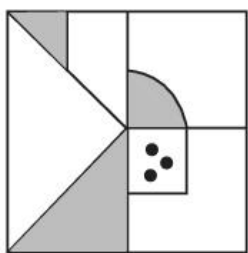
| | |
|--------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 58 |
| Question ID: | 101258 |

Question Type:

MCQ

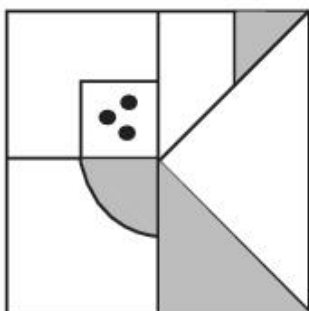
Question:

Choose one out of four figures which shows the correct water image of the problem figure (X).

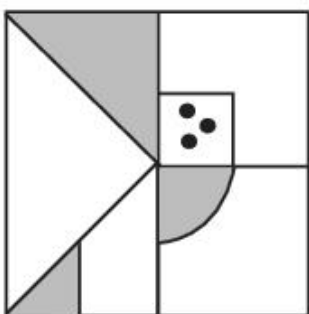


(X)

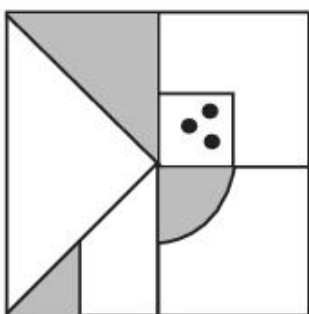
A:



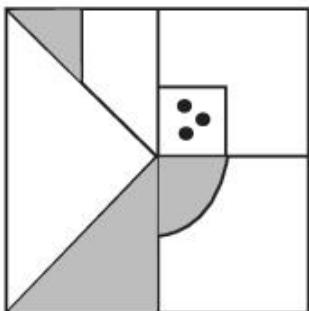
B:

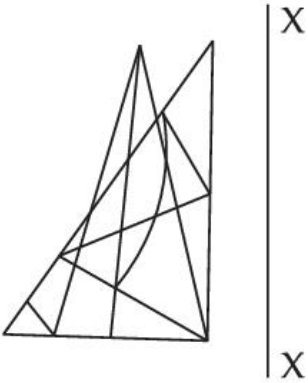
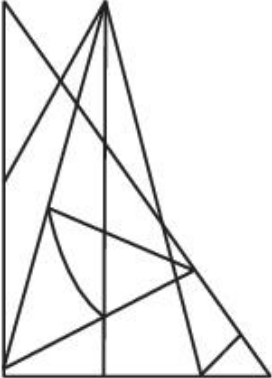
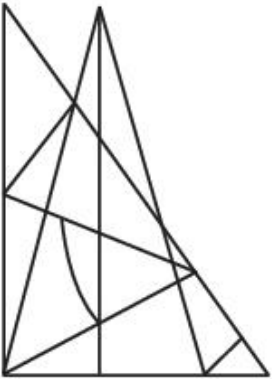


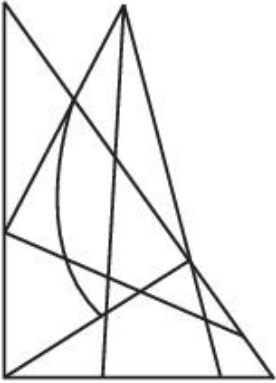
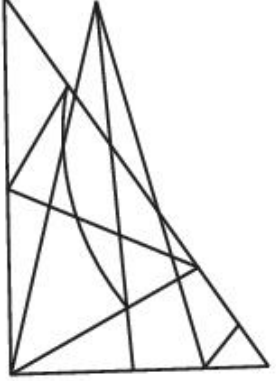
C:

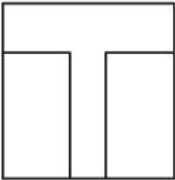




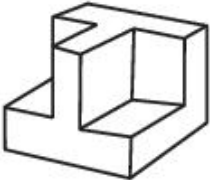
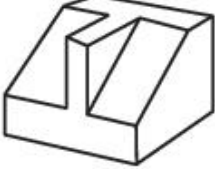

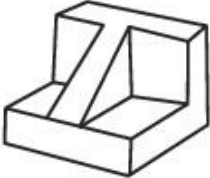
D:

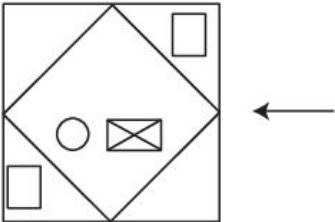
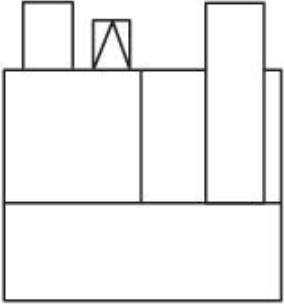


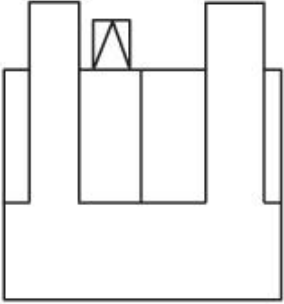
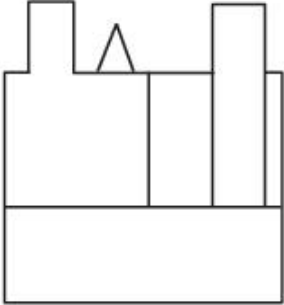
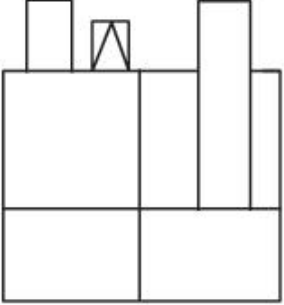
| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 59 |
| Question ID: | 101259 |
| Question Type: | MCQ |
| Question: | <p>Which one of the answer figure is the correct mirror image of the problem figure with respect to X - X ?</p>  |
| A: |  |
| B: |  |

