



JEE MAIN

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# QUESTION PAPER

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JOINT ENTRANCE EXAMINATION - MAIN  
PREVIOUS YEAR QUESTION PAPER

Passage:Passage\_English

Q:1  
Topic Name:Mathematics – Part I-Section A

ItemCode:100401

Question: The set  $\left\{\theta : \frac{\pi}{2} \leq \theta \leq \frac{3\pi}{2}, \theta \neq \pi, \cot^2\theta + 3 \operatorname{cosec}\theta + 3 < 0\right\}$  is equal to :

- |   |                                                        |
|---|--------------------------------------------------------|
| A | $\left(\frac{\pi}{2}, \frac{4\pi}{3}\right) - \{\pi\}$ |
| B | $\left(\frac{7\pi}{6}, \frac{3\pi}{2}\right)$          |
| C | $\left(\frac{4\pi}{3}, \frac{3\pi}{2}\right)$          |
| D | $\left(\pi, \frac{7\pi}{6}\right)$                     |

Q:2  
Topic Name:Mathematics – Part I-Section A

ItemCode:100402

Let  $f : \mathbf{R} - \{4\} \rightarrow \mathbf{R} - \{1\}$  and  $g : \mathbf{R} \rightarrow \mathbf{R}$  be defined by  $f(x) = \frac{x}{x-4}$  and  $g(x) = 4x + 3$ .

Question: If  $(f \circ g)^{-1}(\alpha) = 0$  for some  $\alpha$ , then  $\frac{g(\alpha)}{f(\alpha)}$  is equal to :

- |   |                 |
|---|-----------------|
| A | 21              |
| B | -21             |
| C | $\frac{-1}{21}$ |
| D | 7               |

Q:3  
Topic Name:Mathematics – Part I-Section A

ItemCode:100403

Question: The sum of the modulus of all the roots of the equation  $(x-1)(x+1)(2x+1)(2x-3) = 15$  is :

- |   |                |
|---|----------------|
| A | $\frac{55}{8}$ |
| B | $\frac{9}{2}$  |

|   |                |
|---|----------------|
| C | $\frac{11}{2}$ |
| D | $\frac{23}{2}$ |

Q:4

Topic Name:Mathematics – Part I-Section A

ItemCode:100404

The locus of complex number  $z = x + iy$ ,  $z \neq -2i$ , satisfying  $\left| \frac{z - 3i}{z + 2i} \right| = \frac{\sqrt{2}}{\sqrt{3}}$  is :

Question:

|   |                                                   |
|---|---------------------------------------------------|
| A | a straight line parallel to the $x$ -axis         |
| B | an ellipse with eccentricity $\sqrt{\frac{2}{3}}$ |
| C | a circle with centre $(0, -13)$                   |
| D | a circle with radius $5\sqrt{6}$                  |

Q:5

Topic Name:Mathematics – Part I-Section A

ItemCode:100405

For two  $3 \times 3$  matrices A and B,  $AB = BA$ . Consider the following two statements :  
 (S1) If  $A^3$  is skew-symmetric and  $B^2$  is symmetric, then  $(AB)^6$  is symmetric.  
 (S2) If  $A^3$  is symmetric and  $B^2$  is skew-symmetric, then  $(AB)^6$  is skew-symmetric.

Question:

|   |                              |
|---|------------------------------|
| A | Both (S1) and (S2) are true  |
| B | Only (S1) is true            |
| C | Only (S2) is true            |
| D | Both (S1) and (S2) are false |

Q:6

Topic Name:Mathematics – Part I-Section A

ItemCode:100406

Let  $\lambda, \mu \in \mathbf{R}$ . For which one of the following ordered pairs  $(\lambda, \mu)$ , the system  

$$3x - y + z = 1$$

$$2x - 3y + \lambda z = \mu$$

$$x + y + 3z = -1$$

Question: has no solution ?

|   |           |
|---|-----------|
| A | $(-4, 1)$ |
| B | $(4, 3)$  |
| C | $(-4, 3)$ |
| D | $(4, 1)$  |

Q:7

ItemCode:100407

There are 21 terms in a sequence S of which the first 11 terms form an A.P. with common difference 2 and the last 11 terms are in a G.P. with common ratio  $\frac{1}{2}$ . If the middle terms of

both A.P. and G.P. are same, then the 11<sup>th</sup> term of S is :

A  $\frac{320}{31}$

B  $\frac{160}{31}$

C  $\frac{160}{63}$

D  $\frac{64}{33}$

Q:8

Topic Name: Mathematics – Part I-Section A

ItemCode:100408

Question:  $\lim_{x \rightarrow \infty} x \log_e \left( e \left( 1 + \frac{1}{x} \right)^{1-x} \right)$  is equal to :

A  $\frac{1}{2}$

B  $\frac{2}{3}$

C  $\frac{3}{2}$

D 1

Q:9

Topic Name: Mathematics – Part I-Section A

ItemCode:100409

Question: If  $y\sqrt{x^2 + 1} = \log_e (\sqrt{x^2 + 1} - x)$ , then :

A  $(x^2 + 1)y' + xy - 1 = 0$

B  $(x^2 + 1)y'' + 3xy' + y = 0$

C  $(x^2 + 1)y'' + xy' - y = 0$

D  $(x^2 + 1)y' + 2xy + 1 = 0$

Q:10

Topic Name: Mathematics – Part I-Section A

ItemCode:100410

Consider the following statements

$$(S1) \quad 1 \cdot 2 + 2 \cdot 3 + 3 \cdot 4 + \dots + n \cdot (n+1) \leq \frac{n(n^2 + 40)}{10}$$

$$(S2) \quad 1 \cdot 3 + 3 \cdot 5 + 5 \cdot 7 + \dots + (2n-1) \cdot (2n+1) \leq \frac{4n^2(2n+3)}{5}$$

Question: Then, for any  $n \in \mathbb{N}$ ,

- |   |                              |
|---|------------------------------|
| A | both (S1) and (S2) are true  |
| B | both (S1) and (S2) are false |
| C | only (S1) is true            |
| D | only (S2) is true            |

Q:11

Topic Name: Mathematics – Part I-Section A

ItemCode:100411

The value of the integral  $\int_0^1 \tan^{-1}(1-x+x^2) dx$  is :

Question:

- |   |                                        |
|---|----------------------------------------|
| A | $\frac{\pi}{4} - \frac{1}{2} \log_e 2$ |
| B | $\frac{\pi}{2} - \log_e 2$             |
| C | $\log_e 2$                             |
| D | $\pi + \log_e 2$                       |

Q:12

Topic Name: Mathematics – Part I-Section A

ItemCode:100412

Let  $\vec{a} = x\hat{i} + \hat{j} + \hat{k}$ ,  $\vec{b} = y\hat{i} + 2\hat{k}$  and  $\vec{c} = 2\hat{j} + y\hat{k}$  be three vectors such that projection of  $\vec{a}$  on  $\vec{b}$  is  $\frac{4}{\sqrt{5}}$  and projection of  $\vec{a}$  on  $\vec{c}$  is  $\frac{3}{\sqrt{5}}$ . If  $|\vec{c}| < 3$  and  $|\vec{a}| < 6$ , then  $\vec{a} \cdot (\vec{b} \times \vec{c})$  is equal to :

Question:

- |   |    |
|---|----|
| A | -7 |
| B | -5 |
| C | 9  |
| D | 16 |

Q:13

Topic Name: Mathematics – Part I-Section A

ItemCode:100413

A rod of length 11 units moves in such a way that its ends A and B are on the lines  $2x - 3y = 0$  and  $3x + 2y = 0$ , respectively. The mid-point of the rod lies on a :

Question:

A circle of radius 11 units

B circle of radius  $\frac{11}{2}$  units

C parabola whose latus rectum is of length 11 units

D parabola whose latus rectum is of length  $\frac{11}{2}$  units

Q:14

Topic Name:Mathematics – Part I-Section A

ItemCode:100414

Consider the following differential equation

$$\frac{dy}{dx} = \frac{e^{2y} + x^2}{x^3}, x > 0.$$

Question: If  $y(e) = 1$ , then  $y(1)$  is equal to :

A  $-\frac{3}{2}$

B  $\log_e(\sqrt{3})$

C  $\log_e\left(\frac{1}{\sqrt{5}}\right)$

D  $\log_e\left(\frac{1}{\sqrt{3}}\right)$

Q:15

Topic Name:Mathematics – Part I-Section A

ItemCode:100415

A light ray is thrown from the point  $(2, 0)$ . After reflecting from  $y$ -axis at  $(0, 2)$ , if this ray divides the line segment of the line  $x + y = 3$  in the first quadrant in the ratio  $m : n$  ( $m < n$ ),

Question: then  $\frac{2n - m}{2n + m}$  is equal to :

A  $\frac{9}{11}$

B  $\frac{11}{13}$

C  $\frac{5}{7}$

D  $\frac{2}{3}$

Q:16  
Topic Name:Mathematics – Part I-Section A

ItemCode:100416  
The distance between the two points on the hyperbola  $x^2 - y^2 = 60$ , where the tangents are parallel to the line  $y = 2x$ , is :

- Question:
- A  $6\sqrt{10}$
- B 20
- C 10
- D  $10\sqrt{2}$

Q:17  
Topic Name:Mathematics – Part I-Section A

ItemCode:100417  
Let Q be the mirror image of the point (2, 3, 4) with respect to the plane  $2x - y + z + 4 = 0$ . Then Q lies on :

- Question:
- A  $x - y + 3z + 5 = 0$
- B  $x + 2y + 3z - 10 = 0$
- C  $\frac{x - 6}{5} = y - 8 = \frac{z - 5}{2}$
- D  $\frac{x + 6}{5} = y + 8 = \frac{z + 5}{3}$

Q:18  
Topic Name:Mathematics – Part I-Section A

ItemCode:100418  
For some  $p \in \mathbf{R}$ , let the line  $(L_1) \frac{x - 1}{2} = \frac{y - 1}{p} = \frac{z - 2}{2}$  intersect the line  $L_2$  passing through the point A(1, 2, 0) and parallel to the plane  $x + y + z = 1$ . If  $L_1$  lies on the plane  $2x + 3y - 4z = 3$ , then the line  $L_2$  is :

- Question:
- A  $\frac{8x - 5}{-3} = \frac{4y - 3}{-5} = \frac{8z - 13}{13}$
- B  $\frac{4x - 5}{1} = \frac{2y - 3}{-1} = \frac{4z - 13}{13}$
- C  $\frac{8x - 5}{3} = \frac{4y - 3}{5} = \frac{4z - 13}{-13}$
- D  $\frac{8x + 5}{-13} = \frac{4y + 3}{-11} = \frac{8z - 13}{13}$

Q:19

Topic Name: Mathematics – Part I-Section A

ItemCode:100419

Let the mean of the data 2, 6, 12, 8, k, 20 be 12. If  $m$  and  $\sigma^2$  are the mean deviation about the median and the variance of the data respectively, then  $\frac{\sigma^2}{m}$  is equal to :

Question:

- A 9
- B 10
- C 12
- D 18

Q:20

Topic Name: Mathematics – Part I-Section A

ItemCode:100420

The negation of  $(p \rightarrow \sim p) \wedge ((\sim q) \rightarrow q)$  is equivalent to :

Question:

- A  $(\sim p) \rightarrow q$
- B  $p \rightarrow q$
- C  $(\sim p) \rightarrow (\sim q)$
- D  $p \rightarrow \sim q$

Q:21

Topic Name: Mathematics – Part I-Section B

ItemCode:100421

Let  $\binom{n}{k}$  denote the number of ways of choosing k objects out of n distinct objects.

If  $\sum_{k=1}^{20} \binom{20}{k} \binom{20}{k-1} (-1)^k + \sum_{k=0}^{20} \binom{20}{k}^2 (-1)^k + \sum_{k=0}^{21} \binom{21}{k}^2 (-1)^k = p \binom{19}{10}$ , then  $p^2 - p$  is equal to

Question: \_\_\_\_\_.

Q:22

Topic Name: Mathematics – Part I-Section B

ItemCode:100422

If the largest area of a rectangle inscribed in an equilateral triangle, such that a side of the rectangle is on a side of the triangle, is  $\frac{25}{2}\sqrt{3}$  unit<sup>2</sup>, then the perimeter (in units) of the triangle

Question: is \_\_\_\_\_.

Q:23

Topic Name: Mathematics – Part I-Section B

ItemCode:100423

Let  $[t]$  denote the greatest integer less than or equal to  $t$ . The number of points where the

function.  $f(x) = \begin{cases} x^2 + 2x + 2 & \text{if } x \leq -1 \\ \left[ x^2 + \frac{1}{4}x + \frac{5}{3} \right] & \text{if } -1 < x < 1 \\ x^2 - 2x + 4 & \text{if } x \geq 1 \end{cases}$  is not continuous, is \_\_\_\_\_.

Question:

Q:24

Topic Name: Mathematics – Part I-Section B

ItemCode:100424

The number of 6-digit numbers formed by using all the digits 1, 3, 4, 5, 6, 8 and divisible by

11, is \_\_\_\_\_.

Question:

Q:25

Topic Name: Mathematics – Part I-Section B

ItemCode:100425

Let two elements  $(a, b), (c, d)$  be selected randomly from the Set

$S = \{(m, n) : m, n \in \{1, 2, \dots, 10\}, m \neq n\}$ .

If the probability that  $a + b = c + d$  is  $p$ , then  $(45)^2 p$  is equal to :

Question:

Q:26

Topic Name: Mathematics – Part I-Section B

ItemCode:100426

If the length of a common tangent to  $x^2 + y^2 = 16$  and  $9x^2 + 25y^2 = 225$ , between the points of contact is  $L$ , then  $32L^2$  is equal to \_\_\_\_\_.

Question:

Q:27

Topic Name: Mathematics – Part I-Section B

ItemCode:100427

Let  $f_n(x) = \sum_{j=1}^n \cot^{-1} (1 - (x+j) + (x+j)^2)$  for all  $x \geq 0$ . Then  $\sum_{j=1}^{10} (j^2 + 1) \sin^2(f_j(0))$  is equal to

Question: \_\_\_\_\_.

Q:28

Topic Name: Mathematics – Part I-Section B

ItemCode:100428

If the area enclosed by the curves  $y = 2x^2 - 1$  and  $|x| = 3 - 2y$  is  $A$ , then  $12 A$  is equal to

Question: \_\_\_\_\_.

Q:29

Topic Name: Mathematics – Part I-Section B

ItemCode:100429

If the roots of the equation  $x^2 + (\sqrt{3} - \sqrt{2} - 1)x + (\sqrt{3} - 2 - \sqrt{6} + 2\sqrt{2}) = 0$  are

$\tan \frac{A}{2}$  and  $\tan \frac{B}{2}$ ,  $0 < A, B < \pi$ , then the value of  $12 \sec^2 4(A + B)$  is equal to \_\_\_\_\_.

Question:

ItemCode:100430

The value of  $2 \int_{-1}^4 (|x - 3| + [x]) \, dx$ , where  $[x]$  denotes the greatest integer less than or equal to  $x$ , is \_\_\_\_\_.

Question:  $x$ , is \_\_\_\_\_.

ItemCode:100431

Which of the following architect is famous for working with bricks and mud ?

Question:

|   |                       |
|---|-----------------------|
| A | Zaha Hadid            |
| B | Laurie Baker          |
| C | Christopher Benninger |
| D | Frank Loyd Wright     |

ItemCode:100432

An office building was built with of 10 floors. It's ground floor is having height of 4 m including slab thickness and all other floors are of 3500 mm height including slab thickness.

Question: What is the total height of the building in meters :

|   |             |
|---|-------------|
| A | 35 meters   |
| B | 31.5 meters |
| C | 35.5 meters |
| D | 39 meters   |

ItemCode:100433

Match List-I with List-II :

| List-I |                                        | List-II |                     |
|--------|----------------------------------------|---------|---------------------|
| (A)    | Amer fort                              | (I)     | Chand Minar         |
| (B)    | Agra fort                              | (II)    | Intricate Jali Work |
| (C)    | Qutub minar                            | (III)   | Pietra Dura Work    |
| (D)    | Daulatabad fort                        | (IV)    | Tapering Tower      |
| A      | (A)-(IV), (B)-(II), (C)-(I), (D)-(III) |         |                     |
| B      | (A)-(I), (B)-(III), (C)-(IV), (D)-(II) |         |                     |
| C      | (A)-(III), (B)-(II), (C)-(I), (D)-(IV) |         |                     |
| D      | (A)-(II), (B)-(III), (C)-(IV), (D)-(I) |         |                     |

Q:34

Topic Name: Aptitude Test – Part II

ItemCode: 100434

Question: Name the three primary colours in the colour wheel :

- A Red, Orange and Yellow
- B Green, Orange and Yellow
- C Red, Yellow and Blue
- D Blue, Purple and Orange

Q:35

Topic Name: Aptitude Test – Part II

ItemCode: 100435

Question: Ajanta and Ellora in Aurangabad district of Maharashtra state are famous for \_\_\_\_\_.

- A Intricate carvings of Hindu temples
- B Mountains
- C Rock cut caves
- D Forest

Q:36

Topic Name: Aptitude Test – Part II

ItemCode: 100436

Match the Honorific given to the freedom fighters in **List-I** with their names in **List-II** :

**List-I**

**List-II**

- |                       |                           |
|-----------------------|---------------------------|
| (A) Netaji            | (I) Vallabhbhai Patel     |
| (B) Punjab Kesari     | (II) Subhash Chandra Bose |
| (C) Iron man of India | (III) Nana Patil          |
| (D) Krantisinh        | (IV) Lala Lajpat Rai      |

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

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

Q:37

Topic Name: Aptitude Test – Part II

ItemCode: 100437

Question: Harappa and Mohenjodaro of Indus Valley are situated in which country as per current world map ?

- A Pakistan
- B Afganistan

|   |             |
|---|-------------|
| C | Bangla Desh |
| D | Nepal       |

Q:38  
Topic Name:Aptitude Test – Part II

|                                                                                                               |                            |
|---------------------------------------------------------------------------------------------------------------|----------------------------|
| ItemCode:100438                                                                                               |                            |
| Which of the following famous architect has designed the university of Agriculture and science at Bangalore ? |                            |
| Question:                                                                                                     |                            |
| A                                                                                                             | Achyut Purshottam Kanvinde |
| B                                                                                                             | Sanjay Puri                |
| C                                                                                                             | Laurie Baker               |
| D                                                                                                             | Anant Raje                 |

Q:39  
Topic Name:Aptitude Test – Part II

|                                                                                                                                                                    |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ItemCode:100439                                                                                                                                                    |       |
| If the distance between two points on a map measures 10 cm. If the scale of given map is 1 : 500, what is the actual distance between these two points on ground : |       |
| Question:                                                                                                                                                          |       |
| A                                                                                                                                                                  | 50 cm |
| B                                                                                                                                                                  | 25 cm |
| C                                                                                                                                                                  | 50 m  |
| D                                                                                                                                                                  | 25 m  |

Q:40  
Topic Name:Aptitude Test – Part II

|                                                     |                            |
|-----------------------------------------------------|----------------------------|
| ItemCode:100440                                     |                            |
| These days Green Architecture is promoted because : |                            |
| Question:                                           |                            |
| A                                                   | It costs less initially    |
| B                                                   | It lasts longer            |
| C                                                   | It uses good colours       |
| D                                                   | It is environment friendly |

Q:41  
Topic Name:Aptitude Test – Part II

|                                                        |                  |
|--------------------------------------------------------|------------------|
| ItemCode:100441                                        |                  |
| The growth of London city happened along which river ? |                  |
| Question:                                              |                  |
| A                                                      | River Nile       |
| B                                                      | River Thames     |
| C                                                      | River Mekong     |
| D                                                      | River Great Ouse |

Q:42

ItemCode:100442

Who has designed the famous “Chhatrapati Shivaji Maharaj Vastu Sangrahalaya” at Mumbai ?

- A George Wittet
- B James Miller
- C William Young
- D Robert Mylne

Q:43

Topic Name: Aptitude Test – Part II

ItemCode:100443

Who is the painter of the famous painting Bharat Mata ?

- A Raja Ravi Verma
- B Nandalal Bose
- C Abanindranath Tagore
- D Ravindranath Tagore

Q:44

Topic Name: Aptitude Test – Part II

ItemCode:100444

The hanging gardens of babylon is presently located in which of the following country ?

- A UAE
- B Iran
- C Turkey
- D Iraq

Q:45

Topic Name: Aptitude Test – Part II

ItemCode:100445

Which of the following Indian City's planning is based on 'Vastu Purusha Mandla' method of planning ?

- A Varanasi
- B Rajkot
- C Jaipur
- D Tirupati

Q:46

Topic Name: Aptitude Test – Part II

ItemCode:100446

The world heritage site of Bhimbetka is situated in which State of India ?

Question:

|   |                |
|---|----------------|
| A | Uttarakhand    |
| B | Andhra Pradesh |
| C | Madhya Pradesh |
| D | Odisha         |

Q:47

Topic Name:Aptitude Test – Part II

|                                                                                   |                  |
|-----------------------------------------------------------------------------------|------------------|
| ItemCode:100447                                                                   |                  |
| Question: Gobind Sagar Lake is located in which of the following State of India ? |                  |
| A                                                                                 | Gujarat          |
| B                                                                                 | Himachal Pradesh |
| C                                                                                 | Uttar Pradesh    |
| D                                                                                 | Rajasthan        |

Q:48

Topic Name:Aptitude Test – Part II

|                                                |                                          |
|------------------------------------------------|------------------------------------------|
| ItemCode:100448                                |                                          |
| Question: ‘ADFF’ is the abbreviation of _____. |                                          |
| A                                              | Architecture & Design Film Festival      |
| B                                              | Architecture, Design & Fashion Festival  |
| C                                              | Architectural Design Forum for Faculties |
| D                                              | Art & Design Forum of Faculties          |

Q:49

Topic Name:Aptitude Test – Part II

|                                                                                                                                                                              |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| ItemCode:100449                                                                                                                                                              |                |
| Question: Which of the following celebrity actor was part of the award winning movie “Which Annie Gives It those ones”, which was based on life of student of architecture ? |                |
| A                                                                                                                                                                            | Amir Khan      |
| B                                                                                                                                                                            | Shah Rukh Khan |
| C                                                                                                                                                                            | Salman Khan    |
| D                                                                                                                                                                            | Akshay Kumar   |

Q:50

Topic Name:Aptitude Test – Part II

|                                                            |          |
|------------------------------------------------------------|----------|
| ItemCode:100450                                            |          |
| Question: Cool colours in the colour wheel can represent : |          |
| A                                                          | Sunlight |
| B                                                          | Heat     |
| C                                                          | Sky      |
| D                                                          | Darkness |

ItemCode:100451

Match the List-I with List-II :

List-I

- (A) City of Sky Scrapers
- (B) Cockpit of Europe
- (C) Forbidden City
- (D) City of Golden Gate

List-II

- (I) Beijing, China
- (II) San Francisco, USA
- (III) New York, USA
- (IV) Belgium

Question:

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

ItemCode:100452

Given below are the names of UNESCO world heritage sites of India. Choose the correct sequence year wise in which they are declared as a UNESCO world heritage sites.

- (A) Sun Temple, Konark
- (B) Humayun’s Tomb, Delhi
- (C) Ajanta Caves, Maharashtra
- (D) Fatehpur Sikri, Agra
- (E) Jantar Mantar, Jaipur

Question:

- |   |                     |
|---|---------------------|
| A | (E)-(B)-(D)-(C)-(A) |
| B | (C)-(B)-(A)-(D)-(E) |
| C | (C)-(A)-(D)-(B)-(E) |
| D | (D)-(A)-(C)-(E)-(B) |

ItemCode:100453

Match the List-I with List-II :

List-I

- (A) Nahargarh Fort
- (B) Lakshmi Vilas Palace
- (C) Chowmahalla Palace
- (D) UMAID Bhawan Palace

List-II

- (I) Hyderabad
- (II) Jodhpur
- (III) Jaipur
- (IV) Vadodra

Question:

|          |                                        |
|----------|----------------------------------------|
| <b>A</b> | (A)-(II), (B)-(III), (C)-(I), (D)-(IV) |
| <b>B</b> | (A)-(III), (B)-(IV), (C)-(I), (D)-(II) |
| <b>C</b> | (A)-(II), (B)-(III), (C)-(IV), (D)-(I) |
| <b>D</b> | (A)-(I), (B)-(II), (C)-(III), (D)-(IV) |

Q:54  
 Topic Name:Aptitude Test – Part II

|                                               |                             |
|-----------------------------------------------|-----------------------------|
| ItemCode:100454                               |                             |
| Match the <b>List-I</b> with <b>List-II</b> : |                             |
| <b>List-I</b>                                 | <b>List-II</b>              |
| (A) Aravali Range                             | (I) Southern Part of India  |
| (B) Sirumali Hills                            | (II) Western Part of India  |
| (C) Zask Range                                | (III) Eastern Part of India |
| (D) Garo Khasi Jaintia                        | (IV) Northern Part of India |
| Question:                                     |                             |

|          |                                        |
|----------|----------------------------------------|
| <b>A</b> | (A)-(II), (B)-(I), (C)-(IV), (D)-(III) |
| <b>B</b> | (A)-(III), (B)-(I), (C)-(IV), (D)-(II) |
| <b>C</b> | (A)-(I), (B)-(III), (C)-(IV), (D)-(II) |
| <b>D</b> | (A)-(I), (B)-(III), (C)-(II), (D)-(IV) |

Q:55  
 Topic Name:Aptitude Test – Part II

|                                               |                               |
|-----------------------------------------------|-------------------------------|
| ItemCode:100455                               |                               |
| Match the <b>List-I</b> with <b>List-II</b> : |                               |
| <b>List-I</b>                                 | <b>List-II</b>                |
| (A) Sibsagar Temple                           | (I) Haveri, Karnataka         |
| (B) Lakshmana Temple                          | (II) Assam                    |
| (C) Dashavatara Temple                        | (III) Lalitpur, Uttar Pradesh |
| (D) Siddeshvara Temple                        | (IV) Khajuraho                |
| Question:                                     |                               |

|          |                                        |
|----------|----------------------------------------|
| <b>A</b> | (A)-(I), (B)-(II), (C)-(IV), (D)-(III) |
| <b>B</b> | (A)-(II), (B)-(IV), (C)-(III), (D)-(I) |
| <b>C</b> | (A)-(I), (B)-(III), (C)-(IV), (D)-(II) |
| <b>D</b> | (A)-(II), (B)-(III), (C)-(I), (D)-(IV) |

Q:56  
 Topic Name:Aptitude Test – Part II

Given below are two statements :

**Statement - I :** Loktak Lake is famous for its floating village.

**Statement - II :** Loktak Lake is very rich in Biodiversity.

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

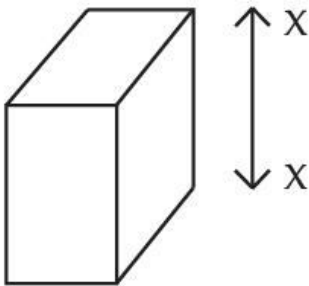
Question:

|   |                                                                    |
|---|--------------------------------------------------------------------|
| A | Both <b>Statement I</b> and <b>Statement II</b> are correct        |
| B | Both <b>Statement I</b> and <b>Statement II</b> are incorrect      |
| C | <b>Statement I</b> is correct but <b>Statement II</b> is incorrect |
| D | <b>Statement I</b> is incorrect but <b>Statement II</b> is correct |

Q:57

Topic Name:Aptitude Test – Part II

Which one of the answer figure is **correct** mirror image of the problem figure with respect to 'X-X' axis ?



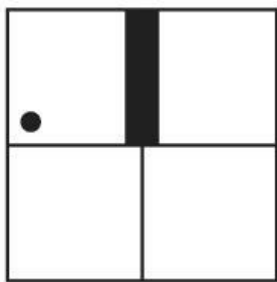
Question:

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

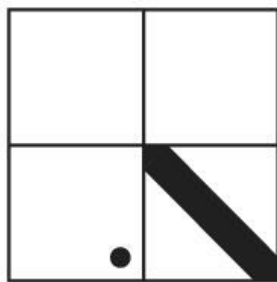
Q:58

ItemCode: 100458

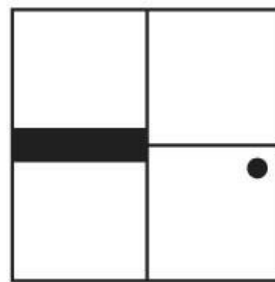
Question figure A, B and C shows series of configuration. Select the **correct** option from answer figure which will be best suitable for figure 'D' :



A



B

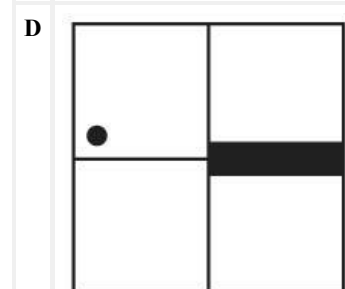
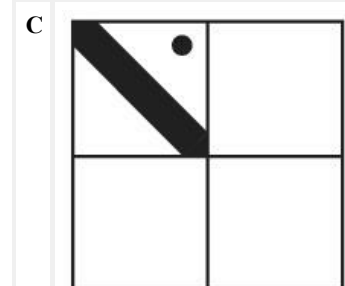
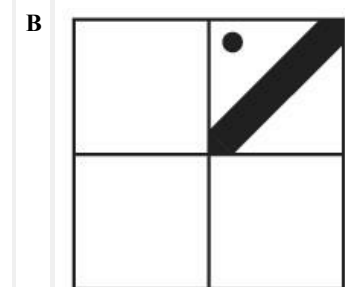
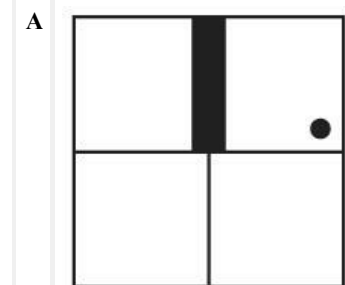


C



D

Question:

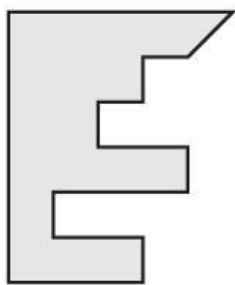


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Q:59

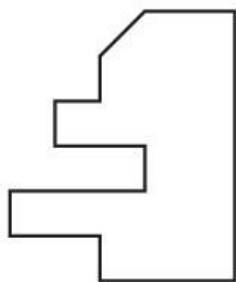
Topic Name: Aptitude Test – Part II

Given image in question figure is part of a square. Which of the following answer figure fit perfectly on it's right such that it will complete the square ?

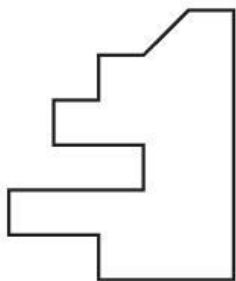


Question:

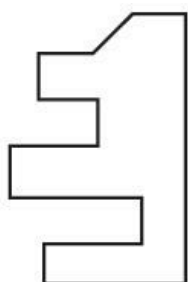
A



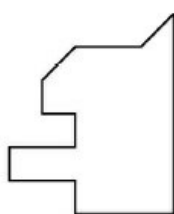
B



C



D

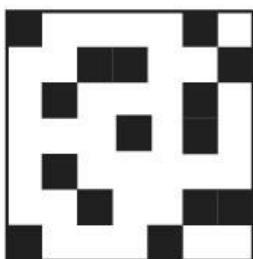


Q:60

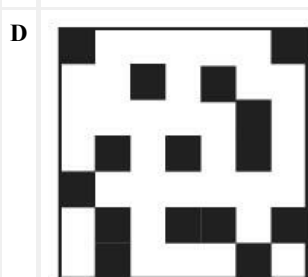
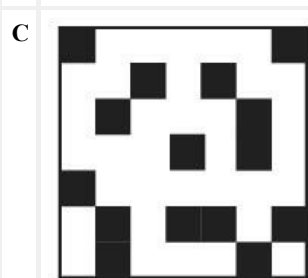
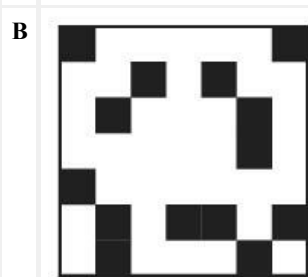
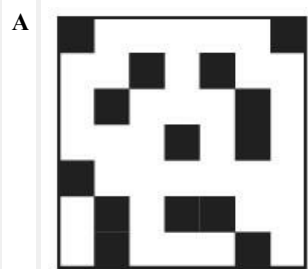
Topic Name:Aptitude Test – Part II

ItemCode:100460

Select the answer figure which shows **correct** view of question figure after rotating it by 90° on it's right.

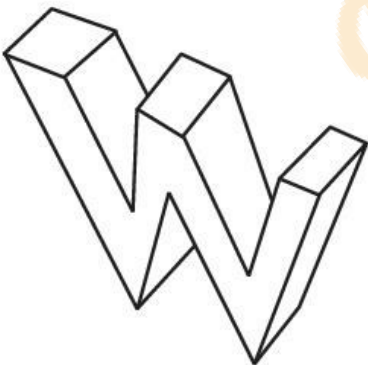


Question:



Q:61  
 Topic Name:Aptitude Test – Part II

ItemCode:100461  
 Identify the number of surfaces in the Figure.

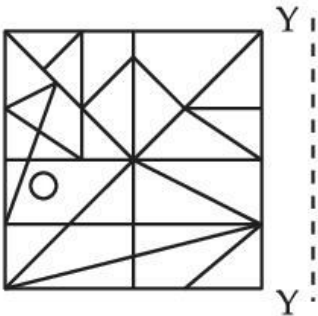


Question:

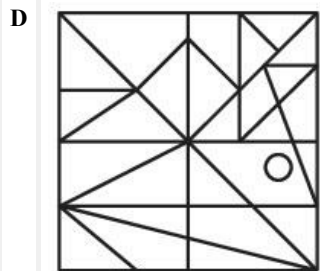
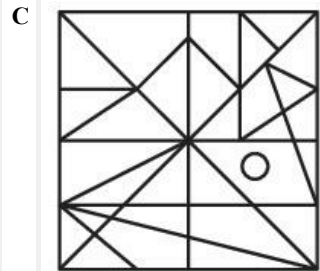
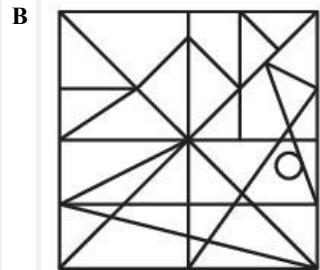
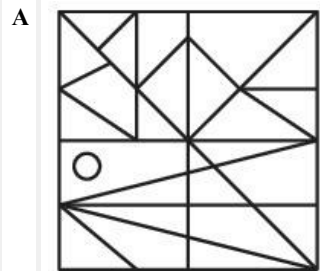
|   |    |
|---|----|
| A | 15 |
| B | 21 |
| C | 13 |
| D | 19 |

Q:62  
 Topic Name:Aptitude Test – Part II

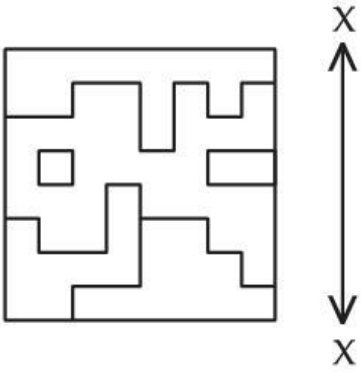
Which of the following answer figure is the **correct** mirror image of the problem figure with respect to Y-Y ?



Question:



Which of the following answer figure is the **correct** mirror image of the problem figure with respect to 'X-X' ?

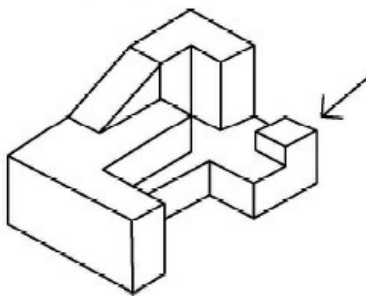


Question:

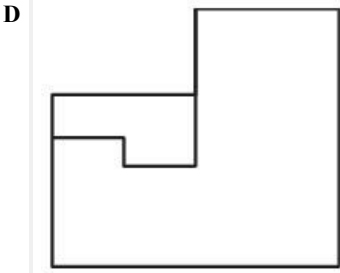
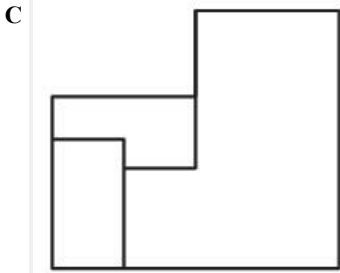
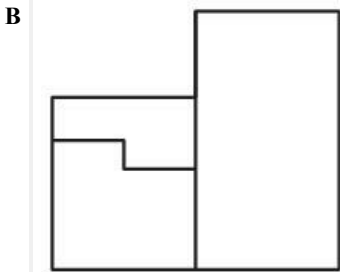
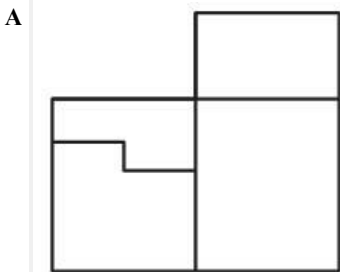
- A
- B
- C
- D

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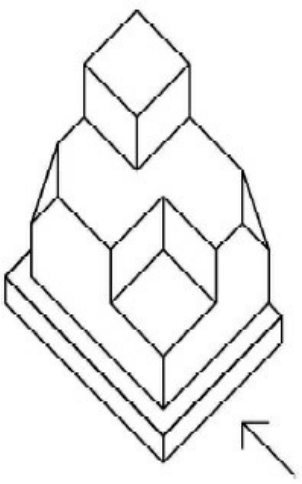
The 3D figure shows the view of an object. Looking in the direction of arrow, identify the most appropriate elevation from given answer figures.



Question:



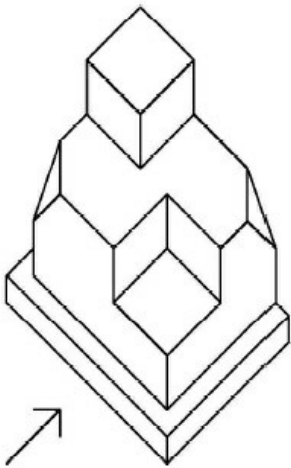
Question figure shows 3D view of an object. Looking in the direction of arrow, identify the most appropriate elevation from given answer figures.



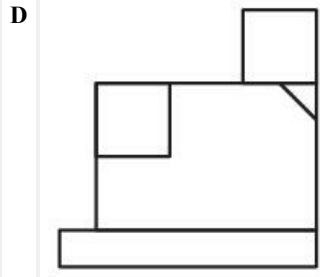
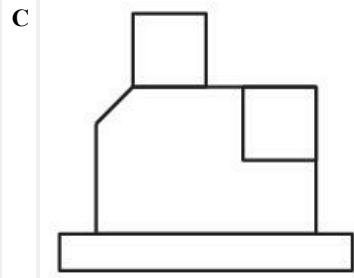
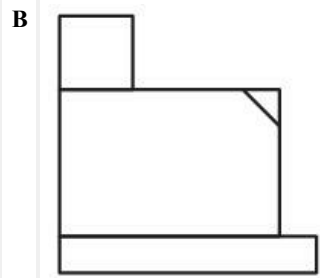
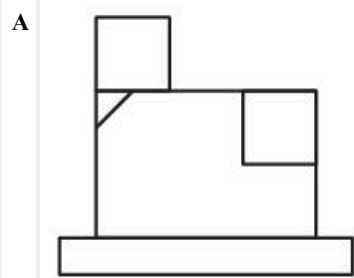
Question:

|   |                                                                                                                                                                                                                                                                                                                |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | A 2D elevation drawing. It shows a wide base. On the left side, there is a tall vertical rectangle. A diagonal line runs from the top-left corner of this rectangle down to the middle of the base. To the right of this rectangle is a smaller rectangle. On top of the smaller rectangle is a small square.  |
| B | A 2D elevation drawing. It shows a wide base. On the left side, there is a tall vertical rectangle. A diagonal line runs from the top-right corner of this rectangle down to the middle of the base. To the right of this rectangle is a smaller rectangle. On top of the smaller rectangle is a small square. |
| C | A 2D elevation drawing. It shows a wide base. On the left side, there is a tall vertical rectangle. A diagonal line runs from the top-left corner of this rectangle down to the middle of the base. To the right of this rectangle is a smaller rectangle. On top of the smaller rectangle is a small square.  |
| D | A 2D elevation drawing. It shows a wide base. On the left side, there is a tall vertical rectangle. A diagonal line runs from the top-right corner of this rectangle down to the middle of the base. To the right of this rectangle is a smaller rectangle. On top of the smaller rectangle is a small square. |

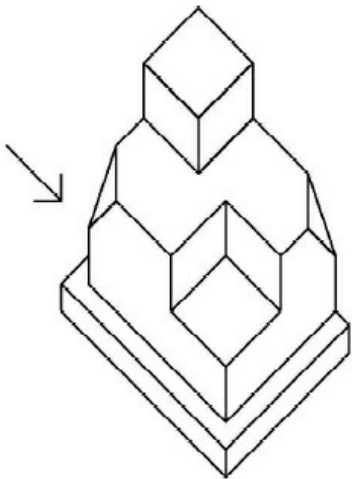
Question figure shows 3D view of an object. Looking in the direction of arrow, identify the most appropriate elevation from answer figures.



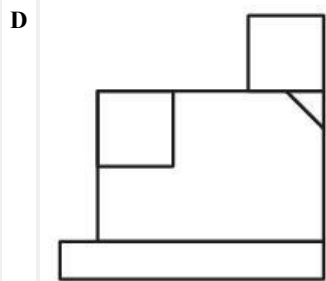
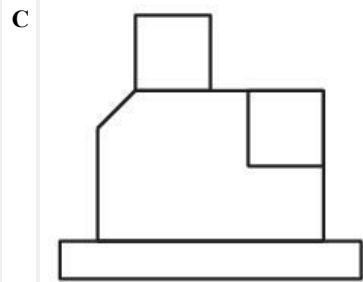
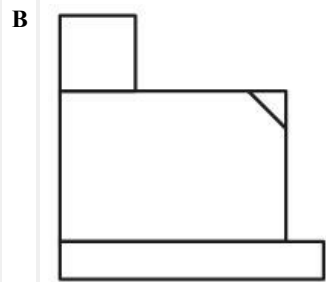
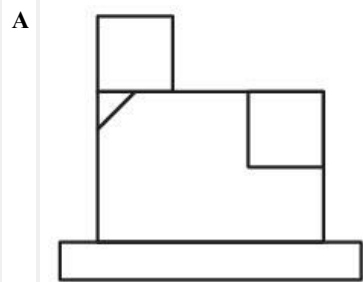
Question:



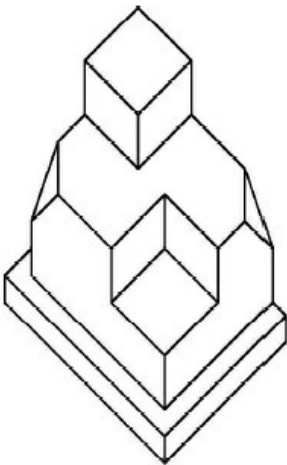
Question figure shows 3D view of an object. Looking in the direction of arrow, identify the most appropriate elevation from given answer figures.



Question:



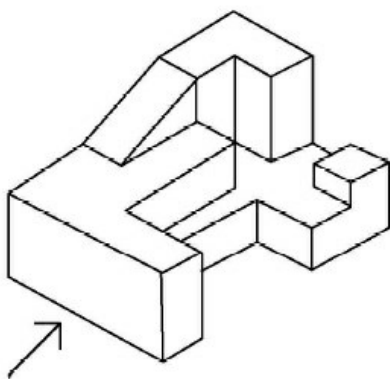
The problem figure shows the 3D view of an object. Identify the **most appropriate** top view, amongst the answer figures.



Question:

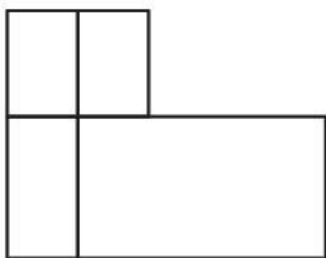
|   |                                                                                                                                                                                                                           |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | A 2D top-down view of the object. It shows a 4x4 grid with a 2x2 hole in the center. The front-left corner has an additional 2x2 block, and the back-right corner has an additional 1x1 block. The object is symmetrical. |
| B | A 2D top-down view of the object. It shows a 4x4 grid with a 2x2 hole in the center. The front-left corner has an additional 2x2 block, and the back-right corner has an additional 1x1 block. The object is symmetrical. |
| C | A 2D top-down view of the object. It shows a 4x4 grid with a 2x2 hole in the center. The front-left corner has an additional 2x2 block, and the back-right corner has an additional 1x1 block. The object is symmetrical. |
| D | A 2D top-down view of the object. It shows a 4x4 grid with a 2x2 hole in the center. The front-left corner has an additional 2x2 block, and the back-right corner has an additional 1x1 block. The object is symmetrical. |

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

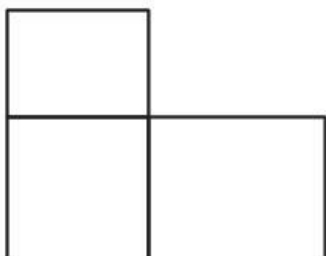


Question:

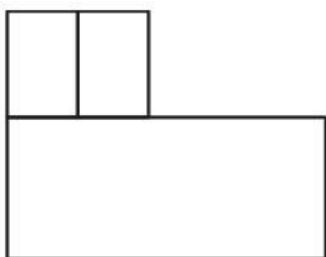
A



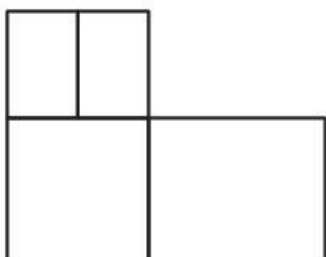
B



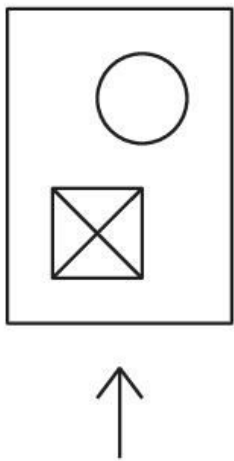
C



D

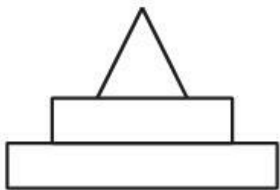


Question image shows the top view of an object. Looking in the direction of arrow, identify the **correct** elevation from answer figures.

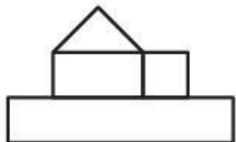


Question:

A



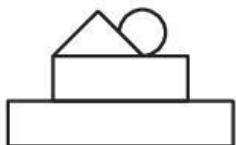
B



C



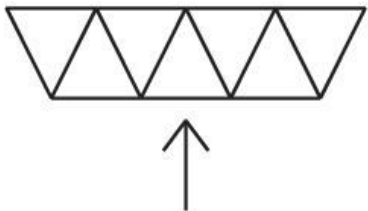
D



Q:71

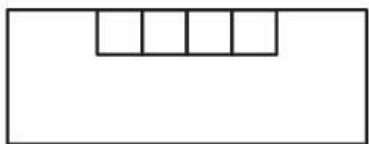
Topic Name:Aptitude Test – Part II

Question figure shows plan of an object. Looking in the direction of arrow, identify the **correct** possible elevation from given answer figures.

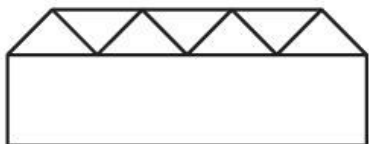


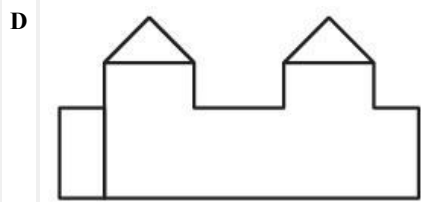
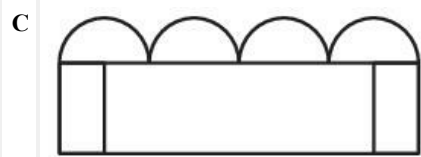
Question:

A



B

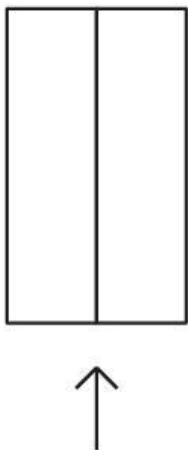




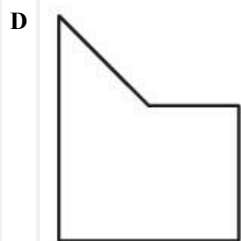
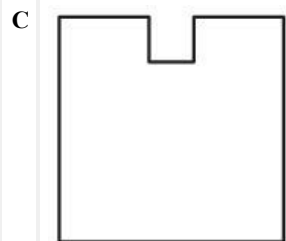
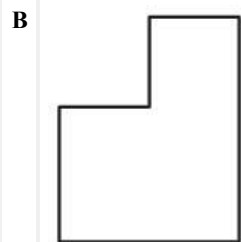
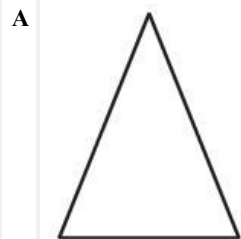
Q:72  
Topic Name: Aptitude Test – Part II

ItemCode:100472

Question figure shows plan of an object. Looking in the direction of arrow, identify the ‘INCORRECT’ option from given possible elevations in answer figures.

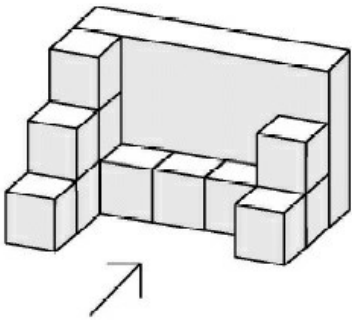


Question:



ItemCode:100473

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



Question:

A

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

B

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

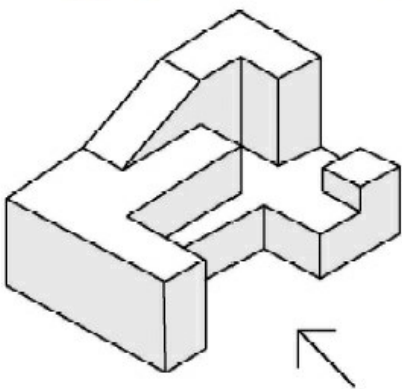
C

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

D

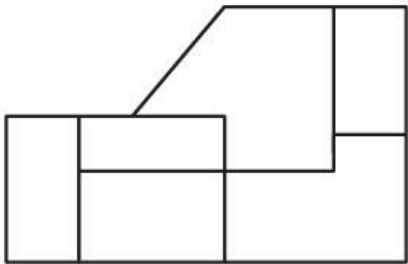
|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

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

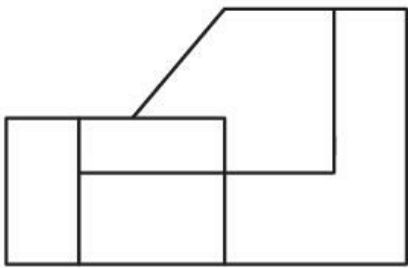


Question:

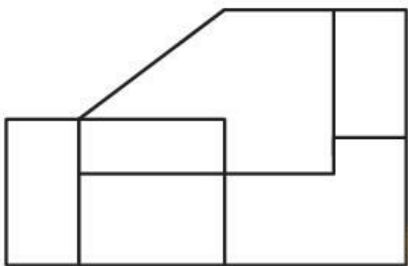
A



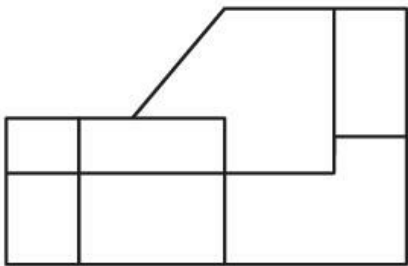
B



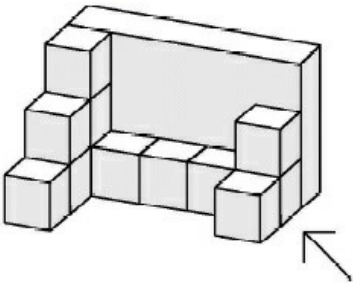
C



D

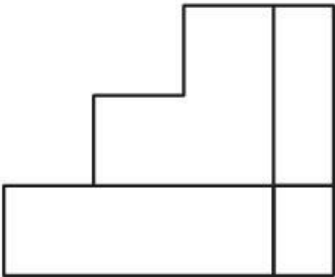


Question figure shows 3D view of an object. Looking in the direction of arrow, identify the most appropriate elevation from given answer figures.

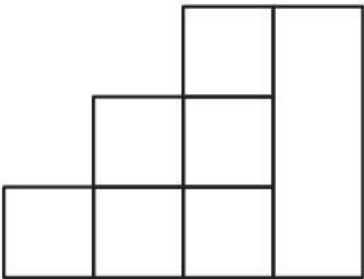


Question:

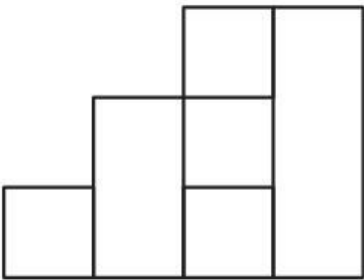
A



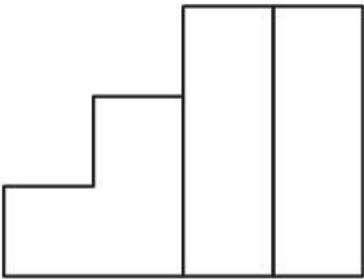
B



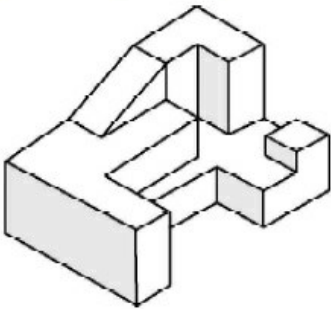
C



D

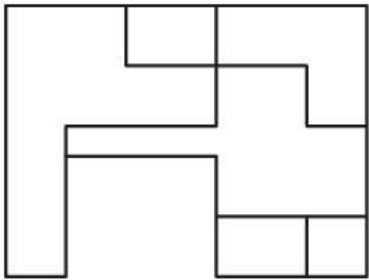


Question figure shows the 3D view of an object. Identify the **most appropriate** top view/ plan of a given object from answer figures.

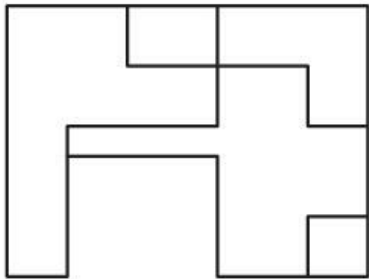


Question:

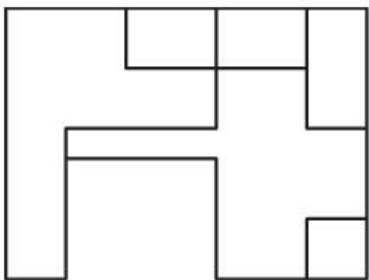
A



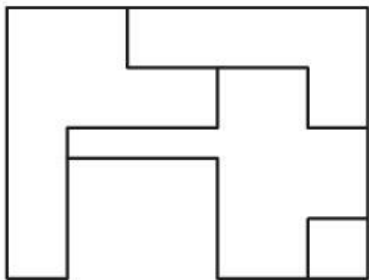
B



C



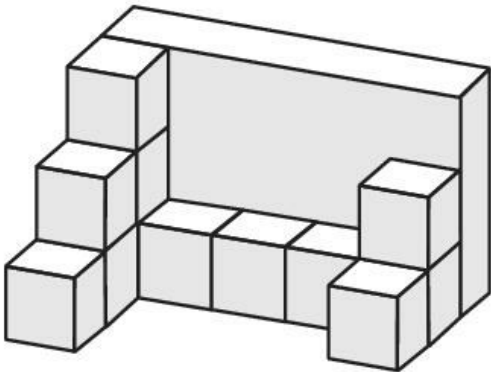
D



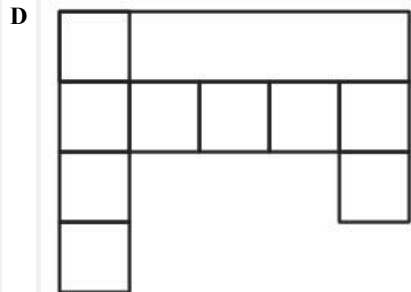
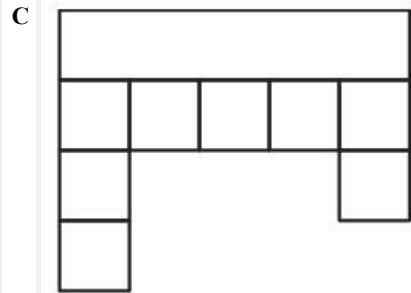
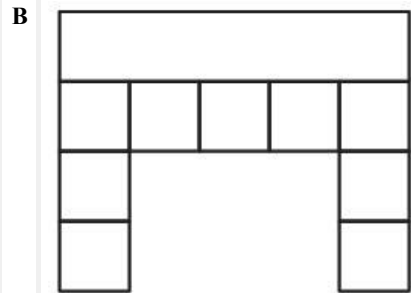
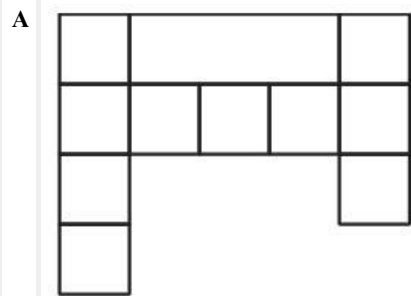
Q:77

Topic Name:Aptitude Test – Part II

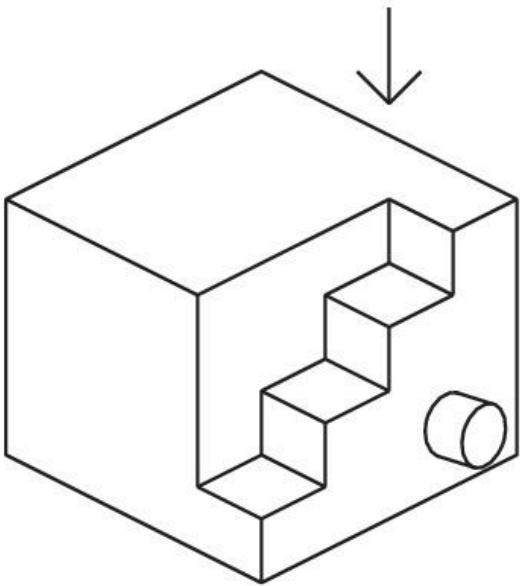
Question figure shows 3D view of an object. Identify the **correct** top view/plan of a given object from answer figures.



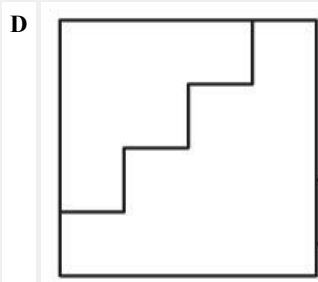
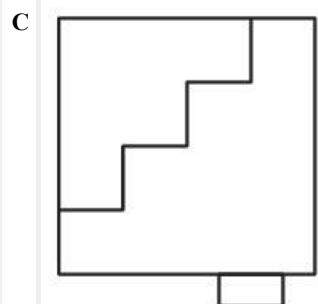
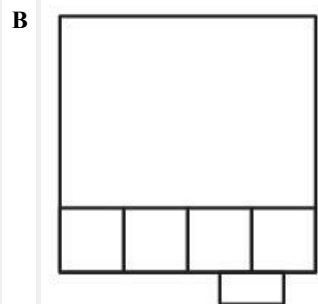
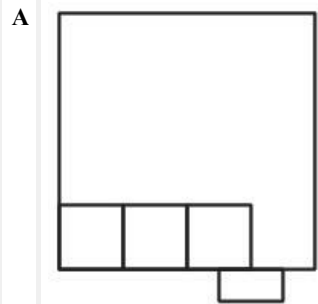
Question:



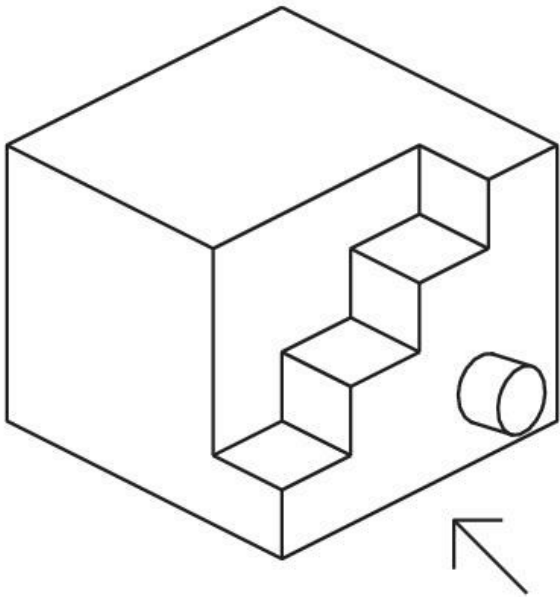
Question figure shows 3D view of an object. Identify the **correct** top view/plan of a given object from answer figures.



Question:



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



Question:

- A

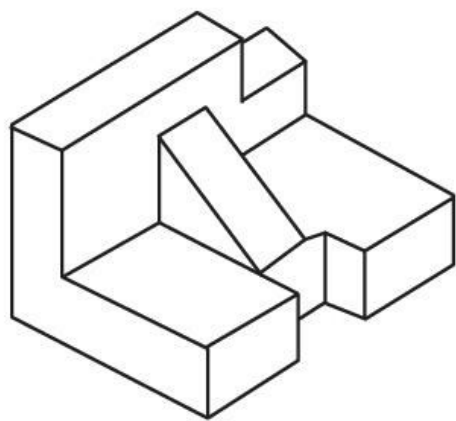
Option A shows a 2D elevation. The left side is a stepped profile with three steps of increasing height from left to right. The right side is a vertical line. A circle is positioned in the lower right area, representing the cylinder.
- B

Option B shows a 2D elevation. The left side is a stepped profile with three steps of increasing height from left to right. The right side is a vertical line. A circle is positioned in the lower left area, representing the cylinder.
- C

Option C shows a 2D elevation. The left side is a stepped profile with three steps of increasing height from left to right. The right side is a vertical line. A circle is positioned in the lower right area, representing the cylinder.
- D

Option D shows a 2D elevation. The left side is a stepped profile with three steps of increasing height from left to right. The right side is a vertical line. A circle is positioned in the lower right area, representing the cylinder.

Question figure shows 3D view of an object. Identify the **correct** top view/plan of a given object from answer figures.



Question:

- A
- 
- Top view A: A rectangular shape with a horizontal line near the top edge. The bottom edge has a rectangular cutout in the center. The top edge has a small rectangular protrusion on the left side.
- B
- 
- Top view B: A rectangular shape with a horizontal line near the top edge. The bottom edge has a rectangular cutout in the center. The top edge has a small rectangular protrusion on the right side.
- C
- 
- Top view C: A rectangular shape with a horizontal line near the top edge. The bottom edge has a rectangular cutout in the center. The top edge has a small rectangular protrusion on the left side.
- D
- 
- Top view D: A rectangular shape with a horizontal line near the top edge. The bottom edge has a rectangular cutout in the center. The top edge has a small rectangular protrusion on the right side.

ItemCode:100506

Draw a proportionate sketch of given reference image. Use black and white rendering techniques of your choice.



Question:

Q:82

Topic Name: Drawing Test – Part III

ItemCode:100507

Attempt any one of the following questions.

(A) Draw a scene of holi festival. Use colours of your choice to render the drawing.

OR

(B) Using triangles and rectangles of your choice, create a composition which may reflect 'RHYTHM'. Colour the composition using 'Cool Colour' scheme.

Question: