JEE MAIN

aglasem.com

QUESTION PAPER

2022

JOINT ENTRANCE EXAMINATION - MAIN

PREVIOUS YEAR QUESTION PAPER

Paper:	B. Planning
Set Name:	Item05
Exam Date:	30 July 2022
Exam Shift:	1
Langauge:	English

Topic:	Mathematics – Part I-Section A
Item No:	1
Question ID:	**101201**
Question Type:	MCQ
Question:	Let f and g be two twice differentiable functions in $(-2, 2)$ such that $f(-1) = f(1) = 0,\ f\left(\frac{1}{2}\right) = 1$, and $g\left(-\frac{3}{2}\right) = g\left(\frac{3}{2}\right) = g(0) = 0, g(1) = 1$ 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 :
A:	2
B:	4
C:	3
D:	5

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

B:	4
C:	2
D:	3

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:	$(p \wedge (\sim q)) \Rightarrow ((\sim p) \vee q)$

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:	$\frac{5}{3}$

aglasem.com

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

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:	$\frac{7}{2}$

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

aglasem.com

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:	$\frac{28}{5}-\frac{\pi}{2}-\sin^{-1}\left(\frac{3}{5}\right)$

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

aglasem.com

D:	$\frac{9\log_e 3 - 10}{65}$

Topic:	Mathematics – Part I-Section A
Item No:	9
Question ID:	**101209**
Question Type:	MCQ
Question:	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 :
A:	31
B:	35
C:	37
D:	61

Topic:	Mathematics – Part I-Section A
Item No:	10
Question ID:	**101210**
Question Type:	MCQ
Question:	If the mean of the distribution : <table><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> is $\frac{201}{4}$, then its variance is equals to :
A:	$\frac{3319}{19}$

aglasem.com

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

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 $f: \{1, 2, 3, 4, 5\} \to \{1, 2, 3, 4, 5, 6\}$ satisfies $f(1)+f(2)=f(3)$ is :
A:	$\frac{1}{12}$
B:	$\frac{1}{10}$
C:	$\frac{1}{6}$
D:	$\frac{1}{5}$

aglasem.com

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

B:	25
C:	50
D:	75

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 $(1+x+x^2+...+x^{49})+(1+x)(1+x+x^2+...+x^{48})+(1+x+x^2)(1+x+x^2+...+x^{47})+...+(1+x+x^2+...+x^{48})(1+x)+(1+x+x^2+...+x^{49})$ is equal to :
A:	21675
B:	22525
C:	22100
D:	21660

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

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

aglasem.com

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

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

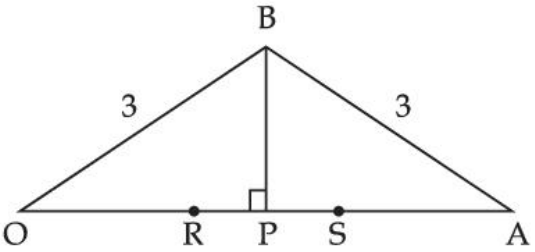
Topic:	Mathematics – Part I-Section A
Item No:	17
Question ID:	**101217**
Question Type:	MCQ
Question:	The sum of the real and imaginary parts of all the complex numbers z satisfying $\bar{z} = i\left(\mathrm{Re}(z) + z^2\right)$ is equal to :
A:	0
B:	1
C:	-1

D:	$-\frac{\sqrt{3}}{2}$

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

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

aglasem.com

Topic:	Mathematics – Part I-Section A
Item No:	20
Question ID:	**101220**
Question Type:	MCQ
Question:	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 : 
A:	$\frac{9+\sqrt{77}}{2}$
B:	$\frac{9-\sqrt{77}}{2}$
C:	$\frac{3+\sqrt{77}}{2}$
D:	$\frac{12-\sqrt{77}}{2}$

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

aglasem.com

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 $\left\|\vec{c}\right\|^2 = 66$ and $\vec{c} \cdot \left(\vec{a} + \vec{b}\right) = 12$, then the value of $\left\|\vec{b} \cdot \vec{c} - 4\right\|$ is equal to _____.

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 _____.

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 _____.

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

aglasem.com

Question:	Let the slope of the tangent at (x, y) to a curve passing through the point $(2, 4)$ be $\frac{(x+y)^2}{(x+1)(y-1)}$. If the equation of the curve is $(x+1)^{\alpha}\ (x+2y-\beta) = \alpha^5\ e^{\left(\frac{2y-\gamma x-4}{x+1}\right)}$, then the value of $\alpha+\beta+\gamma$ is equal to _____.

Topic:	Mathematics – Part I-Section B
Item No:	26
Question ID:	**101226**
Question Type:	Numeric Answer
Question:	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 _____.

Topic:	Mathematics – Part I-Section B
Item No:	27
Question ID:	**101227**
Question Type:	Numeric Answer
Question:	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 _____.

Topic:	Mathematics – Part I-Section B
Item No:	28
Question ID:	**101228**
Question Type:	Numeric Answer
Question:	Let $A = [a_{ij}]$ be 3×3 real matrix and $Adj(A) = [A_{ij}]$. 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 _____.

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

aglasem.com

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 _____.

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 _____.

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

aglasem.com

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

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

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

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

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

aglasem.com

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

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

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

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

aglasem.com

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

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

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

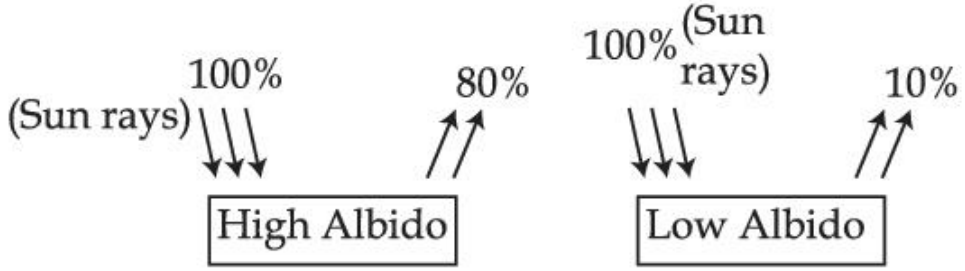
Topic:	Aptitude Test – Part II
Item No:	41

aglasem.com

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

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

eglasem.com

Topic:	Aptitude Test – Part II
Item No:	43
Question ID:	**101243**
Question Type:	MCQ
Question:	Albido refers to : 
A:	Thermal properties of external surface material

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

Topic:	Aptitude Test – Part II
Item No:	44
Question ID:	**101244**
Question Type:	MCQ
Question:	Match **List - I** with **List - II**. **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 Choose the **correct** answer from the options given below :
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:	Given below are two statements : **Statement I :** Modular Proportioning system was developed by German Architect Mics Van der Rohe. **Statement II :** It combines the aesthetic dimensions of Golden ratio & Fibonacci series. In the light of the above statements, choose the **most appropriate** answer from the options given below :

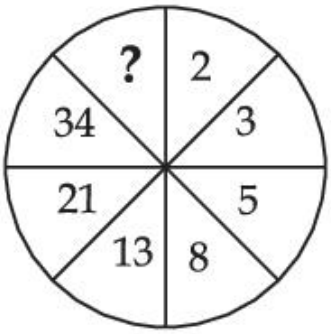
A:	Both **Statement I** and **Statement II** are correct
B:	Both **Statement I** and **Statement II** are incorrect
C:	**Statement I** is correct but **Statement II** is incorrect
D:	**Statement I** is incorrect but **Statement II** is correct

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

aglasem.com

Question:	Identify the missing number in the given image : 
A:	83
B:	48
C:	55
D:	84

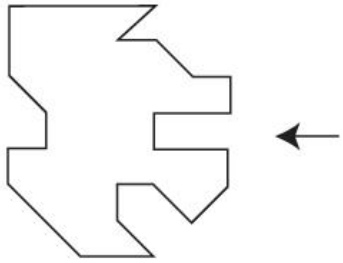
Topic:	Aptitude Test – Part II
Item No:	49
Question ID:	**101249**
Question Type:	MCQ
Question:	

aglasem.com

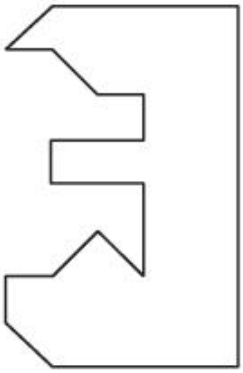
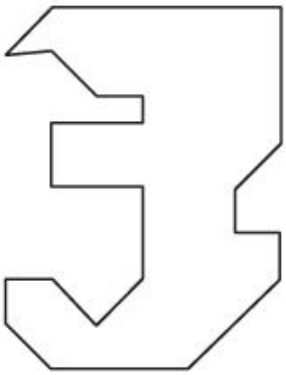
	Match **List - I** with **List - II**. **List - I** **List - II** (A)  (I) The Shard, London by Renzo Piano (B)  (II) Infosys Building, Pune by Hafeez Contractor (C)  (III) Jubilee Church, Rome by Richard Mier (D)  (IV) LIC Building, New Delhi by Charles Correa Choose the **correct** answer from the 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)

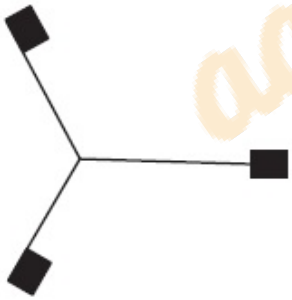
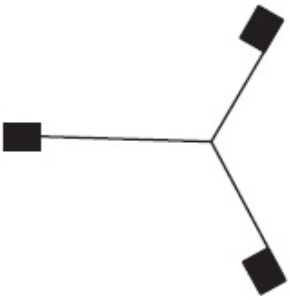
Topic:	Aptitude Test – Part II
Item No:	50
Question ID:	**101250**
Question Type:	MCQ
Question:	'Green is Red' book is written by which of the following Architect ?
A:	Revathi Kamath

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

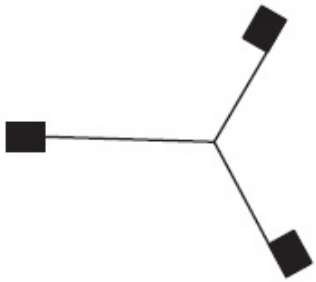
Topic:	Aptitude Test – Part II
Item No:	51
Question ID:	**101251**
Question Type:	MCQ
Question:	Given figure shows plan of an object. Identify the correct option from answer figure which will perfectly fit on right hand side of the question figure ? 
A:	
B:	

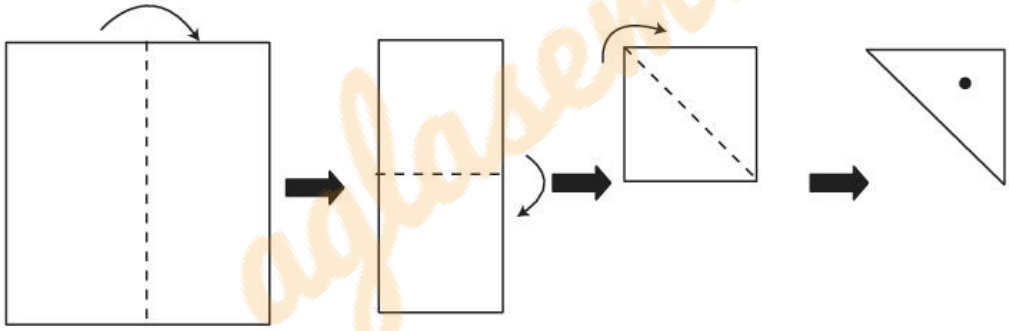
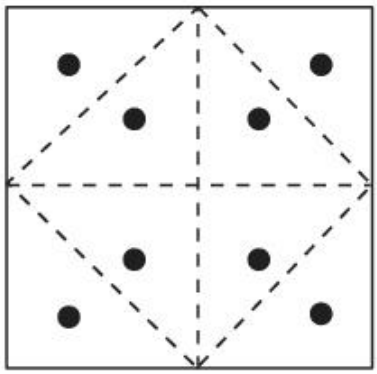
aglasem.com

C:	
D:	

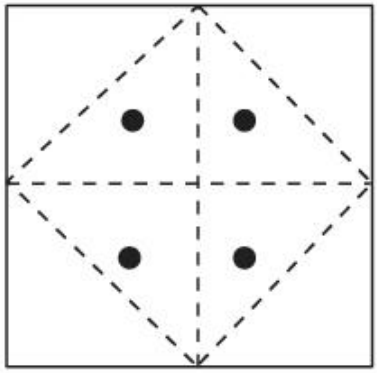
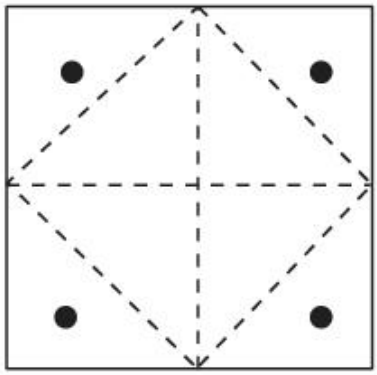
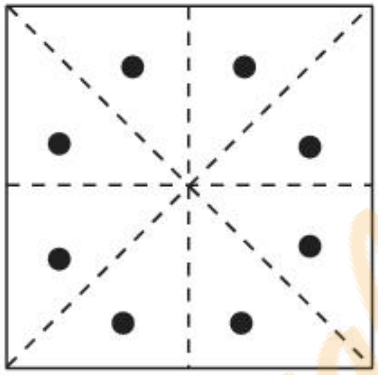
Topic:	Aptitude Test – Part II
Item No:	52
Question ID:	**101252**
Question Type:	MCQ
Question:	Find the odd figure in the problem figure given below.
A:	
B:	

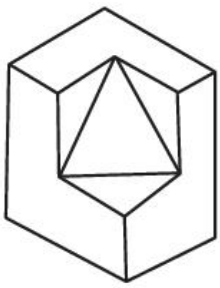
aglasem.com

C:	
D:	

Topic:	Aptitude Test – Part II
Item No:	53
Question ID:	**101253**
Question Type:	MCQ
Question:	 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 ?
A:	

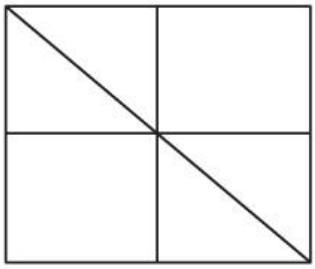
aglasem.com

B:	
C:	
D:	

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

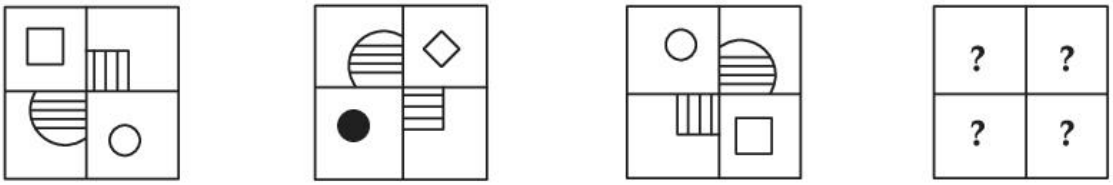
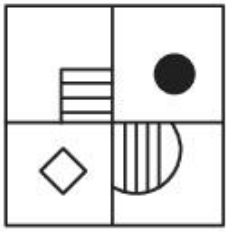
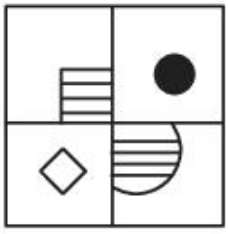
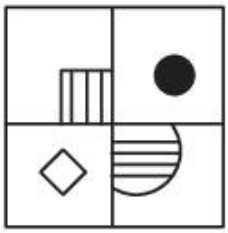
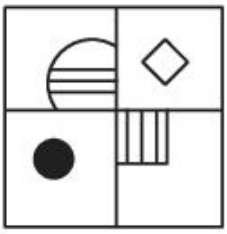
aglasem.com

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

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

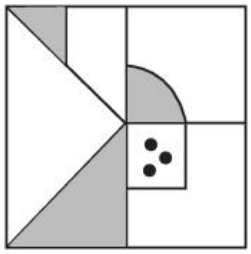
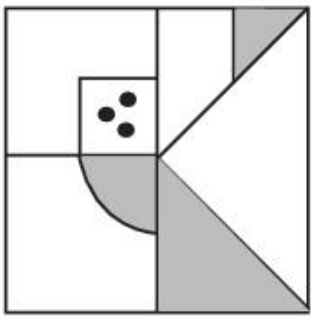
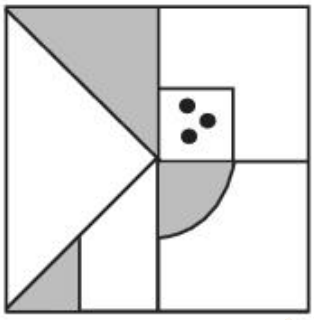
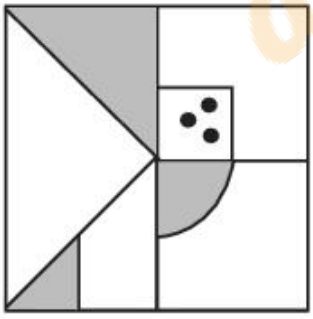
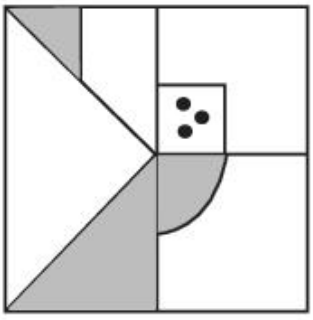
Topic:	Aptitude Test – Part II
Item No:	56
Question ID:	**101256**
Question Type:	MCQ
Question:	In a code language if 'PLEASE' is written as '573183' then 'LAPSE' will be written as _____.
A:	71853
B:	81573
C:	71583
D:	715831

aglasem.com

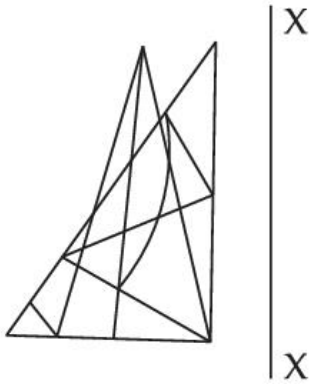
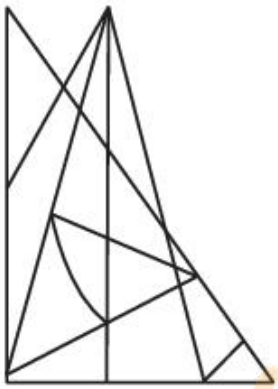
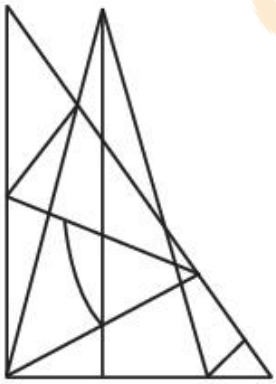
Topic:	Aptitude Test – Part II
Item No:	57
Question ID:	**101257**
Question Type:	MCQ
Question:	Which one of the answer figures will complete the sequence of the three problem figures ? 
A:	
B:	
C:	
D:	

aglasem.com

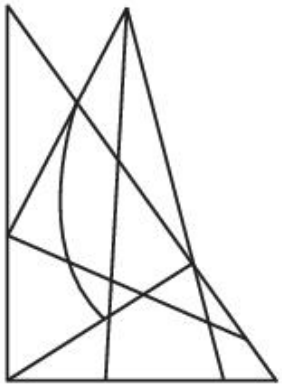
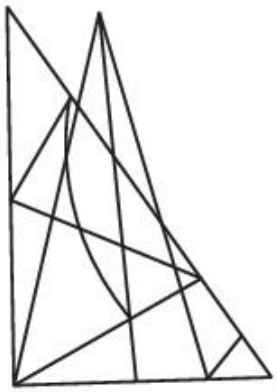
Topic:	Aptitude Test – Part II
Item No:	58
Question ID:	**101258**

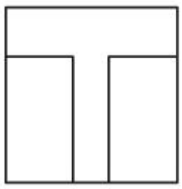
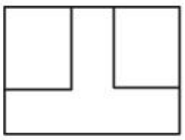
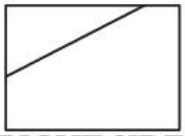
Question Type:	MCQ
Question:	Choose one out of four figures which shows the correct water image of the problem figure (X).  (X)
A:	
B:	
C:	
D:	

aglasem.com

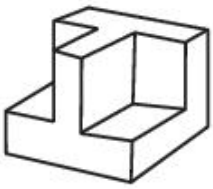
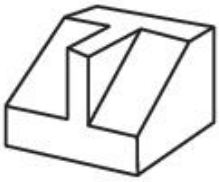
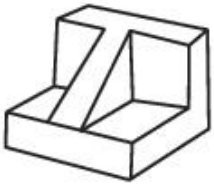
Topic:	Aptitude Test – Part II
Item No:	59
Question ID:	**101259**
Question Type:	MCQ
Question:	Which one of the answer figure is the correct mirror image of the problem figure with respect to X - X ? 
A:	
B:	

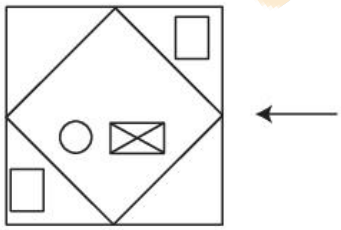
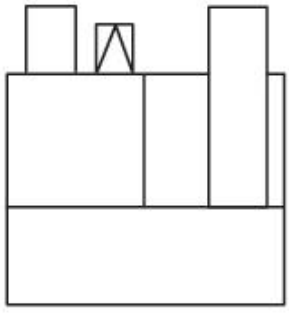
aglasem.com

C:	
D:	

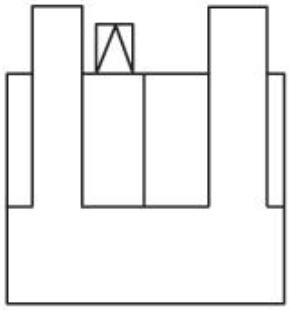
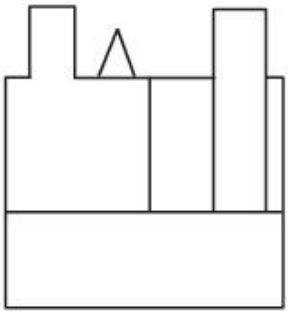
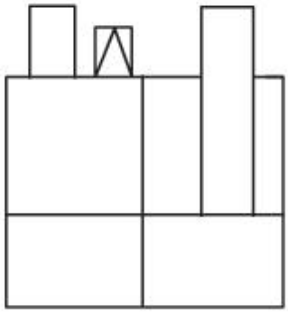
Topic:	Aptitude Test – Part II
Item No:	60
Question ID:	**101260**
Question Type:	MCQ
Question:	Question figure shows top view/plan, front elevation and right side elevation of the same object. Identify the most appropriate 3 D view of the problem figures from given answer figure.  TOP  FRONT  RIGHT SIDE

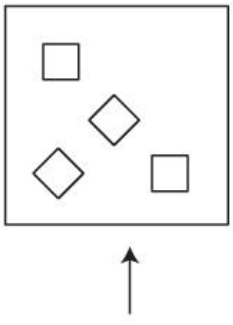
aglasem.com

A:	
B:	
C:	
D:	

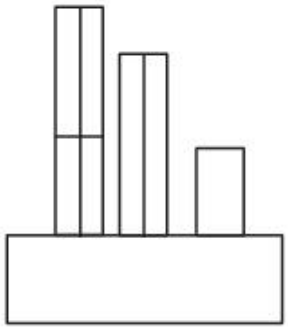
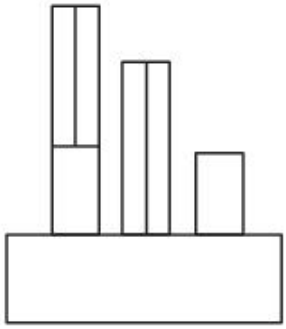
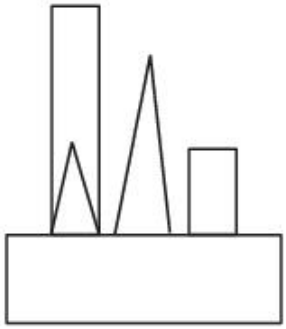
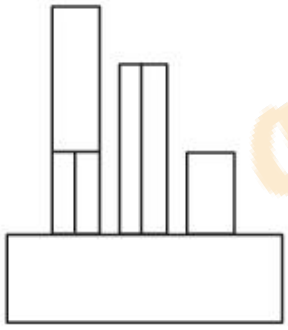
Topic:	Aptitude Test – Part II
Item No:	61
Question ID:	**101261**
Question Type:	MCQ
Question:	Question figure shows top view/plan of an object. Looking in the direction of arrow, identify the correct elevation from given answer figures. 
A:	

aglasem.com

B:	
C:	
D:	

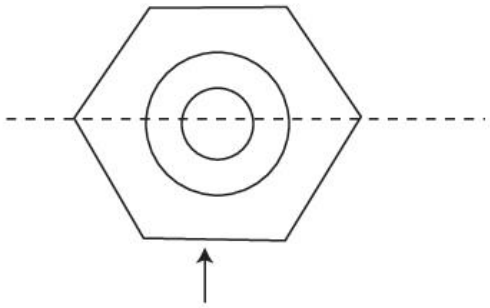
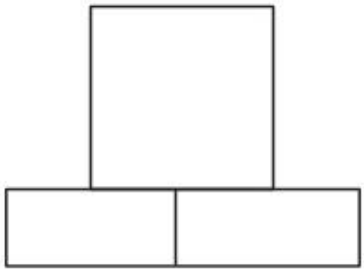
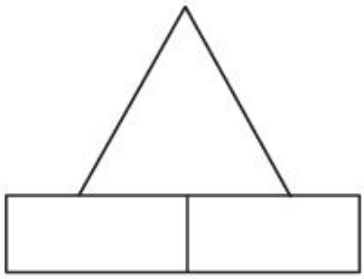
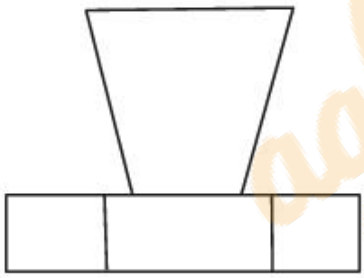
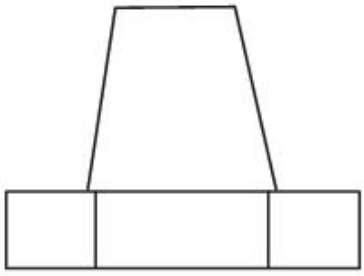
Topic:	Aptitude Test – Part II
Item No:	62
Question ID:	**101262**
Question Type:	MCQ
Question:	The problem figure shows top view/plan of an object. Looking in the direction of arrow identify the correct elevation from given answer figures. 

aglasem.com

A:	
B:	
C:	
D:	

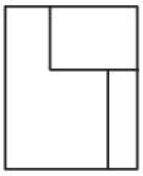
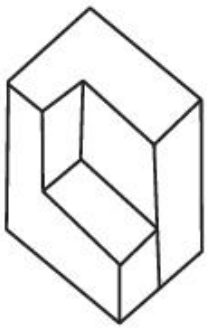
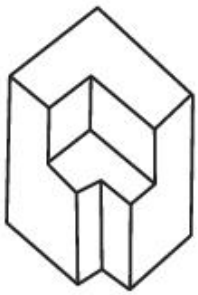
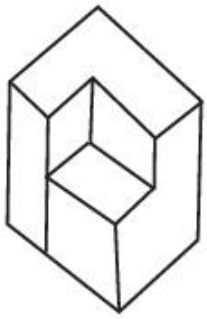
aglasem.com

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. 
A:	
B:	
C:	
D:	

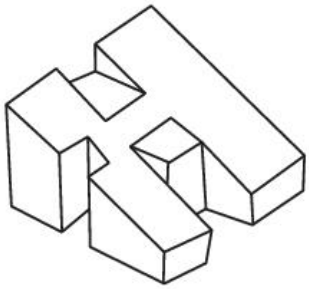
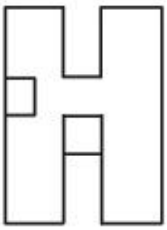
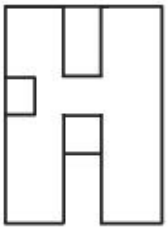
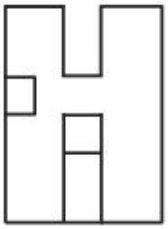
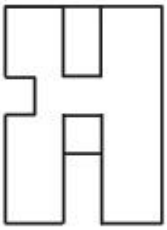
aglasem.com

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

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

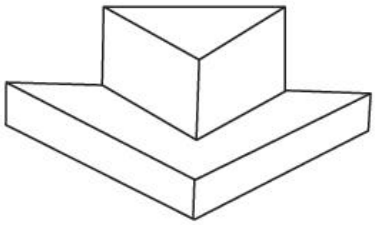
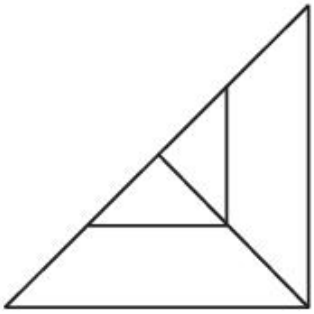
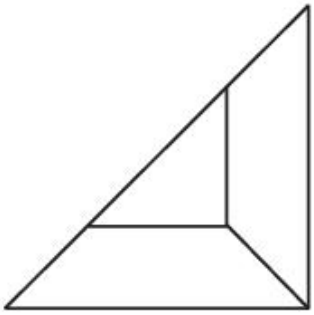
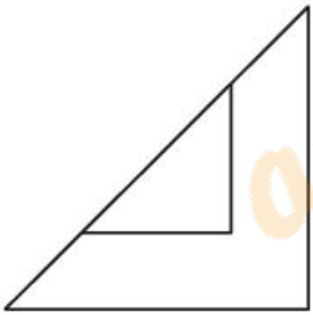
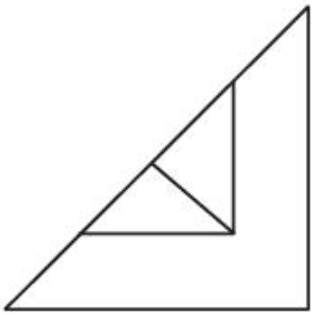
aglasem.com

Topic:	Aptitude Test – Part II
Item No:	65

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

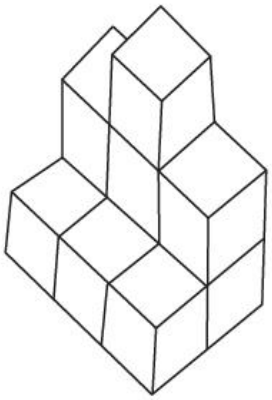
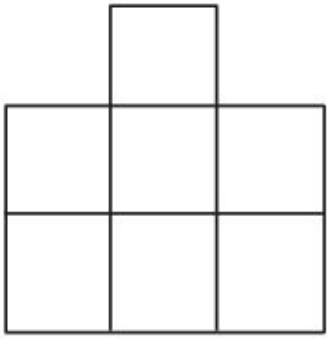
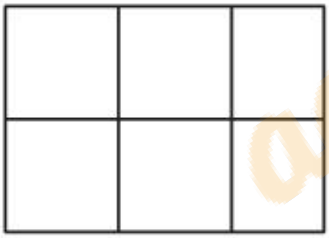
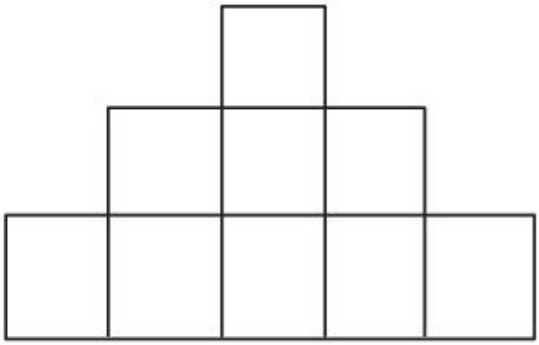
aglasem.com

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

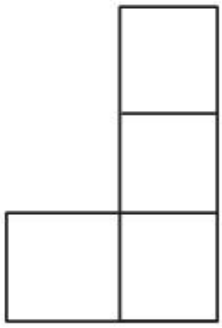
Question:	Question figure shows 3 D view of an object. Identify most appropriate top view/plan of the object from given answer figures. 
A:	
B:	
C:	
D:	

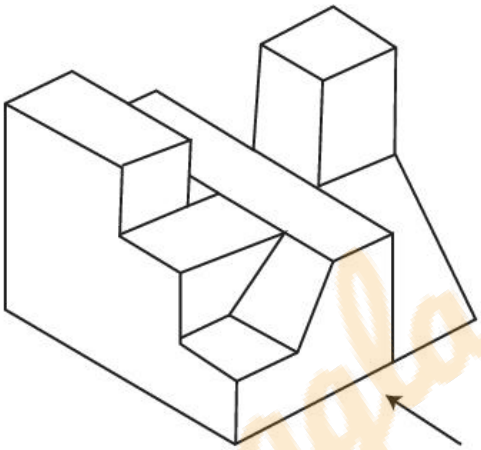
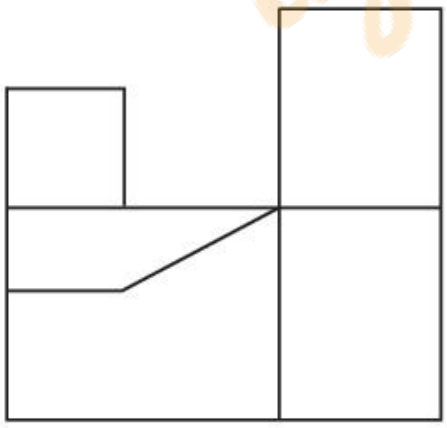
aglasem.com

Topic:	Aptitude Test – Part II
Item No:	67

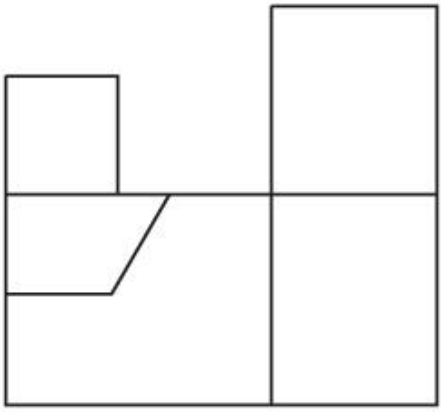
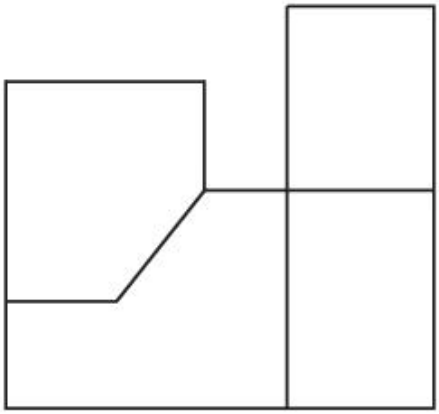
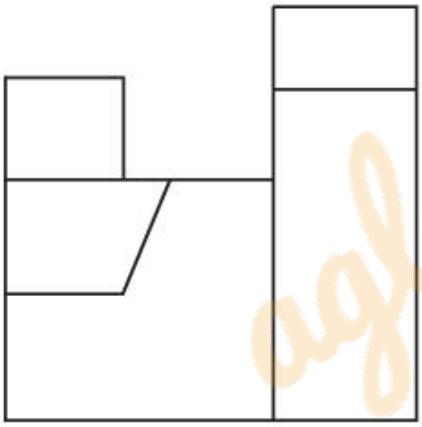
Question ID:	**101267**
Question Type:	MCQ
Question:	Question figure shows 3 D view of an object. Identify most appropriate top view/plan of the given object from given answer figures. 
A:	
B:	
C:	

aglasem.com

D:	

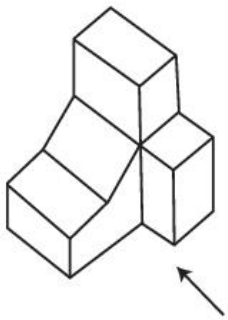
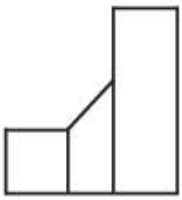
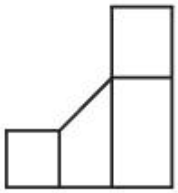
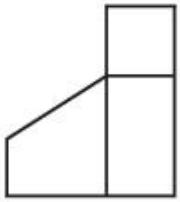
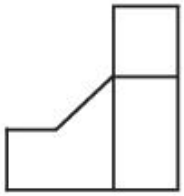
Topic:	Aptitude Test – Part II
Item No:	68
Question ID:	**101268**
Question Type:	MCQ
Question:	The question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow, from the given answer figures. 
A:	

aglasem.com

B:	
C:	
D:	

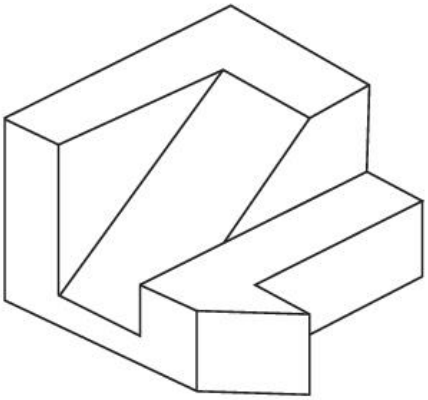
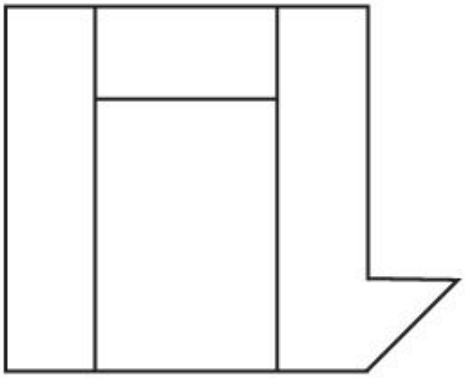
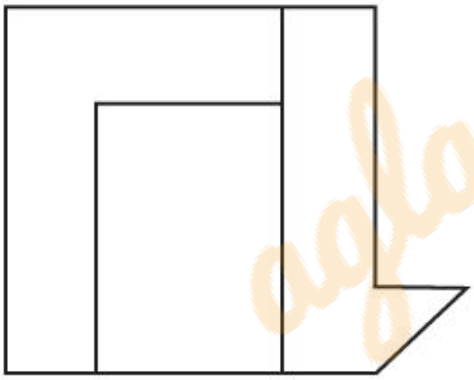
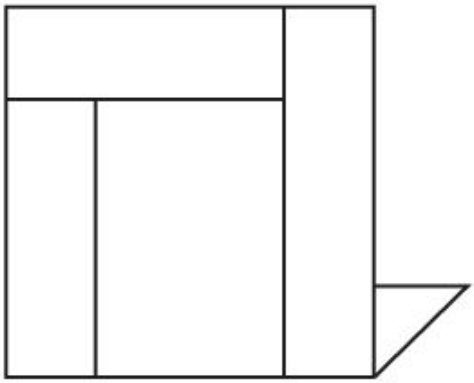
aglasem.com

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

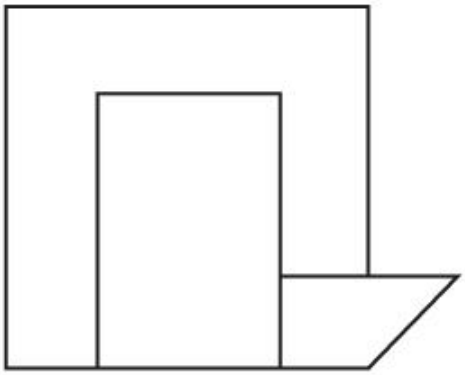
Question:	Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow from the given answer figures. 
A:	
B:	
C:	
D:	

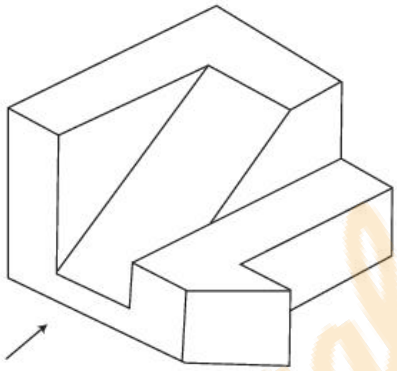
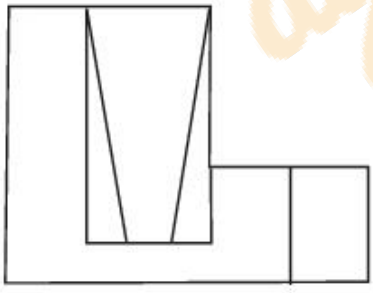
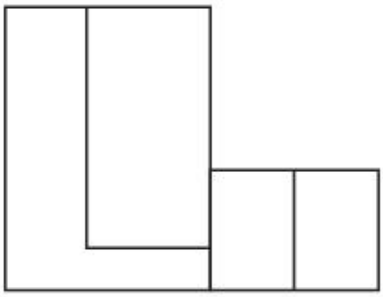
aglasem.com

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

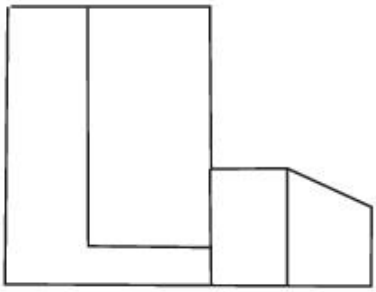
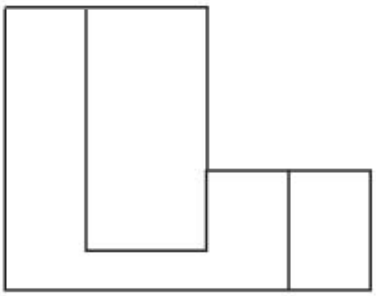
Question:	The question figure shows 3 D view of an object. Identify the most appropriate top view/ plan of given 3 D object from given answer figures. 
A:	
B:	
C:	

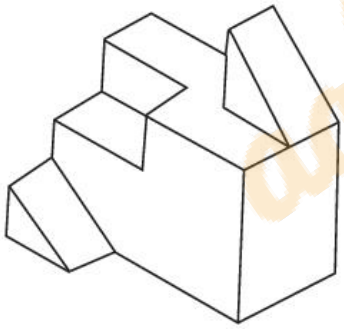
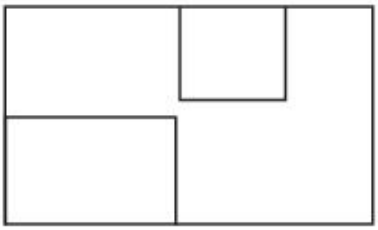
aglasem.com

D:	

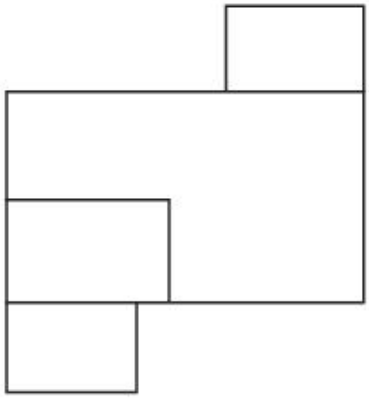
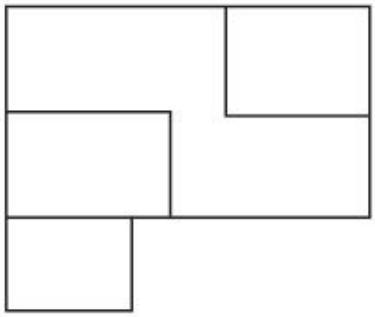
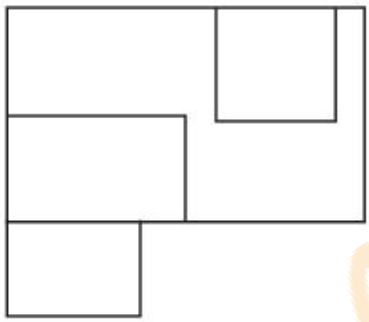
Topic:	Aptitude Test – Part II
Item No:	71
Question ID:	**101271**
Question Type:	MCQ
Question:	Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object. Looking in the direction of an arrow, from the given answer figures. 
A:	
B:	

aglasem.com

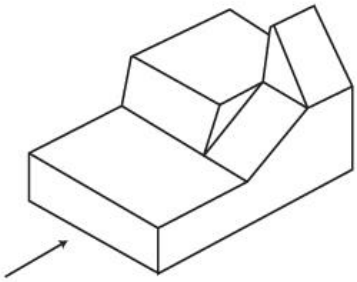
C:	
D:	

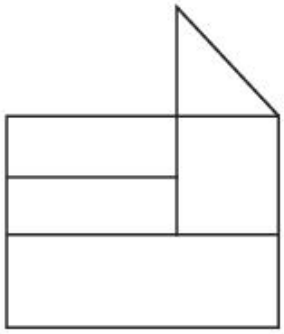
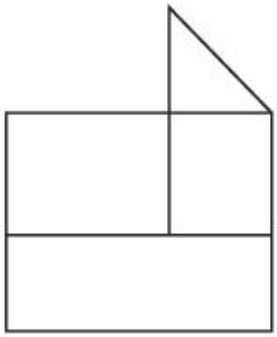
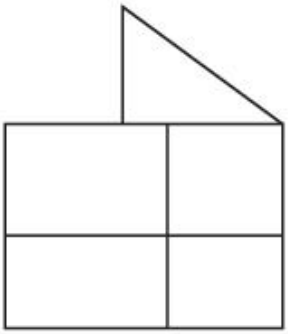
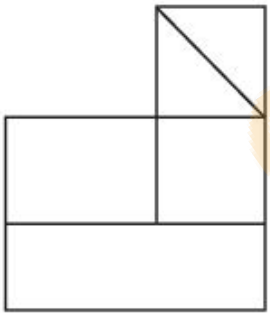
Topic:	Aptitude Test – Part II
Item No:	72
Question ID:	**101272**
Question Type:	MCQ
Question:	Question figure shows 3 D view of an object. Identify most appropriate top view/plan of the object from given answer figures. 
A:	

aglasem.com

B:	
C:	
D:	

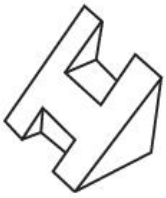
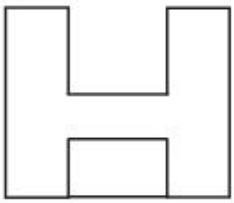
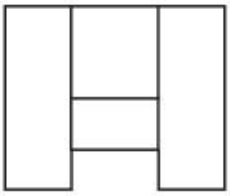
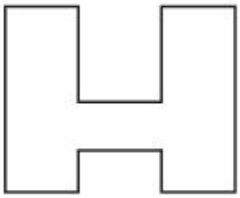
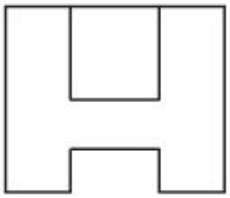
aglasem.com

Topic:	Aptitude Test – Part II
Item No:	73
Question ID:	**101273**
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. 

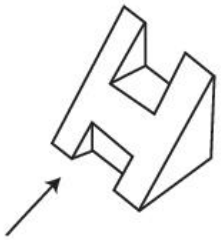
A:	
B:	
C:	
D:	

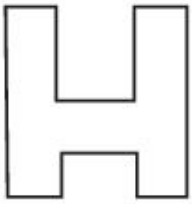
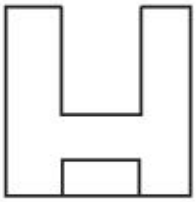
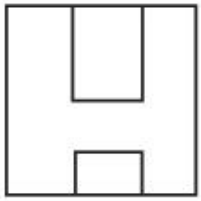
aglasem.com

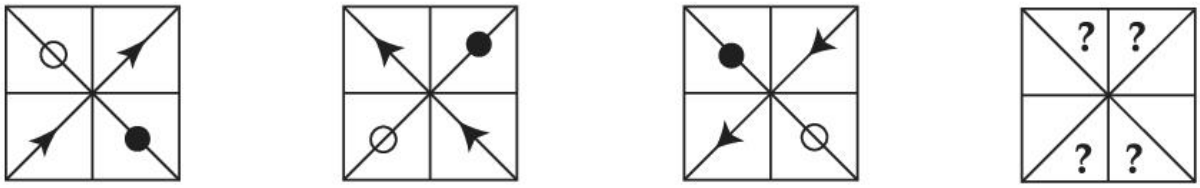
Topic:	Aptitude Test – Part II
Item No:	74
Question ID:	**101274**
Question Type:	MCQ

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

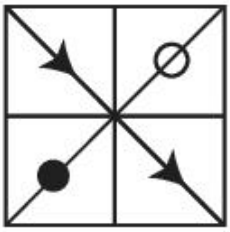
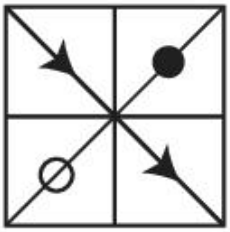
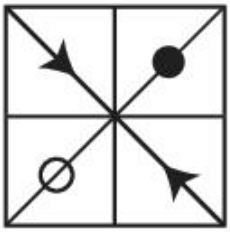
aglasem.com

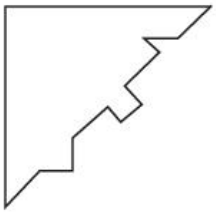
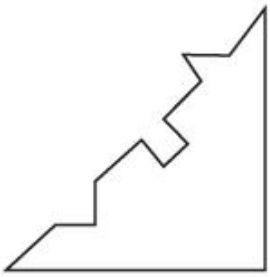
Topic:	Aptitude Test – Part II
Item No:	75
Question ID:	**101275**
Question Type:	MCQ
Question:	Question figure shows 3 D view of an object. Identify the most appropriate elevation of the given 3 D object, looking in the direction of an arrow from the given answer figures. 

A:	
B:	
C:	
D:	

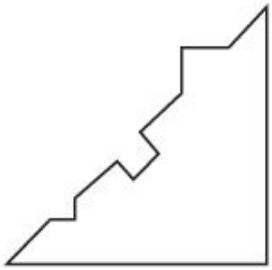
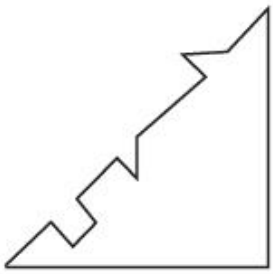
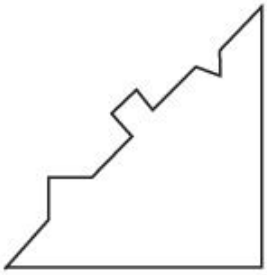
Topic:	Aptitude Test – Part II
Item No:	76
Question ID:	**101276**
Question Type:	MCQ
Question:	In the problem figure, 'A' & 'B' have certain relation. Identify which one of the answer figures will have similar relation between 'C' & 'D' ?  (A) (B) (C) (D)
A:	

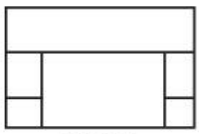
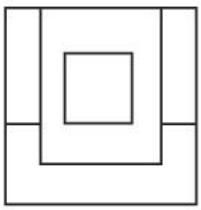
aglasem.com

B:	
C:	
D:	

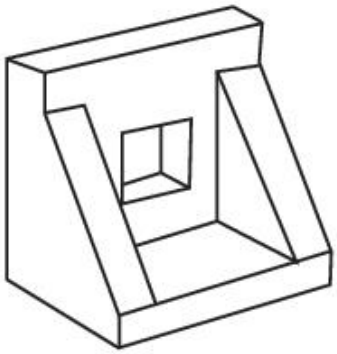
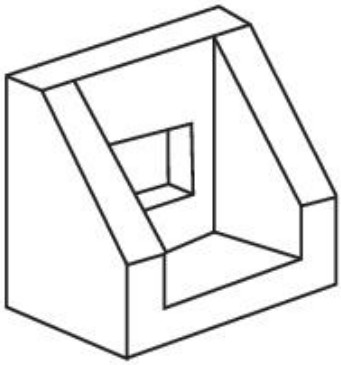
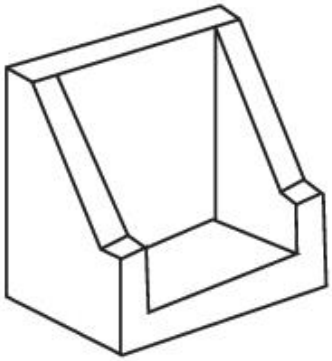
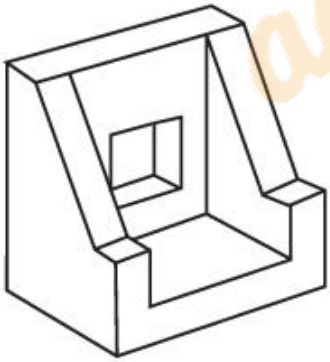
Topic:	Aptitude Test – Part II
Item No:	77
Question ID:	**101277**
Question Type:	MCQ
Question:	Which of the following answer figures will interlock diagonally into the question figure ? 
A:	

aglasem.com

B:	
C:	
D:	

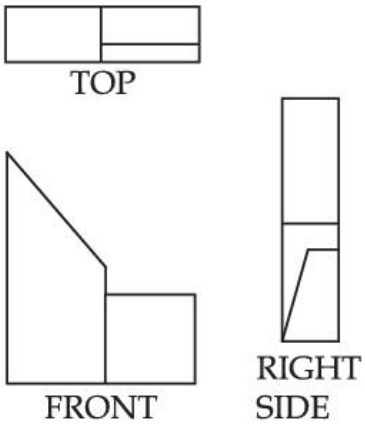
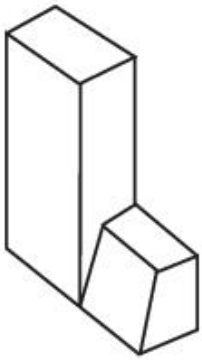
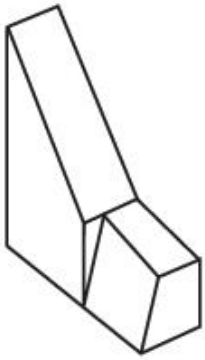
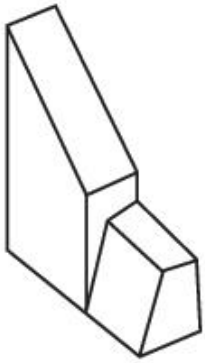
Topic:	Aptitude Test – Part II
Item No:	78
Question ID:	**101278**
Question Type:	MCQ
Question:	Question figure shows top view/plan, front elevation & right side elevation of the same object. Identify most appropriate 3 D view of the object from given answer figures.  TOP  FRONT  RIGHT SIDE

aglasem.com

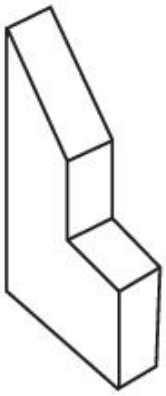
A:	
B:	
C:	
D:	

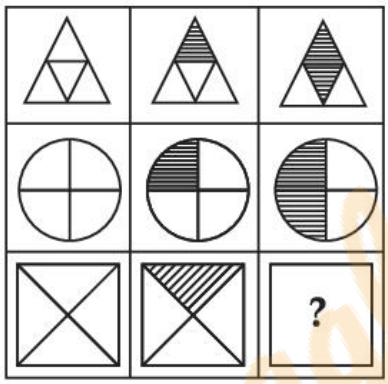
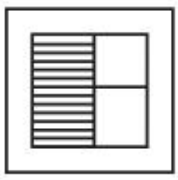
aglasem.com

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

Question:	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. 
A:	
B:	
C:	

aglasem.com

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:	

aglasem.com

D:	

Topic:	Planning – Part III
Item No:	83
Question ID:	**101283**
Question Type:	MCQ
Question:	Name of first town planning legislation enacted in India.
A:	Bombay Town Planning Act
B:	Madras Town Planning Act
C:	Orissa Town Planning and Improvement Act
D:	Kanpur Urban Area (development) Act

Topic:	Planning – Part III
Item No:	84
Question ID:	**101284**
Question Type:	MCQ
Question:	Match the following : (A) Eri — (I) Ladakh (B) Ahar Pynes — (II) Nagaland (C) Johads — (III) Bihar (D) Zings — (IV) Rajasthan (E) Zabo — (V) Tamilnadu (F) Bawaris — (VI) Odisha
A:	(A) - (IV), (B) - (II), (C) - (I), (D) - (VI), (E) - (III), (F) - (V)
B:	(A) - (V), (B) - (III), (C) - (VI), (D) - (I), (E) - (II), (F) - (IV)
C:	(A) - (III), (B) - (I), (C) - (VI), (D) - (II), (E) - (IV), (F) - (V)

aglasem.com

D:	(A) - (V), (B) - (IV), (C) - (II), (D) - (VI), (E) - (I), (F) - (III)

Topic:	Planning – Part III
Item No:	85
Question ID:	**101285**
Question Type:	MCQ
Question:	Arrange the development of following type of modern industries in India with its Chronological order. (A) Textile mill (B) Jute mill (C) Iron and steel factory
A:	(B) → (A) → (C)
B:	(C) → (A) → (B)
C:	(A) → (B) → (C)
D:	(B) → (C) → (A)

Topic:	Planning – Part III
Item No:	86
Question ID:	**101286**
Question Type:	MCQ
Question:	The distance of points 'A' and 'B' on actual ground is 250 m. What will be the measurement between the points 'A' and 'B' on map drawn on scale 1:1000 ?
A:	25 cm
B:	2.5 cm
C:	25 m
D:	25 mm

Topic:	Planning – Part III
Item No:	87
Question ID:	**101287**

aglasem.com

Question Type:	MCQ
Question:	How many sustainable dimensions were adopted by United Nations ?
A:	4
B:	5
C:	3
D:	6

Topic:	Planning – Part III
Item No:	88
Question ID:	**101288**
Question Type:	MCQ
Question:	What is the full form of 'URDPFI', guidelines ? By Ministry of Housing and Urban Affairs, India :
A:	Urban and Rural Development Plans Formulation and Implementation.
B:	Urban and Rural Design Plans Formulation and Implementation.
C:	Urban and Regional Design Plans Formulation and Implementation.
D:	Urban and Regional Development Plans Formulation and Implementation.

Topic:	Planning – Part III
Item No:	89
Question ID:	**101289**
Question Type:	MCQ
Question:	Name of famous Peruvian Historic sanctuary enlisted in 'UNESCO' WORLD HERITAGE site.
A:	Machu Picchu
B:	Lima
C:	Tacna
D:	Cusco

Topic:	Planning – Part III
Item No:	90
Question ID:	**101290**
Question Type:	MCQ
Question:	Which of the following does not enter in GDP ?
A:	National Defense
B:	Life expectancy
C:	Public service
D:	Public education

Topic:	Planning – Part III
Item No:	91
Question ID:	**101291**
Question Type:	MCQ
Question:	Identify the most appropriate set that relates to physical Infrastructure.
A:	Housing, education, health.
B:	Water supply, solid waste management, electricity.
C:	Petrol pumps, milk booths, LPG.
D:	Communication, parks, fire station.

Topic:	Planning – Part III
Item No:	92
Question ID:	**101292**
Question Type:	MCQ

Question:	Which one of the following is not correct pair ? **List - I** **List - II** (A) Mediterranean Region (I) Pleasant Climate (B) Ganga Plains (II) Minerals (C) Osaka (III) Industrial Region (D) Katanga Zambia (IV) Copper mines
A:	(A) - (I)
B:	(B) - (II)
C:	(C) - (III)
D:	(D) - (IV)

Topic:	Planning – Part III
Item No:	93
Question ID:	**101293**
Question Type:	MCQ
Question:	Primary sector of economic activity is associated with :
A:	Real estate
B:	Agriculture
C:	Construction
D:	Education

Topic:	Planning – Part III
Item No:	94
Question ID:	**101294**
Question Type:	MCQ
Question:	The term 'Necropolis' refers to :
A:	Small size of city
B:	The New Metropolis

aglasem.com

C:	The dead City
D:	The City in space

Topic:	Planning – Part III
Item No:	95
Question ID:	**101295**
Question Type:	MCQ
Question:	A Cul - de - sac is a street where :
A:	Only two wheelers are permitted
B:	Thorough traffic is discouraged
C:	Pedestraians are not permitted
D:	Vehicles are permitted to move in one direction only

Topic:	Planning – Part III
Item No:	96
Question ID:	**101296**
Question Type:	MCQ
Question:	Which year Human Development Report was published for the first time in India ?
A:	1981
B:	1990
C:	1870
D:	1980

Topic:	Planning – Part III
Item No:	97
Question ID:	**101297**
Question Type:	MCQ

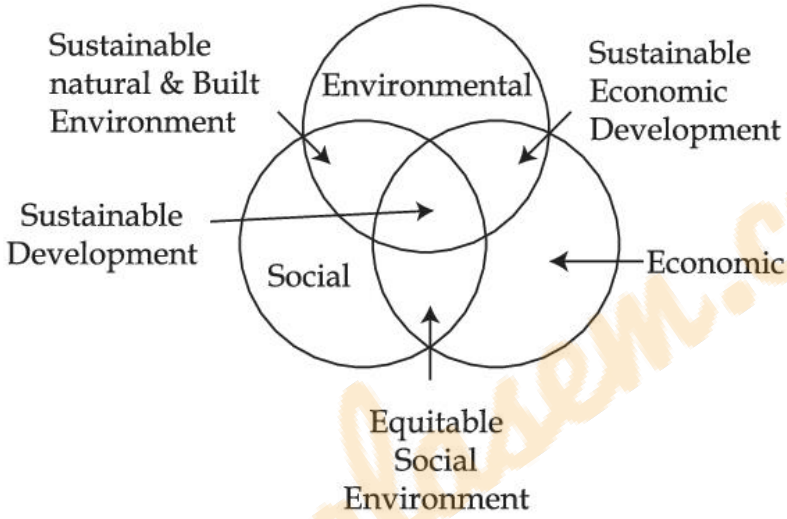
aglasem.com

Question:	A City with 2 million population has the notified Urban area of 250 sq.km. One-fourth of the total population of the city resides in slums within four percent of notified Urban area. Find the correct answer.
A:	The density of population in slum is 5,000 persons per Sq.km.
B:	The density of population in slums is 50,000 persons per Sq.km.
C:	The density of population in slums is 10,000 persons per Sq.km.
D:	The density of population in slum is 1,000 persons per Sq.km.

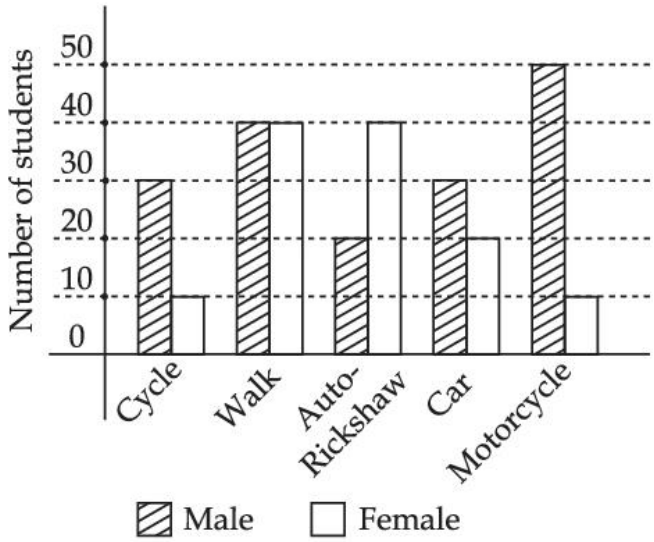
Topic:	Planning – Part III
Item No:	98
Question ID:	**101298**
Question Type:	MCQ
Question:	Town is classified as 'Mono functional' when :
A:	≥60% workers are in single sector
B:	≥40% workers are in single sector
C:	≥30% workers are in single sector
D:	≥50% workers are in single sector

Topic:	Planning – Part III
Item No:	99
Question ID:	**101299**
Question Type:	MCQ
Question:	Identify the incorrect pair for Biomedical Waste Management in Hospitals. **List - I** **List - II** (A) Red (I) Outdated and discarded medicines (B) Blue (II) Glass bottles and articles (C) Yellow (III) Infections waste, bandages (D) Black (IV) Needles without syringes, blads shapes
A:	A - I

B:	B - II
C:	C - III
D:	D - IV

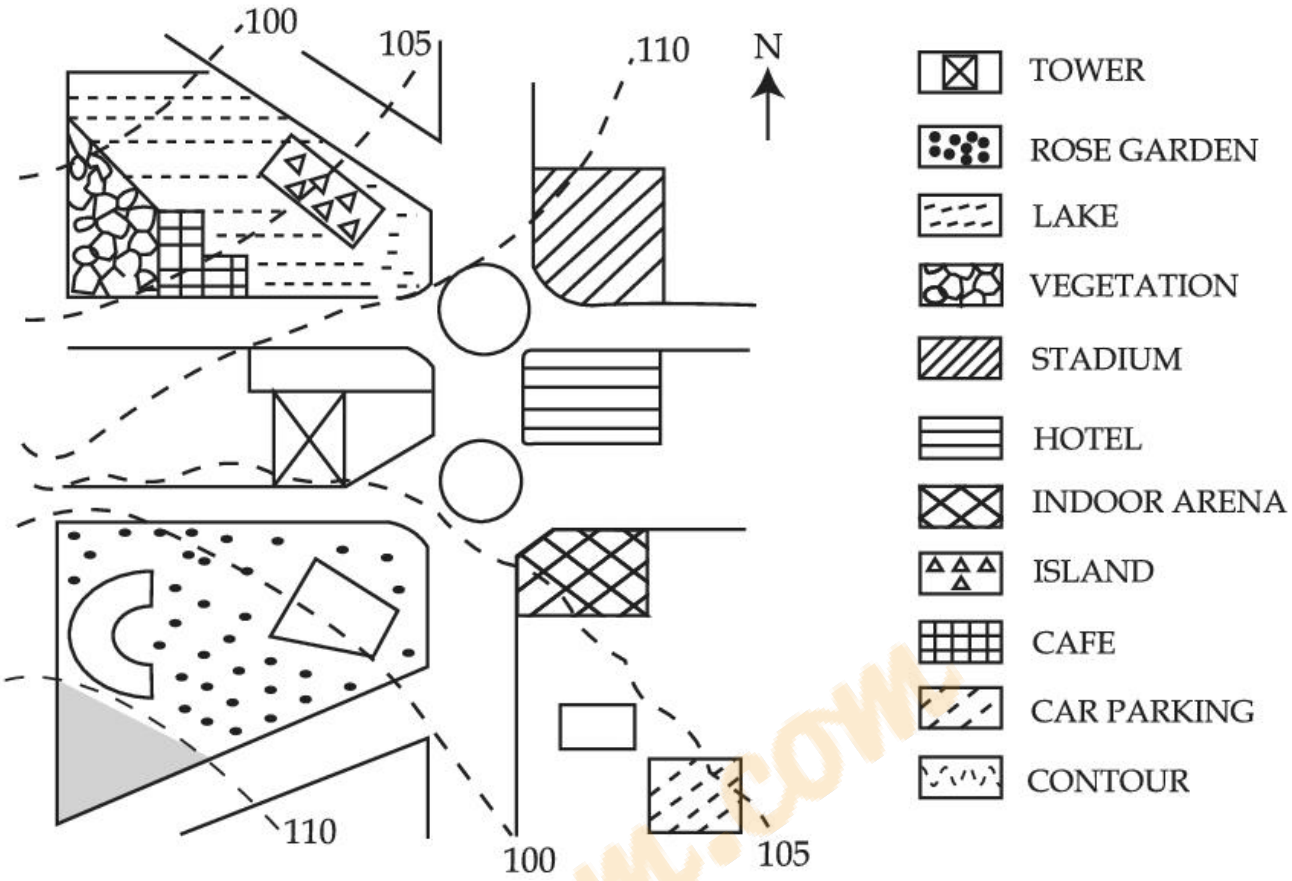
Topic:	Planning – Part III
Item No:	100
Question ID:	**101300**
Question Type:	MCQ
Question:	Which aspect is in the social dimension but not in environmental dimension from given Venn diagram. 
A:	Sustainable economic development
B:	Sustainable development
C:	Equitable social environment
D:	Sustainable Natural and built environment

Topic:	Planning – Part III
Item No:	101
Question ID:	**101301**
Question Type:	MCQ

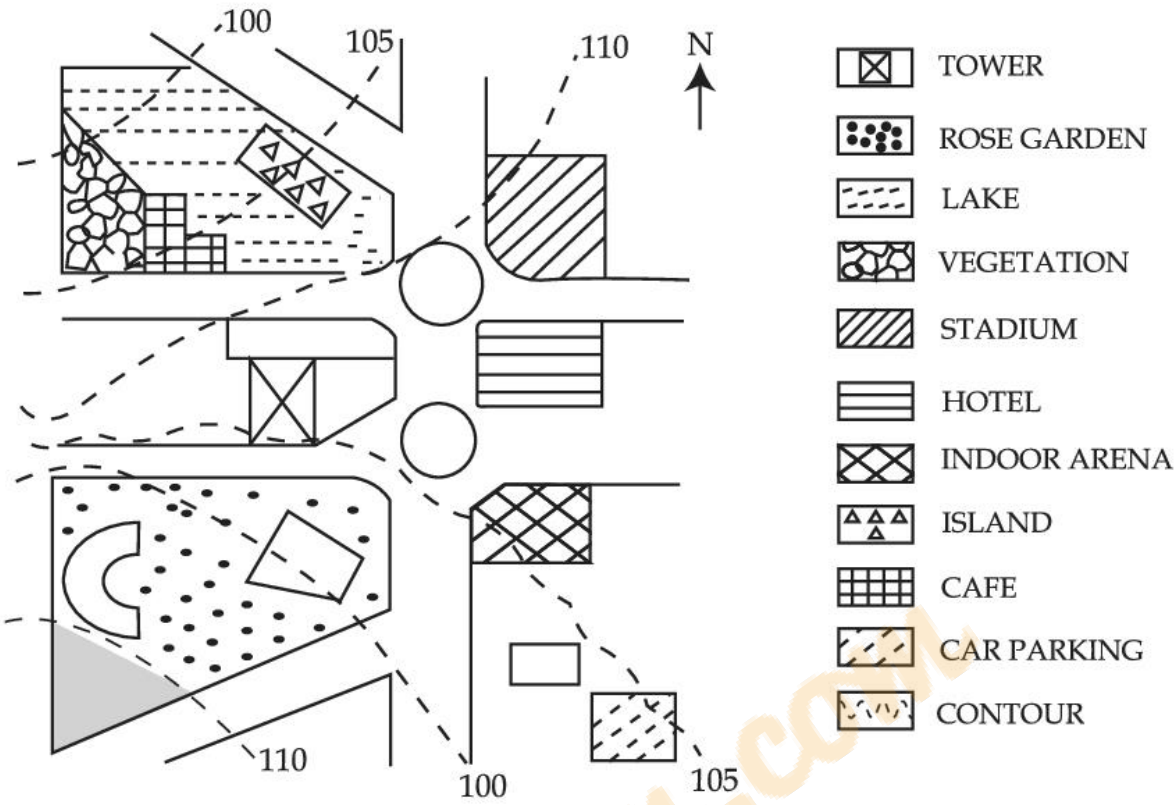
Question:	The diagram shows the number of male and female students using different modes of transport to commute to their school which of the following statements is/are correct ?  (A) 50% of all those who use cycles to their school are females (B) More males compared to females use auto-rikshaws for commuting to school. (C) More females compared to males use cycles for commuting to school. (D) The highest share of students prefer walk for commuting to school.
A:	Both (D) and (A)
B:	Only (D)
C:	Both (B) and (C)
D:	Only (A)

Topic:	Planning – Part III
Item No:	102
Question ID:	**101302**
Question Type:	MCQ

aglasem.com

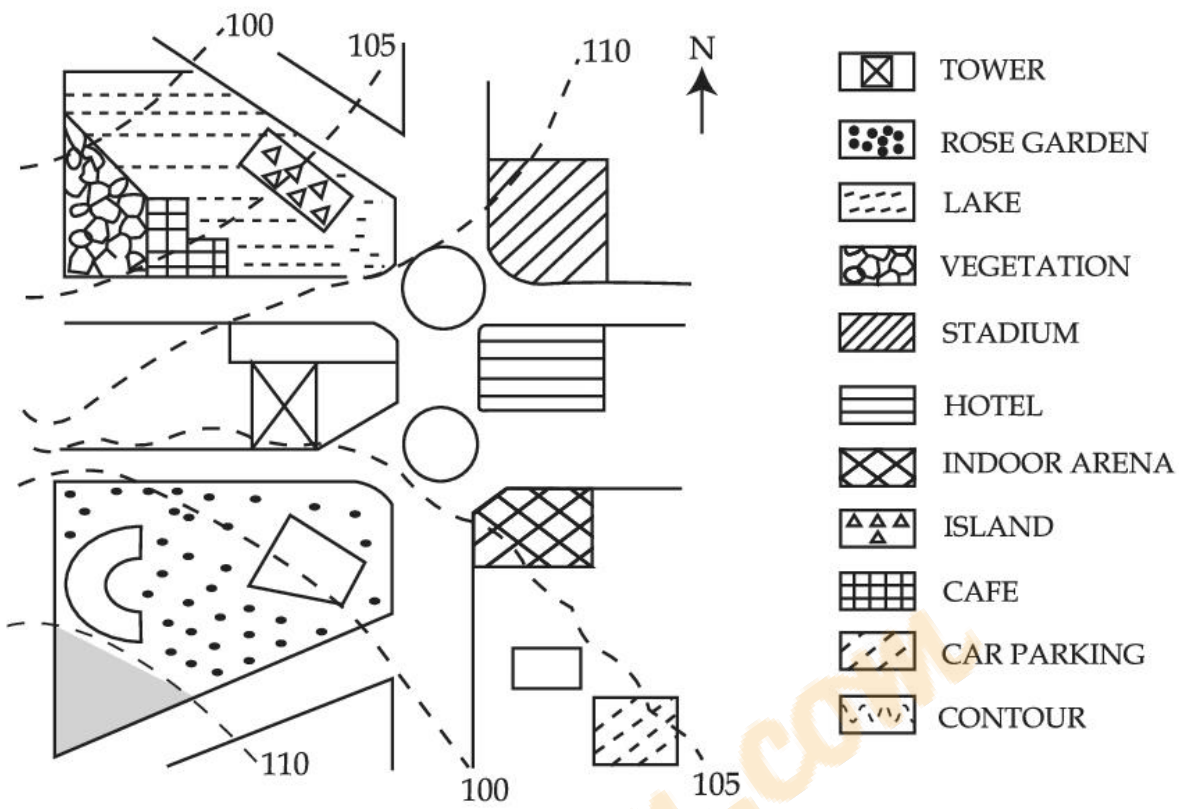
Question:	In the given map, the island is located at a level. 
A:	5 m higher than indoor arena
B:	5 m higher than car parking
C:	Same level as that of indoor arena
D:	5 m lower than cafe

Topic:	Planning – Part III
Item No:	103
Question ID:	**101303**
Question Type:	MCQ

Question:	In the given diagram, for a person to travel from cafe to the Rose garden, one will have to move in _____ direction. 
A:	East
B:	North east
C:	West
D:	South west

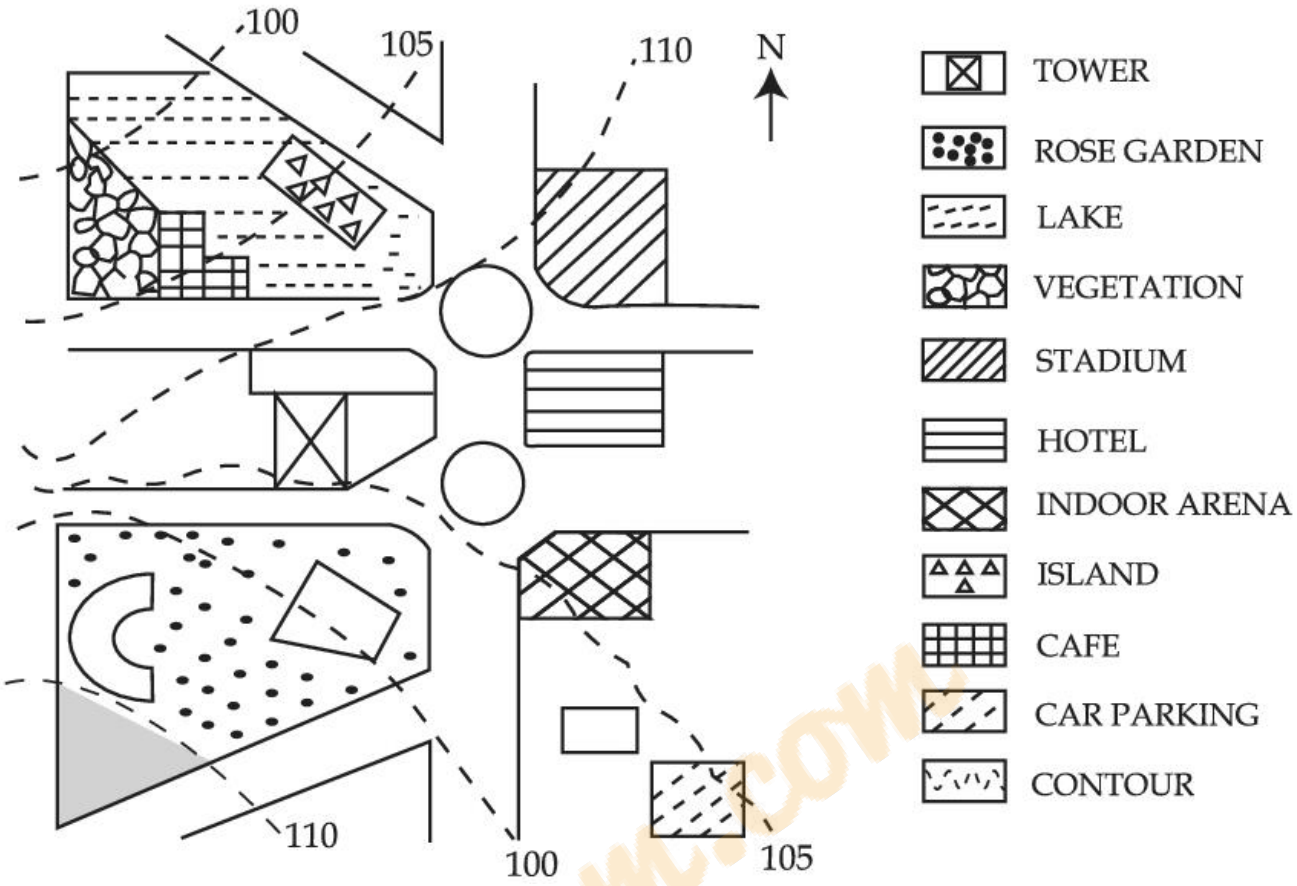
Topic:	Planning – Part III
Item No:	104
Question ID:	**101304**
Question Type:	MCQ

aglasem.com

Question:	In the given diagram for a person to travel from island to car parking one has to move in _____ direction. 
A:	East
B:	West
C:	North-east
D:	South-east

Topic:	Planning – Part III
Item No:	105
Question ID:	**101305**
Question Type:	MCQ

aglasem.com

Question:	With reference to the diagram, choose the correct statement. 
A:	Slope of land on which stadium located is flatter than the level of land on which car parking is located.
B:	Level of land on which cafe located is steeper than the level of land on which stadium is located.
C:	Level of land on which pond located is the same as the level of the lake.
D:	Level of the rose garden is same as the level of the tower.

Topic:	Planning – Part III
Item No:	106
Question ID:	**101306**
Question Type:	MCQ

Question:	Today one-forth of the mankind resides in inadequate housing characterised by lack of ventilation, temporary building materials, lack of infrastructure and poor environmental quality. Numerous authors have defined such housing as slums and have loaded it with evil cannotations such as 'Squatter'. illiteracy and higher incidence of crime. A typical response towards them is to demolish or remove from the urban fabric. In India slums are viewed as informal housing transition arising due to inability of formal channels to provide shelter supply to meet housing demand due to ever increasing migrant work force. Which is arriving in urban areas in demand of better job opportunities. Slum redevelopment programs, National Housing and Habitat policy and affordable housing policy are some of the results of shift in housing paradigm to fulfil demand of shelters. The nearest meaning of 'Squatter' in this paragraph would be.
A:	Poverty
B:	Unlawfully occupied
C:	Destitute
D:	Delinquency

Topic:	Planning – Part III
Item No:	107
Question ID:	**101307**
Question Type:	MCQ

aglasem.com

Question:	Today one forth of the mankind resides in inadequate housing characterised by lack of ventilation, temporary building materials, lack of infrastructure and poor environmental quality. Numerous authors have defined such housing as slums and have loaded it with evil cannotations such as 'Squatter', illiteracy and higher incidence of crime. A typical response towards them is to demolish or remove from the urban fabric. In India, slums are viewed as informal housing transition arising due to inability of formal channels to provide shelter supply to meet housing demand due to ever increasing migrant workforce which is arriving in urban areas in demand of better job opportunities. Slum redevelopment programs, National Housing and Habitat policy and affordable housing policy are some of the results of shift in housing paradigm to fulfil demand of shelters. What conclusions can be drawn from this paragraph ? (A) The perspective towards slums determine interventions. (B) Incidence of slums is a global phenomena. (C) Slums are result of formal system failure. (D) Slums should be removed from the city. (E) Slums are integral part of the city.
A:	(B), (D) only
B:	(A), (C), (E) only
C:	(A), (B), (C), (E) only
D:	(B), (C), (D) only

aglasem.com