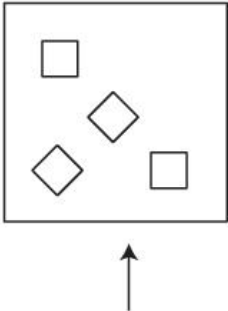
| | |
|----|---|
| C: |  |
| D: |  |

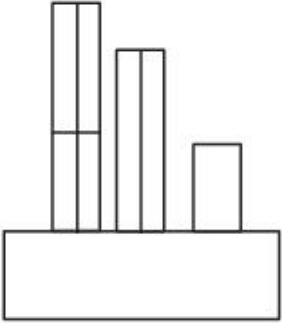
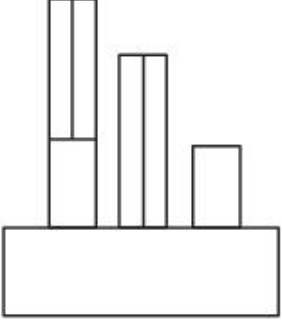
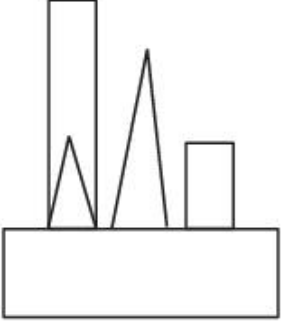
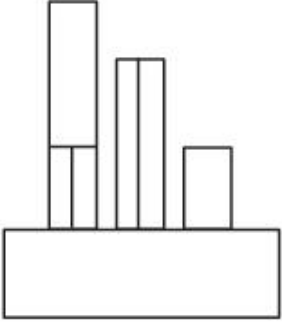
| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 60 |
| Question ID: | 101260 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows top view/plan, front elevation and right side elevation of the same object. Identify the most appropriate 3 D view of the problem figure from given answer figure.</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; justify-content: center; margin-bottom: 20px;">  </div> <div style="text-align: center; margin-bottom: 20px;">TOP</div> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="display: flex; flex-direction: column; align-items: center;">  </div> <div style="display: flex; flex-direction: column; align-items: center;">  </div> </div> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="text-align: center;">FRONT</div> <div style="text-align: center;">RIGHT SIDE</div> </div> </div> |

| | |
|----|---|
| A: |  |
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 61 |
| Question ID: | 101261 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows top view/plan of an object. Looking in the direction of arrow, identify the correct elevation from given answer figures.</p>  |
| A: |  |

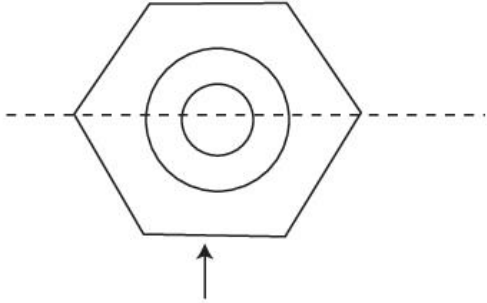
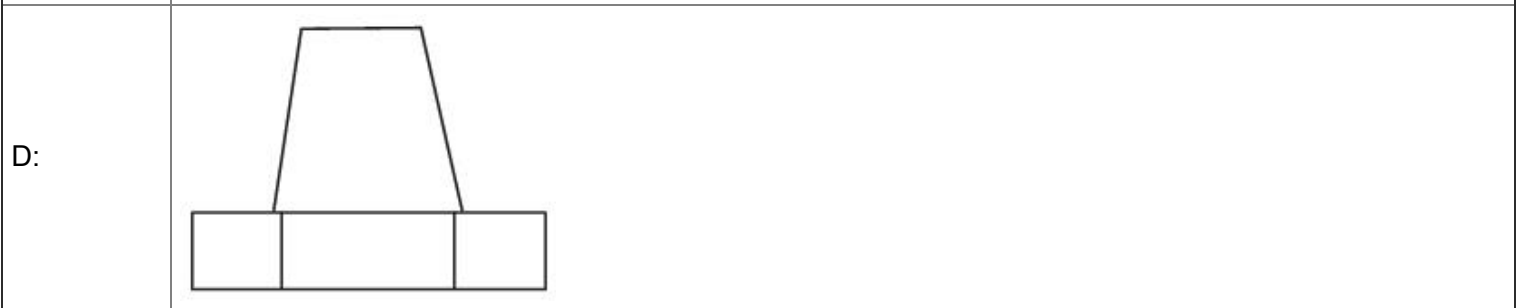
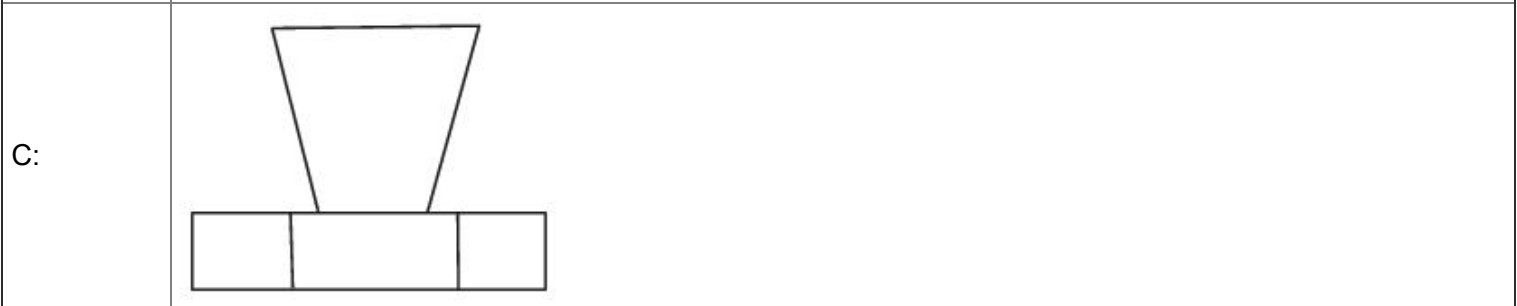
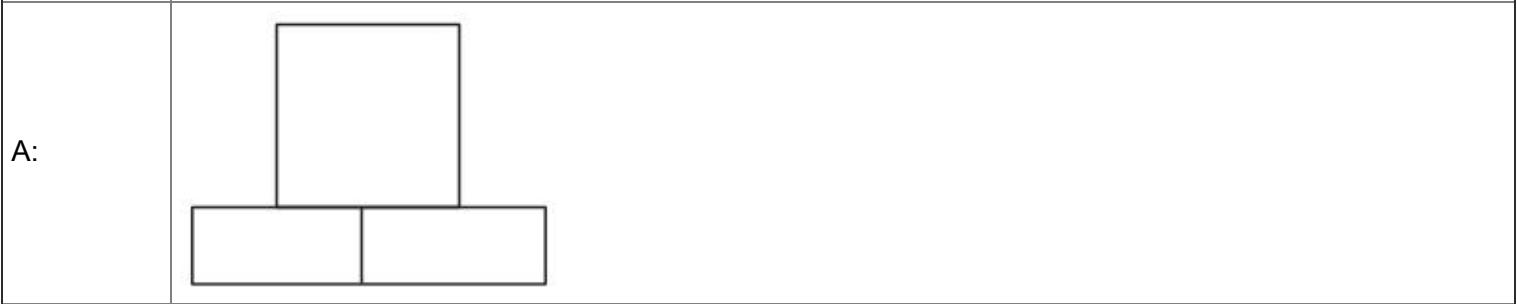
| | |
|----|--|
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 62 |
| Question ID: | 101262 |
| Question Type: | MCQ |
| Question: | <p>The problem figure shows top view/plan of an object. Looking in the direction of arrow identify the correct elevation from given answer figures.</p>  |

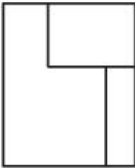


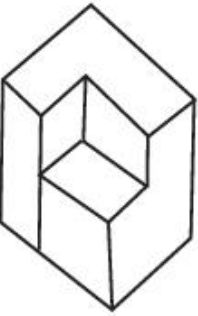
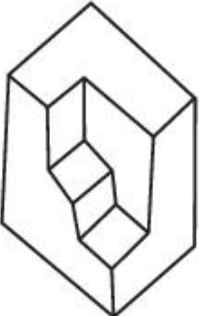
| | |
|----|---|
| A: |  |
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 63 |
| Question ID: | 101263 |
| Question Type: | MCQ |

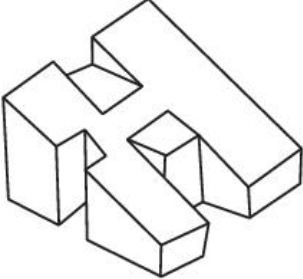
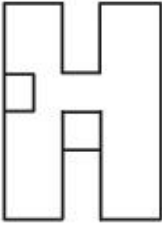
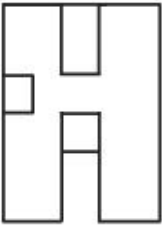
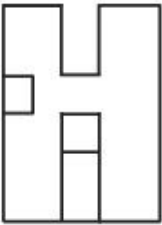
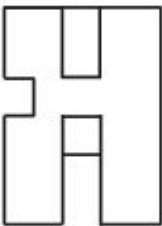
Question: Question figure shows top view/plan of an object. Looking in the direction of arrow. Identify the correct elevation from given answer figure.

| | |
|--------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 64 |
| Question ID: | 101264 |

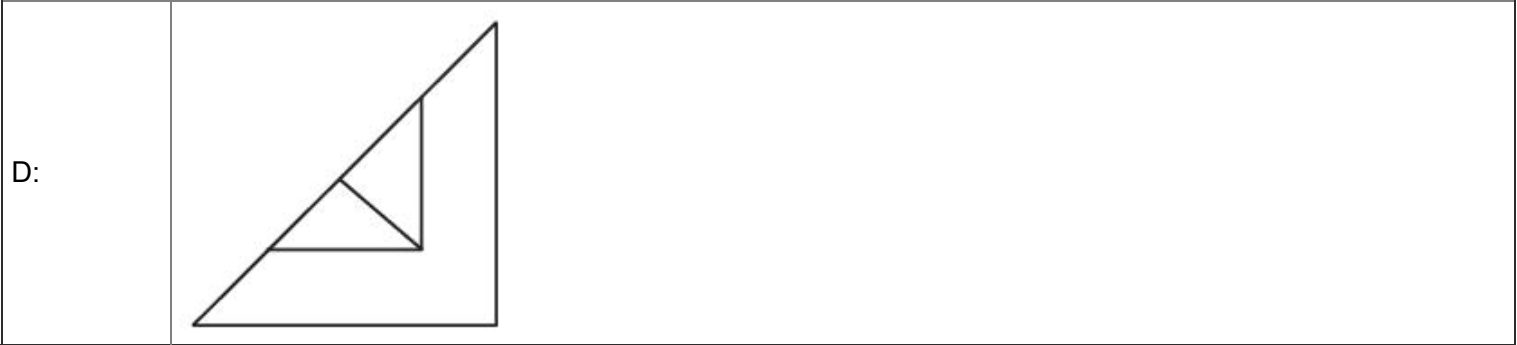
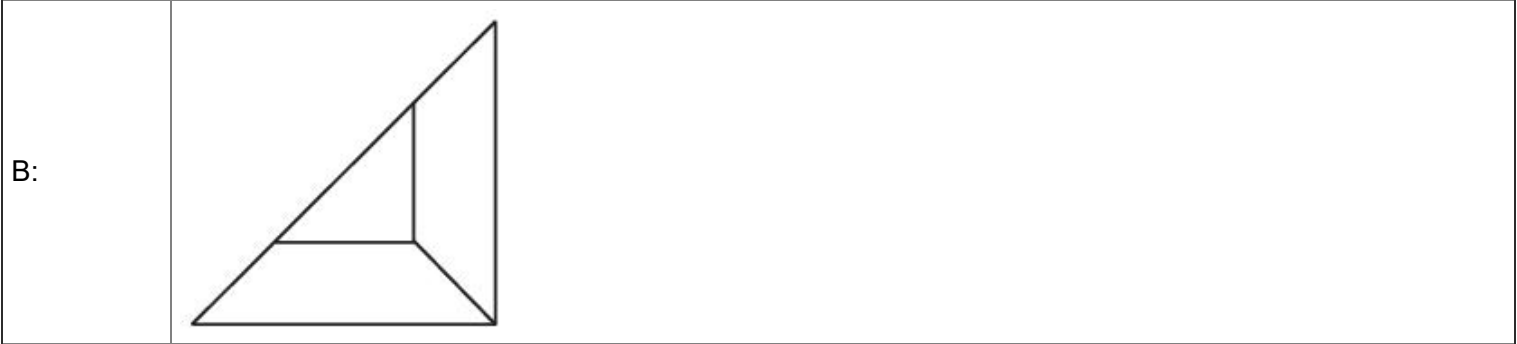
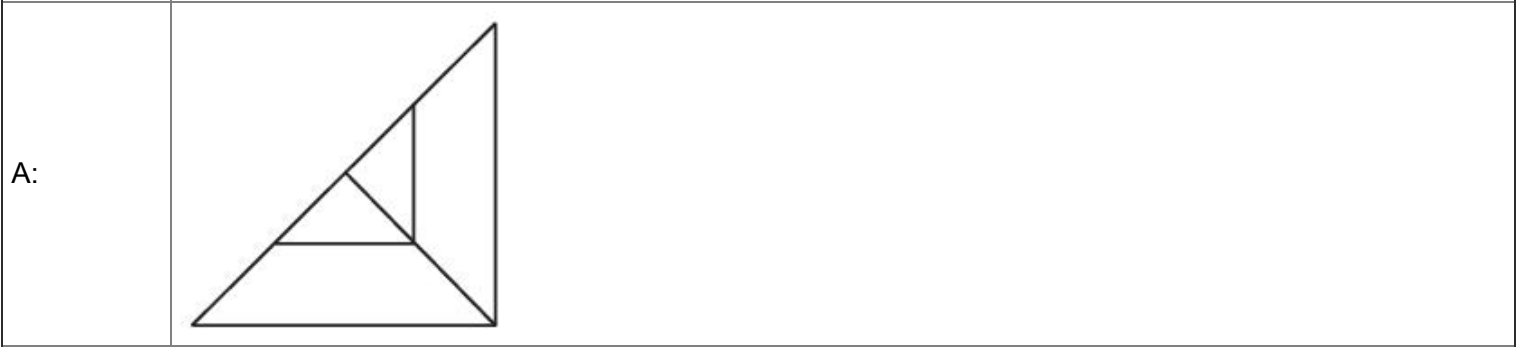
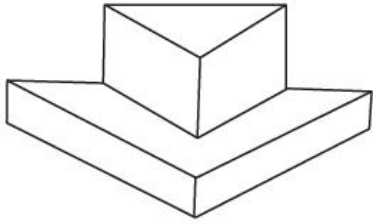
| | |
|----------------|--|
| Question Type: | MCQ |
| Question: | <p>Question figure shows elevation of an object. Identify most appropriate 3 D view of the problem figure from given answer figures.</p>  |
| A: |  |
| B: |  |
| C: |  |
| D: |  |

| | |
|----------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 65 |

| | |
|----------------|--|
| Question ID: | 101265 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows 3 D view of an object. Identify the most appropriate top view/ plan of given 3 D figure from answer figure.</p>  |
| A: |  |
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 66 |
| Question ID: | 101266 |
| Question Type: | MCQ |

Question: Question figure shows 3 D view of an object. Identify most appropriate top view / plan of the object from given answer figures.



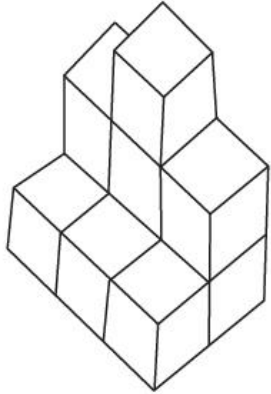
Topic: Aptitude Test – Part II

Item No: 67

Question ID: **101267**

Question Type: MCQ

Question: Question figure shows 3 D view of an object. Identify most appropriate top view/plan of the given object from given answer figures.



A: A 3x3 grid of squares. The top row has one square in the middle position. The middle and bottom rows each have three squares.

B: A 2x3 grid of squares. The top row has three squares. The bottom row has three squares.

C: A 4x3 grid of squares. The top row has one square in the middle position. The second row has two squares in the middle and right positions. The third and fourth rows each have three squares.

| | |
|----|---|
| D: |  |
|----|---|

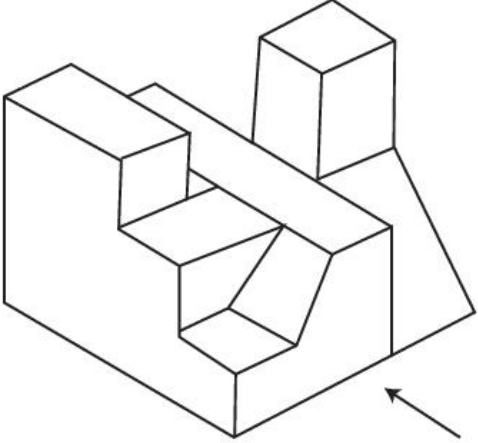
Topic: Aptitude Test – Part II

Item No: 68

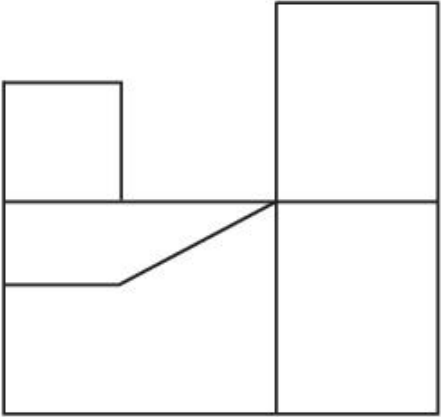
Question ID: **101268**

Question Type: MCQ

Question: The question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow, from the given answer figures.



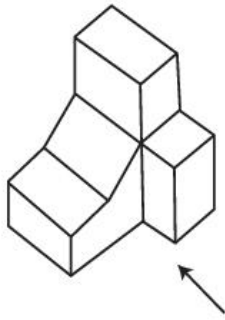
A:

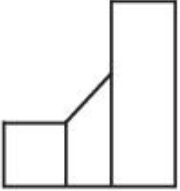


| | |
|----|--|
| B: | |
| C: | |
| D: | |

| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 69 |
| Question ID: | 101269 |
| Question Type: | MCQ |

Question: Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow from the given answer figures.



A: 

B: 

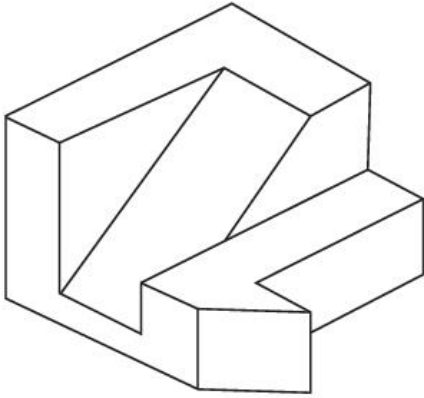
C: 

D: 

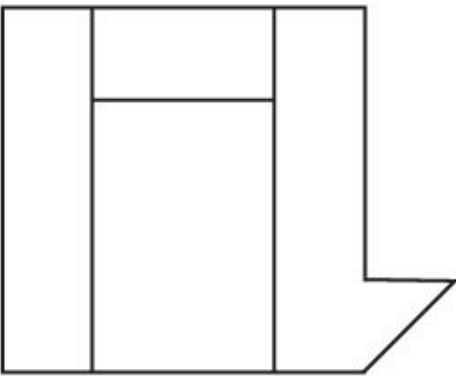
| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 70 |
| Question ID: | 101270 |
| Question Type: | MCQ |

The question figure shows 3 D view of an object. Identify the most appropriate top view / plan of given 3 D object from given answer figures.

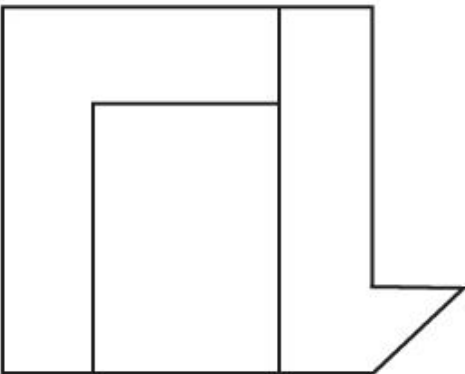
Question:



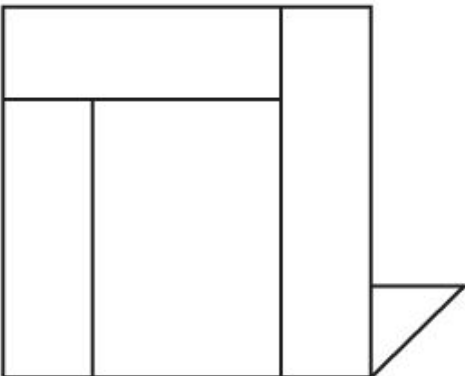
A:

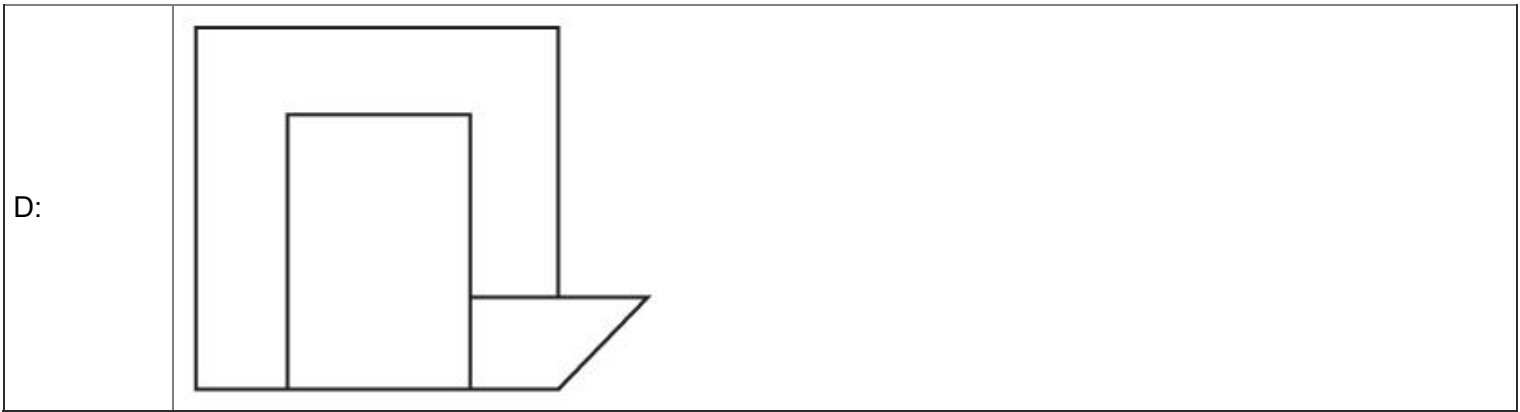


B:



C:





Topic: Aptitude Test – Part II

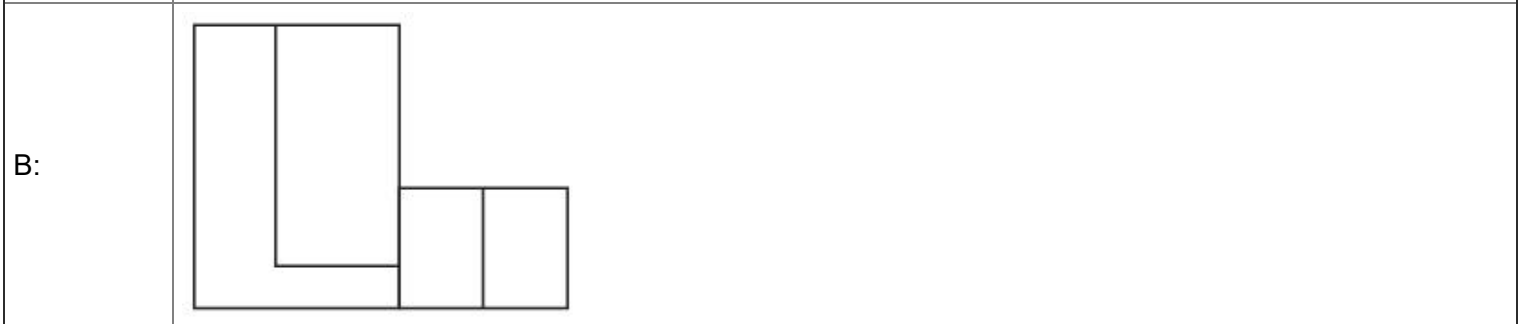
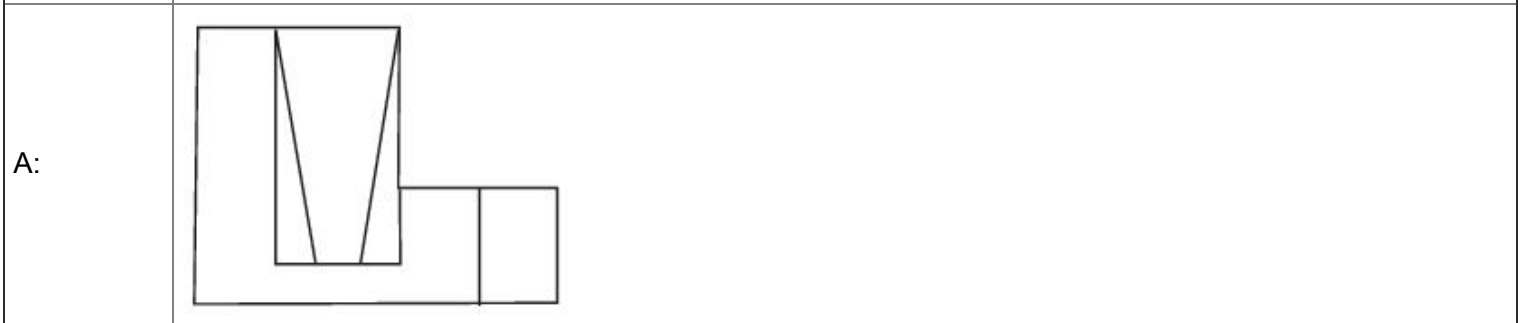
Item No: 71

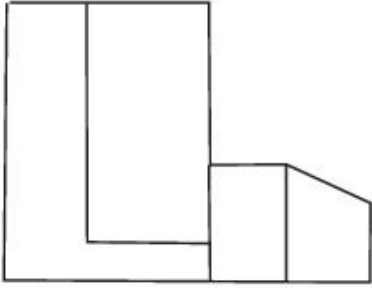
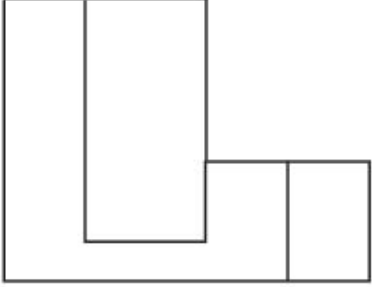
Question ID: 101271

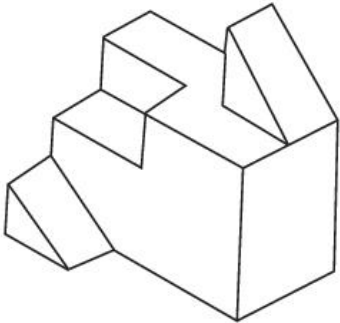
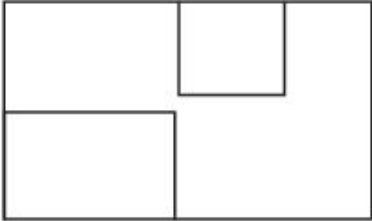
Question Type: MCQ

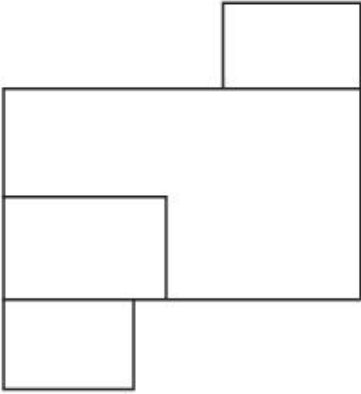
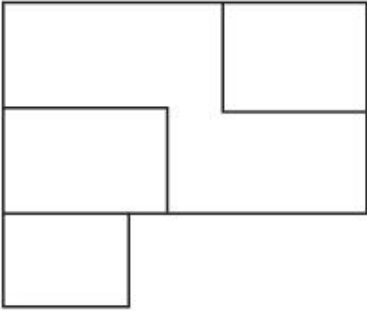
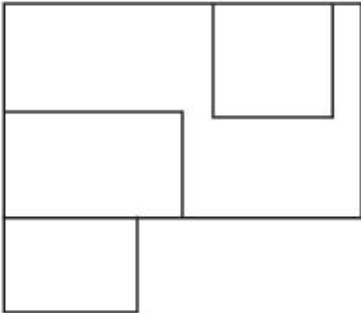
Question:

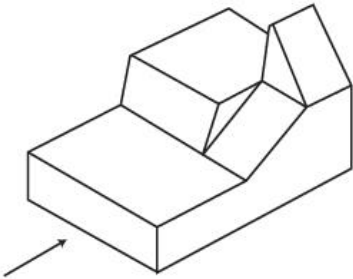
Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object. Looking in the direction of an arrow, from the given answer figures.

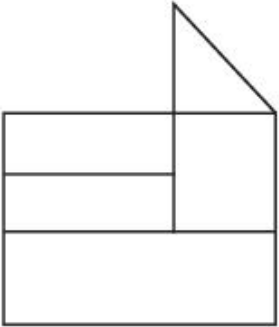
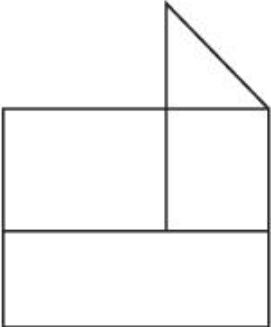
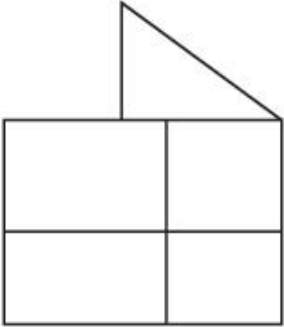
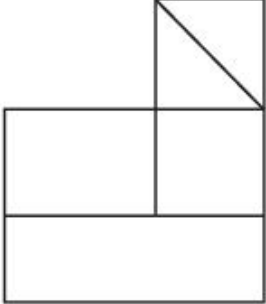


| | |
|----|---|
| C: |  |
| D: |  |

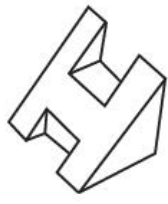
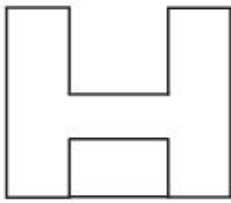
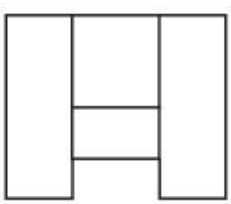
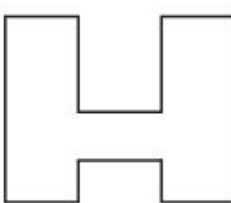
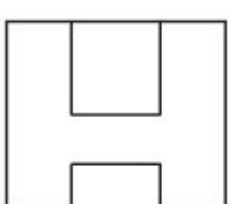
| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 72 |
| Question ID: | 101272 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows 3 D view of an object. Identify most appropriate top view/plan of the object from given answer figures.</p>  |
| A: |  |

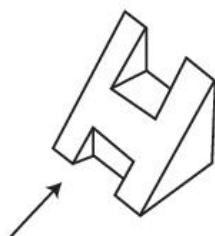
| | |
|----|--|
| B: |  |
| C: |  |
| D: |  |

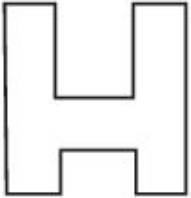

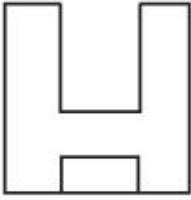
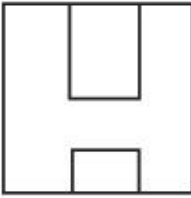
| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 73 |
| Question ID: | 101273 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow, from the given answer figures.</p>  |

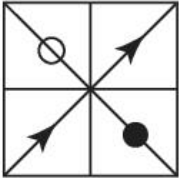
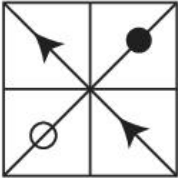
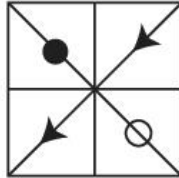
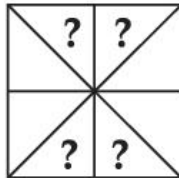

| | |
|----|---|
| A: |  |
| B: |  |
| C: |  |
| D: |  |

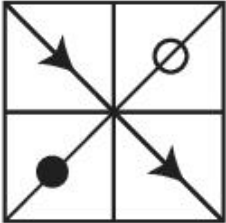
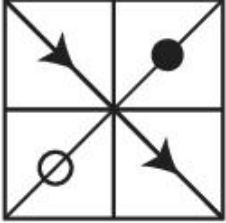
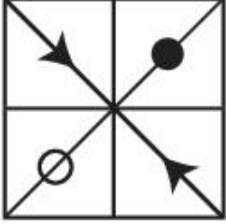
| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 74 |
| Question ID: | 101274 |
| Question Type: | MCQ |

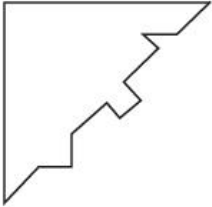
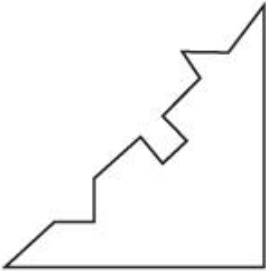
| | |
|-----------|---|
| Question: | <p>Question figure shows 3 D view of an object. Identify the most appropriate top view/ plan of the object from the given answer figures.</p>  |
| A: |  |
| B: |  |
| C: |  |
| D: |  |

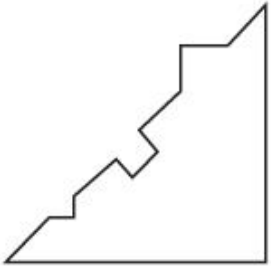
| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 75 |
| Question ID: | 101275 |
| Question Type: | MCQ |
| Question: | <p>Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow from the given answer figures.</p>  |

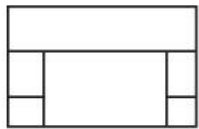
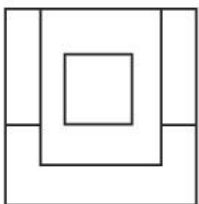

| | |
|----|--|
| A: |  |
| B: |  |
| C: |  |
| D: |  |

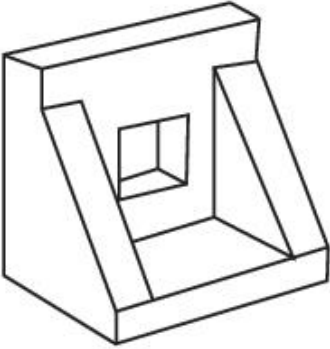
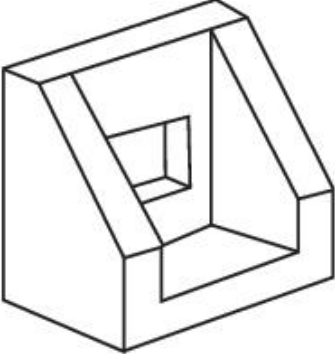
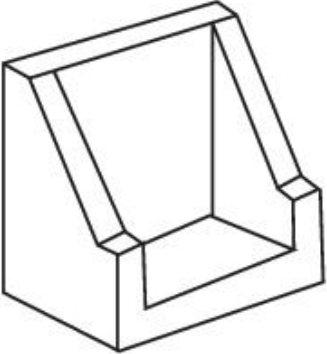
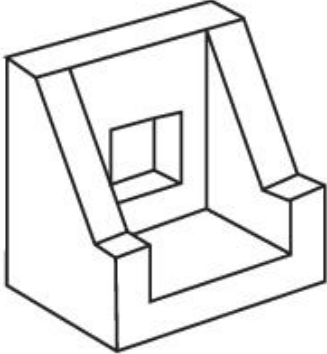
| | | | | |
|----------------|--|---|--|---|
| Topic: | Aptitude Test – Part II | | | |
| Item No: | 76 | | | |
| Question ID: | 101276 | | | |
| Question Type: | MCQ | | | |
| Question: | <p>In the problem figure, 'A' & 'B' have certain relation. Identify which one of the answer figures will have similar relation between 'C' & 'D' ?</p> | | | |
| |  |  |  |  |
| | (A) | (B) | (C) | (D) |
| A: |  | | | |

| | |
|----|---|
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|---|
| Topic: | Aptitude Test – Part II |
| Item No: | 77 |
| Question ID: | 101277 |
| Question Type: | MCQ |
| Question: | <p>Which of the following answer figures will interlock diagonally into the question figure ?</p>  |
| A: |  |

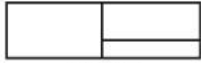
| | |
|----|--|
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|--|
| Topic: | Aptitude Test – Part II |
| Item No: | 78 |
| Question ID: | 101278 |
| Question Type: | MCQ |
| Question: | <p data-bbox="220 1384 1544 1464">Question figure shows top view/plan, front elevation & right side elevation of the same object. Identify most appropriate 3 D view of the object from given answer figures.</p> <div data-bbox="225 1491 424 1659">  <p data-bbox="288 1626 360 1659">TOP</p> </div> <div data-bbox="225 1693 424 1939">  <p data-bbox="264 1906 384 1939">FRONT</p> </div> <div data-bbox="496 1693 624 1962">  <p data-bbox="504 1890 616 1962">RIGHT SIDE</p> </div> |

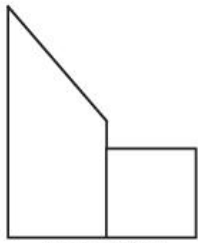
| | |
|----|---|
| A: |  |
| B: |  |
| C: |  |
| D: |  |

| | |
|----------------|-------------------------|
| Topic: | Aptitude Test – Part II |
| Item No: | 79 |
| Question ID: | 101279 |
| Question Type: | MCQ |

Question figure shows top view/plan, front elevation & right side elevation of the same object. Identify most appropriate 3 D view of the object from given answer figures.



TOP



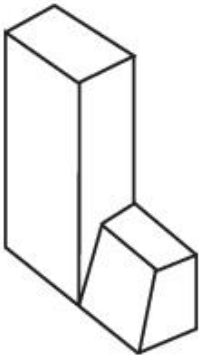
FRONT



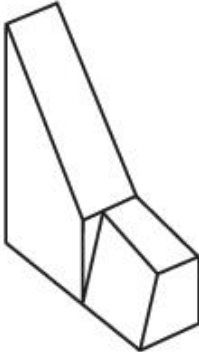
RIGHT
SIDE

Question:

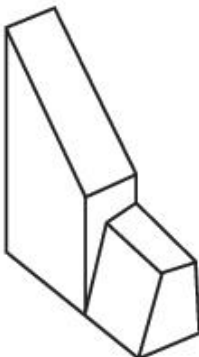
A:



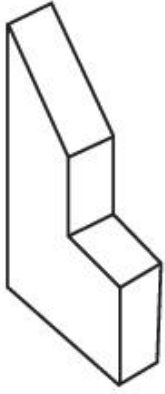
B:



C:



D:



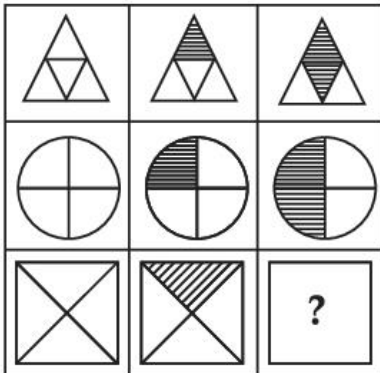
Topic: Aptitude Test – Part II

Item No: 80

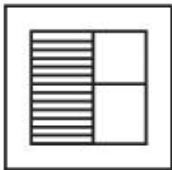
Question ID: 101280

Question Type: MCQ

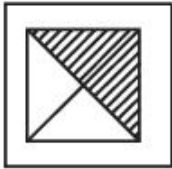
Question: Find out which of the answer figure completes the figure matrix sequence from given answer figures.



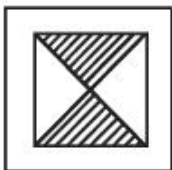
A:



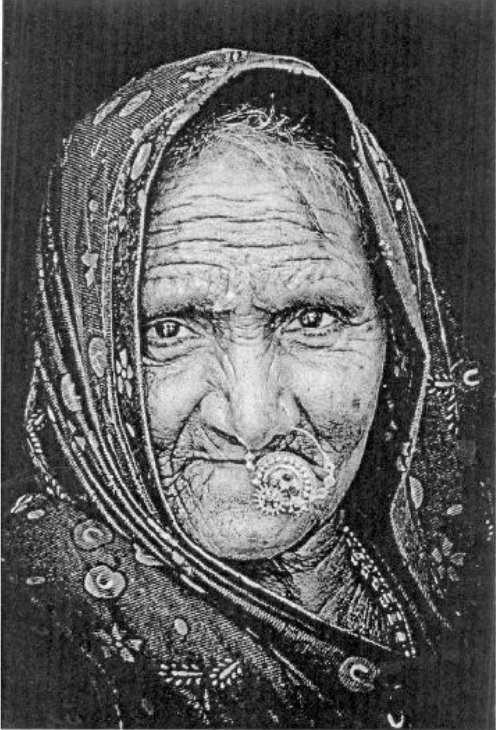
B:



C:



| | |
|----|---|
| D: |  |
|----|---|

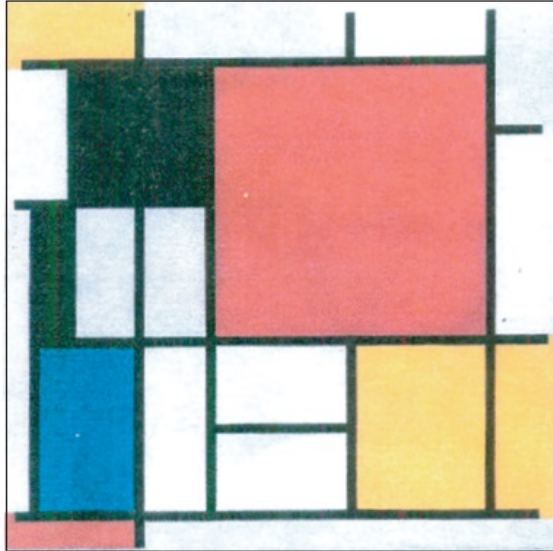
| | |
|----------------|---|
| Topic: | Drawing Test – Part III |
| Item No: | 81 |
| Question ID: | 101281 |
| Question Type: | Drawing Question |
| Question: | <p>(A) Draw a proportionate sketch of given Reference Image. Use black and white Pencil rendering technique for shading.</p> <p style="text-align: center;">OR</p> <p>(B) Decode the given reference image and create balance composition. Use black and white rendering technique.</p>  |

| | |
|----------------|-------------------------|
| Topic: | Drawing Test – Part III |
| Item No: | 82 |
| Question ID: | 101282 |
| Question Type: | Drawing Question |

(A) Draw a picture of a food street of any Town you have visited. Use colours of your choice to Render the view.

OR

(B) Given image shows painting by an Artist. Consider it as a plan of an object. Keeping same proportion of the rectangles shown in the image, give them height and develop interesting 3D composition. Use warm colour scheme to render the composition.



Question: