JEE Main 2023 Paper 2B (B.Planning) Apr 12 Shift 2 Question Paper

Conducted by the National Testing Agency (NTA)

Time Allowed: 3 Hours **B.Planning** **Maximum Marks: 400**

General Instructions

(i) This is **Paper 2B (B.Planning)** of **JEE (Main) 2023**, conducted by the National Testing Agency on **12 Apr 2023**.

(ii) The paper contains **105 questions**; attempt **100** as specified in the section table. The maximum score is **400 marks**.

(iii) Multiple choice questions have four options. Select one answer. Each correct answer carries **4 marks**; an incorrect answer carries **−1 mark**.

(iv) Numerical value questions carry **4 marks** for a correct answer and **−1 marks** for an incorrect answer. Unanswered questions carry **0 marks**.

(v) All Planning and Aptitude Test questions are compulsory.

(vi) In Mathematics Section B, attempt **any five of the ten** numerical value questions.

Section	Questions	To attempt	Marks
Mathematics Section A	20	20	80
Mathematics Section B	10	5	20
Aptitude Test	50	50	200
Planning	25	25	100

Mathematics Section A

1. 4 marks

If $f(x)=\frac{x^3}{x-1}+\frac{x^3}{x+1}$ and $g(x)=\sqrt{x}$, then $fog:[0,2]-\{1\}\to\mathbb{R}$ is :

(1) one-one but not onto
(2) one-one and onto
(3) onto but not one-one
(4) neither one-one nor onto

2. 4 marks

The sum of squares of the values of $\alpha\in\mathbb{R}$ such that the argument of $\frac{\alpha+i}{\alpha-i}$ is 60°, $i=\sqrt{-1}$, is :

(1) 3
(2) $\frac{10}{3}$
(3) $\frac{11}{3}$
(4) 4

3. 4 marks

For the system of equations

$x+\lambda y-z=1$

$x+2y+\lambda z=2$

$x+2y+z=2,$

which one of the following is **NOT** correct?

(1) it has unique solution if λ is not a root of the equation $t^2-3t+2=0$
(2) it has unique solution if λ is not a root of the equation $t^2-t-2=0$
(3) it has infinitely many solutions if $\lambda=1$
(4) it has no solution if $\lambda=2$

4. 4 marks

If $a_n=(2n^2-n+2)(n!)$ then $\sum_{n=1}^{20} a_n$ is equal to :

(1) $37(20!)-1$
(2) $37(20!)+1$
(3) $39(21!)+1$
(4) $39(21!)-1$

5. 4 marks

$$\lim_{x\to 0^+} \frac{1}{\sqrt{x}}\left(\frac{1}{\sin x}-\frac{1}{x}\right)$$

(1) is equal to 0

(2) is equal to $\frac{1}{5}$

(3) is equal to 1

(4) does not exist

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6. 4 marks

Let $x = x(t)$ be the solution curve of the differential equation $\frac{dx}{dt} = -kx$, and $x(0)=100$, $x\left(\frac{1}{2}\right)=80$. If $x(t_\alpha)=5$, then t_α is equal to :

(1) $\frac{\log_e 5+\log_e 4}{2(\log_e 5-\log_e 4)}$

(2) $\frac{\log_e 5+\log_e 4}{\log_e 5-\log_e 4}$

(3) $\frac{\log_e 5-\log_e 4}{2(\log_e 5+\log_e 4)}$

(4) $\frac{\log_e 5-\log_e 4}{\log_e 5+\log_e 4}$

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7. 4 marks

The slope of the tangent to the curve $y = y(x) = \int_{\sin^{-1}(x)}^{\cos^{-1}(x)} \sqrt{1+4\sin^2 t}\, dt;\ 0 \le x \le 1$ at the point $\left(\frac{1}{\sqrt{2}}, 0\right)$ on the curve is :

(1) $-2\sqrt{6}$

(2) $2\sqrt{6}$

(3) $-4\sqrt{3}$

(4) $4\sqrt{3}$

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8. 4 marks

Let $\alpha,\beta,\gamma\left(0<\alpha,\beta,\gamma<\frac{\pi}{2}\right)$ be the angles between non-zero vectors $\vec{a}$ and $\vec{b}$, $\vec{b}$ and $\vec{c}$, $\vec{c}$ and $\vec{a}$ respectively. If θ is the angle that the vector $\vec{a}$ makes with the plane containing $\vec{b}$ and $\vec{c}$, then

(1) $\cos^2\theta = \operatorname{cosec}^2\beta\,(\cos^2\alpha + \cos^2\gamma - 2\cos\alpha\cos\beta\cos\gamma)$

(2) $\cos^2\theta = \sec^2\beta\,(\cos^2\alpha + \cos^2\gamma + 2\cos\alpha\cos\beta\cos\gamma)$

(3) $\sin^2\theta = \operatorname{cosec}^2\beta\,(\cos^2\alpha + \cos^2\gamma - 2\cos\alpha\cos\beta\cos\gamma)$

(4) $\sin^2\theta = \sec^2\beta\,(\cos^2\alpha + \cos^2\gamma + 2\cos\alpha\cos\beta\cos\gamma)$

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9. 4 marks

The domain of the function

$f(x) = \sin^{-1}(\log_2((x-1)(x-2)))$ is :

(1) $[0, 3]$

(2) $\left[0, \frac{3-\sqrt{3}}{2}\right] \cup \left[\frac{3+\sqrt{3}}{2}, 3\right]$

(3) $\left(\frac{3-\sqrt{3}}{2}, 1\right) \cup \left(2, \frac{3+\sqrt{3}}{2}\right)$

(4) $\left[0, \frac{3-\sqrt{6}}{2}\right] \cup \left[\frac{3+\sqrt{6}}{2}, 3\right]$

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10. 4 marks

Let α and β be the roots of the equation $2x^2 - 5x - 1 = 0$. For $n \in N$, let $P_n = \alpha^n + \beta^n$.

Then $\frac{2P_{11}(2P_{10} - 5P_9)}{P_8(5P_{10} + P_9)}$ is equal to :

(1) $-\frac{1}{2}$

(2) $\frac{1}{2}$

(3) -1

(4) 1

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11. 4 marks

If the image of the point (1, 1, 2) in the plane $2x - y + z + 3 = 0$ is the point P, then the distance of P from origin is

(1) $2\sqrt{3}$

(2) $3\sqrt{2}$

(3) 4

(4) 6

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12. 4 marks

For three non-coplanar vectors $\vec{a}, \vec{b}, \vec{c}$, if $(\vec{b} + \vec{c}) \cdot \{(\vec{c} + \vec{a}) \times (\vec{a} + \vec{b})\} = \alpha[\vec{a}\ \vec{b}\ \vec{c}]$ and $(\vec{a} + \vec{b}) \cdot \{(\vec{b} + \vec{c}) \times (\vec{a} + \vec{b} + \vec{c})\} = \beta[\vec{a}\ \vec{b}\ \vec{c}]$, then $\alpha+\beta$ is equal to :

(1) -3

(2) -1

(3) 1

(4) 3

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13. 4 marks

If $I(x)=\int\frac{dx}{1-2\sin^2 x\cos^2 x}$, then $\tan\left(\sqrt{2}\left(I\left(\frac{\pi}{8}\right)-I(0)\right)\right)$ is equal to :

(1) $\frac{1}{\sqrt{2}}$ (2) 1

(3) $\sqrt{2}$ (4) 2

14. 4 marks

Let X have a binomial distribution B (6, p). If the sum of the mean and the variance of X is $\frac{21}{8}$, then $\frac{P(2\le X<4)}{P(4<X<6)}$ is equal to :

(1) 65 (2) 195

(3) $\frac{195}{2}$ (4) $\frac{225}{2}$

15. 4 marks

If the statement

$((p * (\sim q)) \wedge (p \vee q)) \Leftrightarrow p$

is a tautology, then $*$ is :

(1) $\wedge$ (2) $\vee$

(3) $\Rightarrow$ (4) $\Leftrightarrow$

16. 4 marks

If the circles $x^2+y^2-2x-4y+4=0$ and $x^2+y^2-6x-10y+20+2\sqrt{13}=0$ touch each other at the point (a, b), then $(3a-2b)^2$ is equal to :

(1) 1 (2) 4

(3) 9 (4) 13

17. 4 marks

If the angle between the line $l:\frac{x-1}{2}=\frac{y+1}{1}=\frac{z-2}{2}$ and the plane P : $\lambda x+4y-7=0, \lambda\neq 0$, is $\operatorname{cosec}^{-1}\left(\frac{3}{2}\right)$, then the sum of co-ordinates of the point where line l crosses the plane P is :

(1) –33 (2) –2

(3) 3 (4) 6

18. 4 marks

Let three distinct normal be drawn to the parabola $y^2 + 4y - 6x - 8 = 0$ from a point (a, b) on the axis of the parabola. Then :

(1) $a \in (1, \infty)$ and $b = -2$

(2) $a \in (0, \infty)$ and $b = -2$

(3) $a \in (1, \infty)$ and $b = 2$

(4) $a \in (2, \infty)$ and $b = 2$

19. 4 marks

Given ${}^{n}C_{r} = \dfrac{n!}{r!(n-r)!}$, $0 \le r \le n$ and n is a non-negative integer. Then a possible value of k for which the equality

$${}^{50}C_{k-1} + \sum_{r=1}^{50} {}^{100-r}C_{k-2} = {}^{100}C_{49}$$ holds, is

(1) 40

(2) 49

(3) 50

(4) 25

20. 4 marks

If an unbiased die, marked with –3, –2, –1, 0, 1, 2 on its faces, is thrown four times, then the probability of getting –1 as the sum of outputs is :

(1) $\dfrac{7}{81}$

(2) $\dfrac{35}{324}$

(3) $\dfrac{8}{81}$

(4) $\dfrac{26}{243}$

Mathematics Section B

21. Numerical value · 4 marks

$(\sin 5^\circ \sin 55^\circ \sin 65^0 \sin 75^\circ)^{-1}$ is equal to _____.

22. Numerical value · 4 marks

If the shortest distance between the lines

$3x + 2y - 4z - 5 = 0 = 5x - 7y - 17z + 2$ and $\frac{x-2}{3} = \frac{y-1}{-5} = \frac{z+1}{2}$ is $\frac{10}{\sqrt{k}}$, then k is equal to _____.

23. Numerical value · 4 marks

For $p \in \mathbb{N}$, if the angle between pair of tangents drawn to the ellipse $3x^2 + 2y^2 = 5$ from the point $(1, p)$ is $\tan^{-1}\left(\frac{12}{\sqrt{5}}\right)$, then the distance of the vertex of the parabola $y = x^2 - px + p + 1$ from the point $(-7, 8)$ is equal to _____.

24. Numerical value · 4 marks

Let P be a polygon with n vertices such that the line segment joining any two points of P remains entirely in P. If the number of diagonals of P is $n + 25$, then n is equal to _____.

25. Numerical value · 4 marks

Let $f(x)$ be a polynomial of degree 5 such that $\lim\limits_{x \to 0} \frac{f(x)}{x^2} = 1$,

$f(-1) = -1$, $f(x) - 14x$ has an extrema at $x = 1$ and $f(x) - 10x$ has an extrema at $x = -1$. Then $f(2)$ is equal to _____.

26. Numerical value · 4 marks

The number of 7 digits integers formed by using the digits 2, 3, 4, 5 only and having the sum of digits equal to 18 is _____.

27. Numerical value · 4 marks

The remainder when $(556)^{40}$ is divided by 7 is _____.

28. Numerical value · 4 marks

Let [t] denote the greatest integer less than or equal to t. Then the value of $10-10\int_{-2}^{2}[x+x^3]\,dx$ is _____.

29. Numerical value · 4 marks

Let $A=\frac{1}{\sqrt{2}}\begin{bmatrix}1 & 1\\ -1 & 1\end{bmatrix}$ and $B=\begin{bmatrix}1 & 0\\ 0 & -1\end{bmatrix}$. If $k, l \in \mathbb{N}$ be such that $A^k B^l = I$, then the minimum value of $k+l$ is _____.

30. Numerical value · 4 marks

Let $A_1 = [1]$, $A_2 = \begin{bmatrix}2 & 3\\ 4 & 5\end{bmatrix}$, $A_3 = \begin{bmatrix}6 & 7 & 8\\ 9 & 10 & 11\\ 12 & 13 & 14\end{bmatrix}$,... Then the sum of the diagonal elements of A_{20} is _____.

31. 4 marks

Which of the following is not a sustainable development goal targeted to be achieved by 2030?

(1) gender equality
(2) zero hunger
(3) good health & well being
(4) space Research

32. 4 marks

KANDARIYA MAHADEV TEMPLE is situated in which state of India?

(1) Madhya Pradesh
(2) Maharashtra
(3) Rajasthan
(4) Karnataka

33. 4 marks

Vertical elements in a building are:-

(1) Column, Lintel, Wall
(2) Lintel, Beam, Arch
(3) Column, Pier, Post
(4) Floor, Column, Arch

34. 4 marks

Cavity Walls are used for

(1) Waterproofing
(2) Heat Insulation
(3) Aesthetics
(4) Cost saving

35. 4 marks

Lintel is related to:

(1) Window
(2) Roof
(3) Foundation
(4) Pipe

36. 4 marks



Choose the correct option among the following by looking at the image given above:

(1) Lodhi Garden

(2) Jantar Mantar

(3) Rajghat

(4) Bahai Temple

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37. 4 marks

ARCHITECT ACT 1972 was enforced in which month

(1) 31st Dec

(2) 31st May

(3) 31st July

(4) 31st March

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38. 4 marks

The dome of Rashtrapati Bhawan is influenced by which of the following:

(1) Gurudwara

(2) Mosque

(3) Stupa

(4) Temple

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39. 4 marks

Dominion tower is designed by

(1) Bjarke Ingels

(2) Zaha Hadid

(3) Frei otto

(4) F.L. Wright

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40. 4 marks

The largest river island of the world is present in which state of India?

(1) Maharastra

(2) Assam

(3) Uttar Pradesh

(4) West Bengal

41. 4 marks

Who prepared the first layout of the town of Jamshedpur?

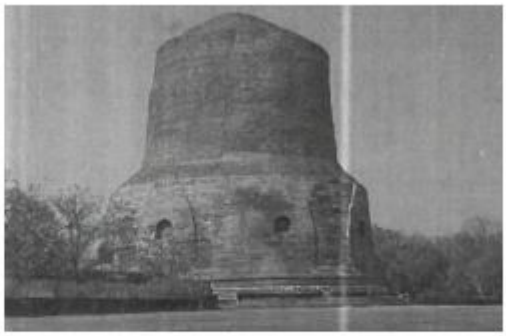
(1) Charles Correa

(2) Otto Konigsberger

(3) Le Corbuseir

(4) Messrs Julin Kennedy Sahhin

42. 4 marks



Identify the historical monument which is given in the image.

(1) Sanchi Stupa

(2) Victory Tower

(3) Sarnath Stupa

(4) Nalanda

43. 4 marks

Who was known as "Father of modern concrete"?

(1) John Paul

(2) John Nash

(3) John Smeaton

(4) Joseph Stein

44. 4 marks

Who is the architect of TWA Airport, New York?

(1) Eero Saarinen
(2) Mies Vander Rohe
(3) Joseph Allen Stein
(4) Alvar Aalto

45. 4 marks

Starting from a point, Maria walked 12 meters towards North, she turned right and walked 10 meters. She again turned right and walked 12 meters, then she turned left and walked 5 meters. How far is she now and in which direction from the starting point? Consider the starting point is in south direction.

(1) 27 meters towards East
(2) 5 meters towards East
(3) 10 meters towards West
(4) 15 meters towards East

46. 4 marks

Who among the following is not Pritzker prize winner?

(1) Wang Shu
(2) B.V. Doshi
(3) Arata Isozaki
(4) Denise Scott Brown

47. 4 marks

Which of the following is not Antonio Gaudi's project?

(1) Casa Mila
(2) Sagrada Familia
(3) Casa Batllo
(4) Casa Milano

48. 4 marks

Which one of the following is most earthquake resistant structure?

(1) RCC framed structure
(2) Load bearing structure
(3) Mud walls structure
(4) Random stone masonary structure

49. 4 marks

"CHALK" belongs to which category?

(1) Rock
(2) Mineral
(3) Wood
(4) Polymer

50. 4 marks

What are the three parts of colour theory?

(1) hyper, value and chrome
(2) honey, violet and chroma
(3) hue, value and chroma
(4) hue, chrome and violet

51. 4 marks

Identify the three primary colours?

(1) Red, Blue and Green
(2) Red, Yellow and Blue
(3) Black, White and Yellow
(4) Blue, White and Yellow

52. 4 marks

Match List I with List II:

List I	List II
A. Kamakhya Temple	I. Madhya Pradesh
B. Padmanabha Temple	II. Rajasthan
C. Kandariya Mahadev	III. Assam
D. Karni Mata Temple	IV. Kerala

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

(1) A-II, B-I, C-III, D-IV
(2) A-IV, B-III, C-II, D-I
(3) A-III, B-IV, C-I, D-II
(4) A-I, B-II, C-IV, D-III

53. 4 marks

A square has an area of 100 sq.mt. How much will be its area on a scale of 1 : 20?

(1) 5 sq.mt.
(2) 50 sq.mt.
(3) 0.25 sq.mt.
(4) 25 sq.mt.

collegedunia

54. 4 marks

Given below are two statements:

Statement I: Shakti Sthal is a memorial in Raj Ghat marking the cremation site of Indira Gandhi.

Statement II: A.P. Kanvinde in the landscape designer known for designing Shakti Sthal.

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

(1) Both Statement I and Statement II are true

(2) Both Statement I and Statement II are false

(3) Statement I is true but Statement II is false

(4) Statement I is false but Statement II is true

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55. 4 marks

What is the full form of 'UDAY"?

(1) Ujjwala Discom Assitance Yojana

(2) Unnati Development Ayojan Yojana

(3) Ujwal Distribution Assurance Yojana

(4) Ujwal Discom Assurance Yojana

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56. 4 marks

What is the acronym for 'AYUSH"?

(1) Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy

(2) Ayurveda, Yogic and Unani Siddha and Homeopathy

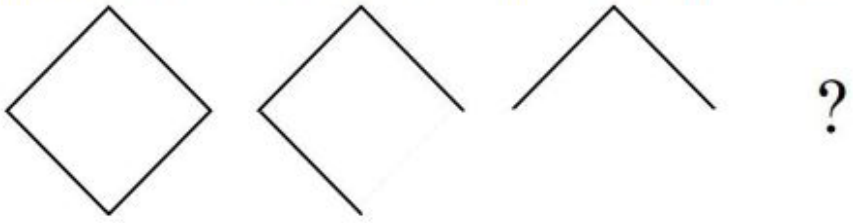
(3) Acroveda, Yoga, Unani, Siddha and Homeopathy

(4) Ayurveda, Yoga, Naturopathy, Unani Surgery and Homeopathy

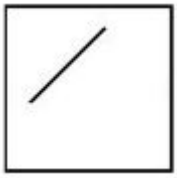
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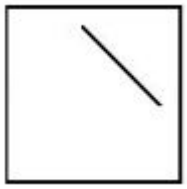
57. 4 marks

Select the correct option from answer figure which will be best suitable to continue the same pattern as established by the problem figure.



(1) 

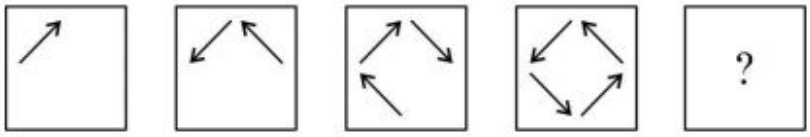
(2) 

(3) 

(4) 

58. 4 marks

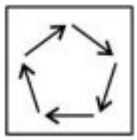
Choose the correct option from the answer figures which completes the question series.



(1) 

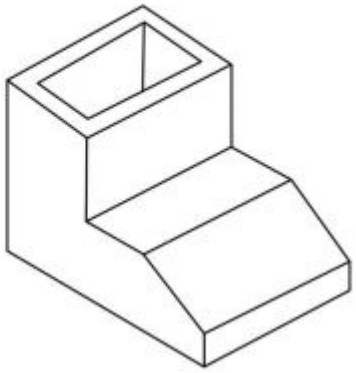
(2) 

(3) 

(4) 

59. 4 marks

Identify the number of surfaces in the given 3D object.



(1) 12

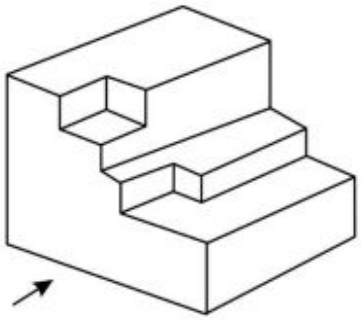
(2) 13

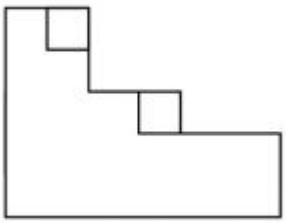
(3) 10

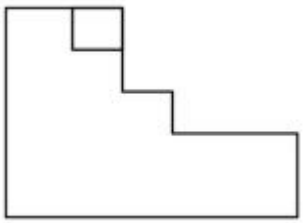
(4) 9

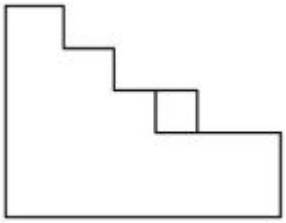
60. 4 marks

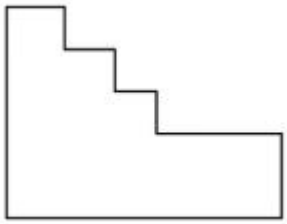
The question figure shows the 3D view of an object. Identify the view of the object looking in the direction of the arrow.



(1) 

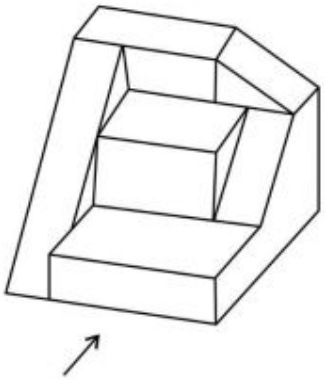
(2) 

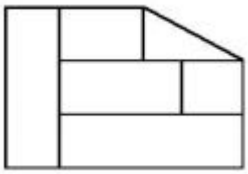
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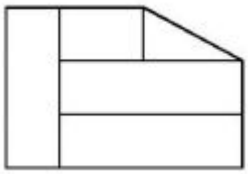
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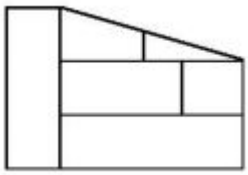
61. 4 marks

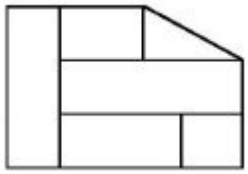
The 3D figure shows the view of an object. Identify the correct view looking in the direction of arrow, amongst the answer figures.



(1) 

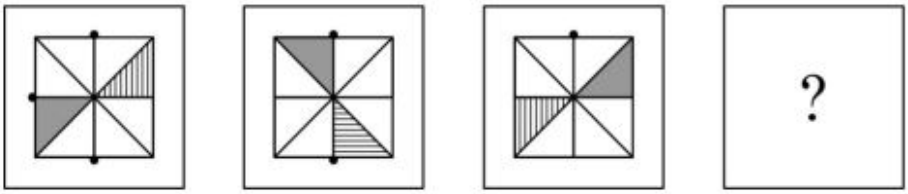
(2) 

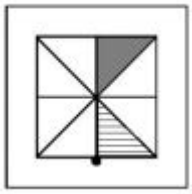
(3) 

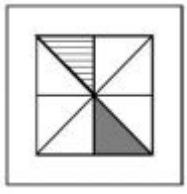
(4) 

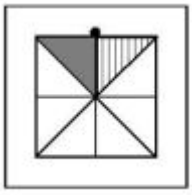
62. 4 marks

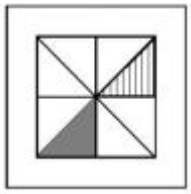
Choose the correct option from the answer figures which completes the sequence.



(1) 

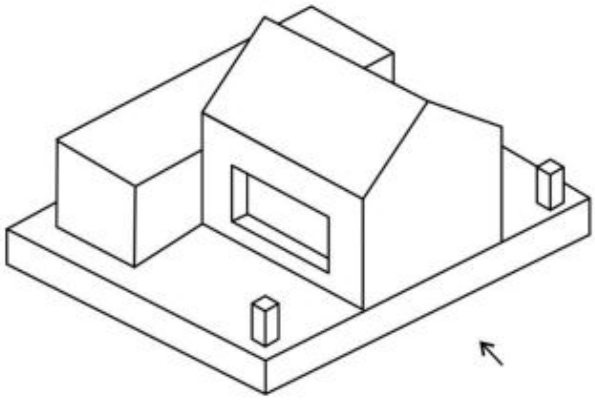
(2) 

(3) 

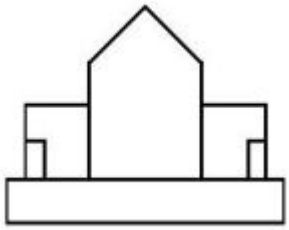
(4) 

63. 4 marks

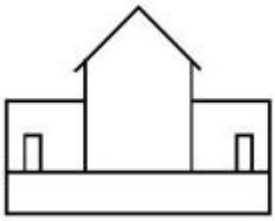
The question figure shows the 3D view of an object, identify the correct view looking in the direction of the arrow?



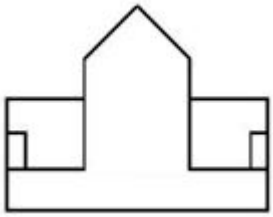
(1)



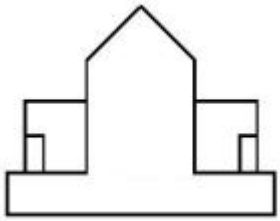
(2)



(3)

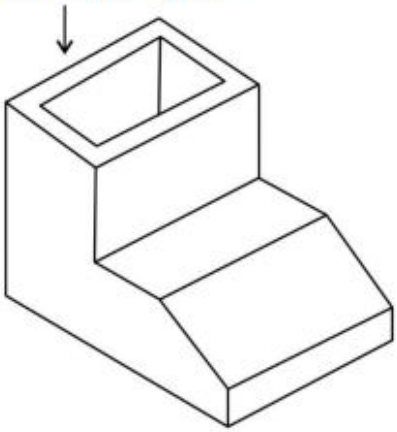


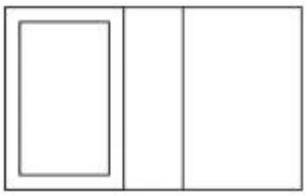
(4)

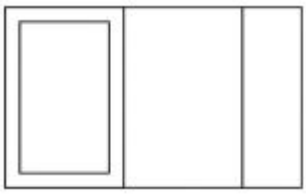


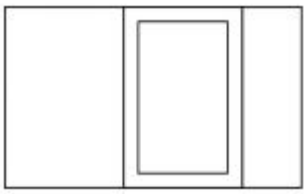
64. 4 marks

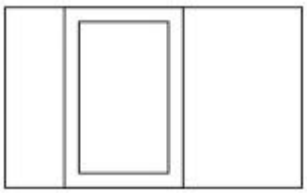
The question figure shows the 3D view of an object. Identify the top view of the object in the direction of the arrow.



(1) 

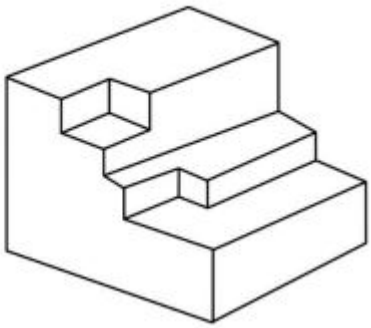
(2) 

(3) 

(4) 

65. 4 marks

Identify the total number of surfaces in the given 3D object.



(1) 12

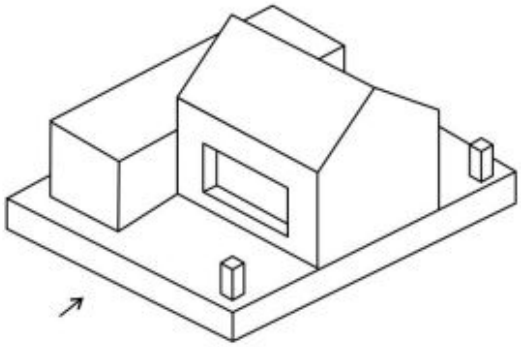
(2) 13

(3) 15

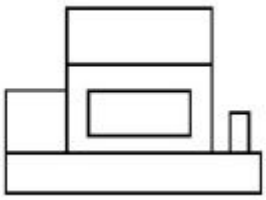
(4) 16

66. 4 marks

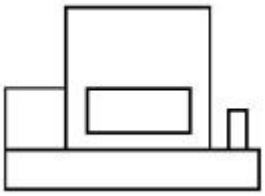
The question figure shows the 3D view of an object. Identify the correct view looking in the direction of the arrow.



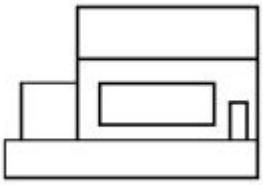
(1)



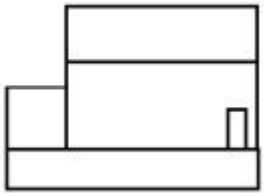
(2)



(3)

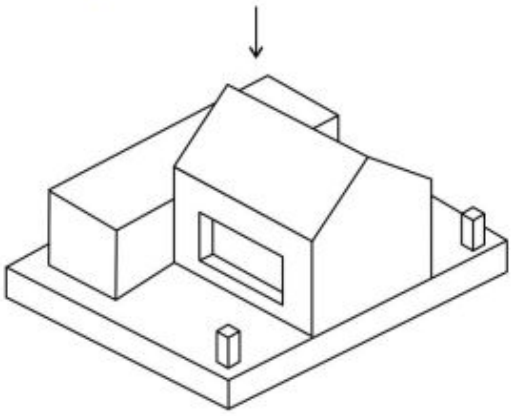


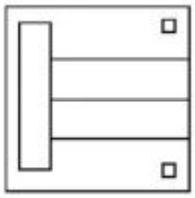
(4)

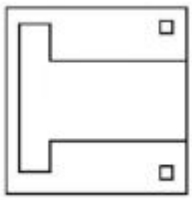


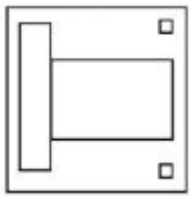
67. 4 marks

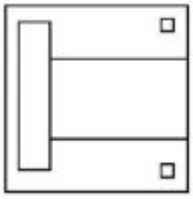
In the question figure it is a 3D view of an object. Identify the correct top view among the given options.



(1) 

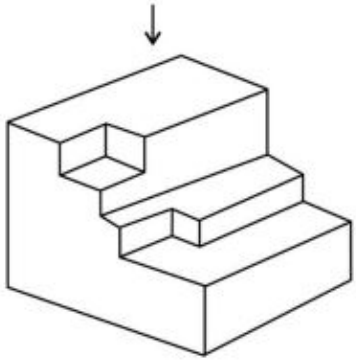
(2) 

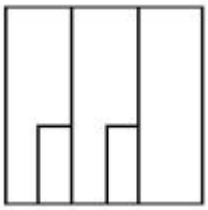
(3) 

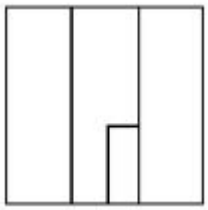
(4) 

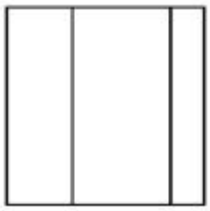
68. 4 marks

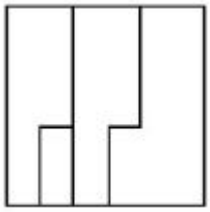
The question figure shows the 3D view of an object. Identify the most appropriate top view of the object from the given direction of the arrow.



(1) 

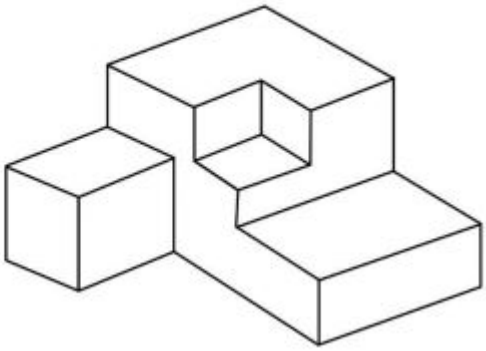
(2) 

(3) 

(4) 

69. 4 marks

Identify the total number of surfaces in the given object.



(1) 13

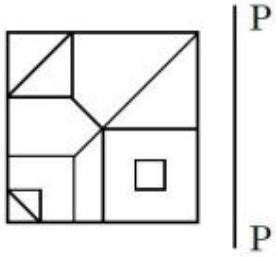
(2) 14

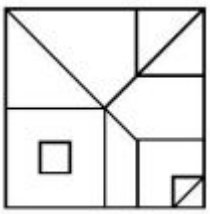
(3) 11

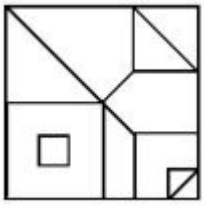
(4) 10

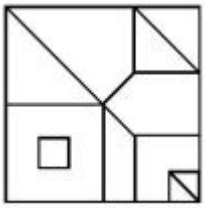
70. 4 marks

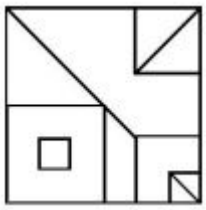
Identify the mirror image of the question figure, amongst the answer figures with respect to P-P.



(1) 

(2) 

(3) 

(4) 

71. 4 marks

Identify the correct mirror image of the question image with respect to P-P.



(1) 

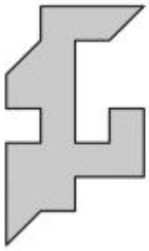
(2) 

(3) 

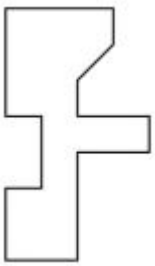
(4) 

72. 4 marks

Which of the answer figures fit best to the left side of the given question figure?



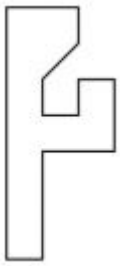
(1)



(2)



(3)

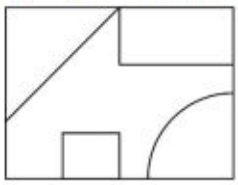


(4)

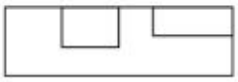


73. 4 marks

In the question figure, the top, front and right side view is given. Identify the most appropriate 3D view of the object from the answer figures.



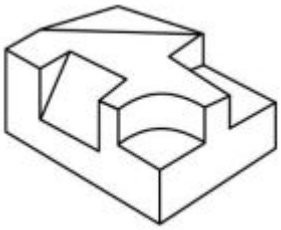
Top view

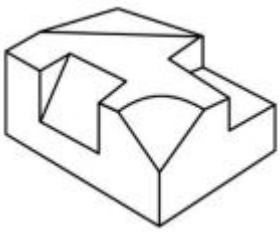


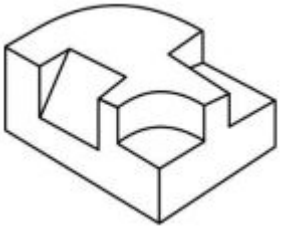
Front view

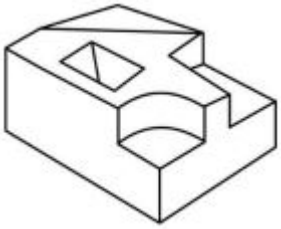


Right side view

(1) 

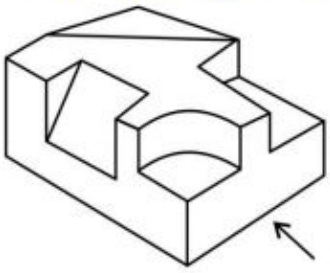
(2) 

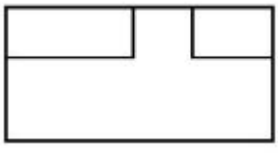
(3) 

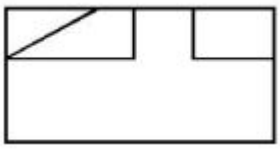
(4) 

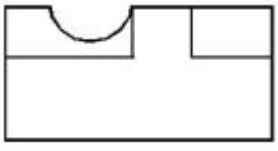
74. 4 marks

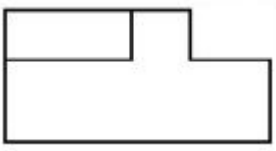
The question figure shows the 3D view of an object. Identify the most appropriate elevation (front view) looking in the direction of arrow.



(1) 

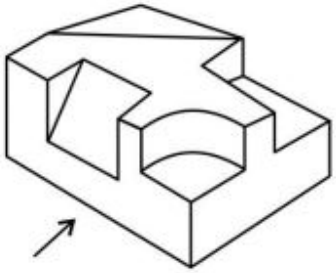
(2) 

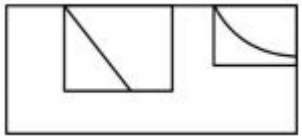
(3) 

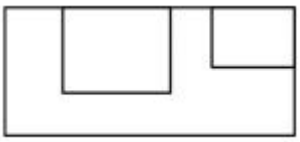
(4) 

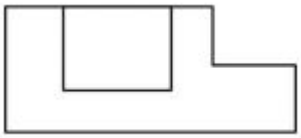
75. 4 marks

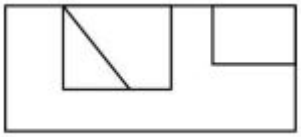
The question figure shows the 3D view of an object. Identify the most appropriate view of the object looking in the direction of the arrow.



(1) 

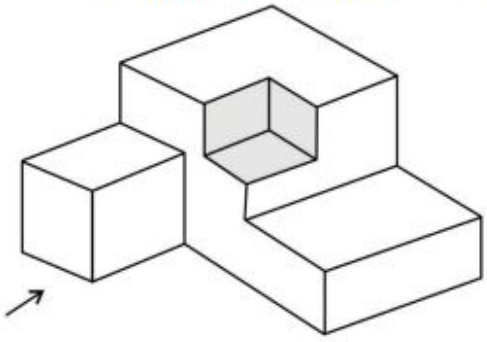
(2) 

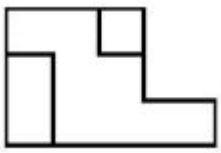
(3) 

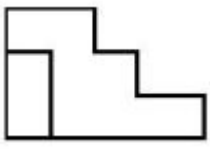
(4) 

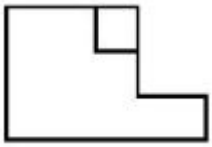
76. 4 marks

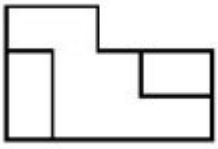
The question figure is the 3D view of an object. Identify the most appropriate front view of the object looking in the direction of the arrow.



(1) 

(2) 

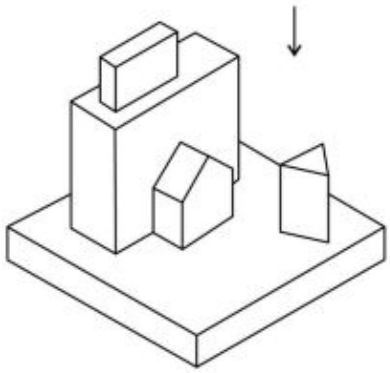
(3) 

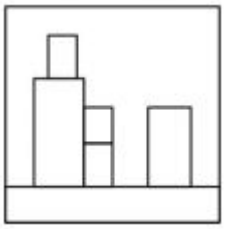
(4) 

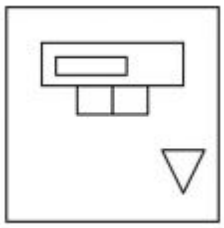
collegedunia

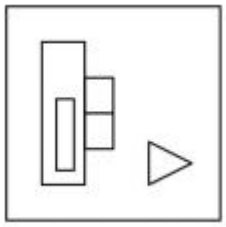
77. 4 marks

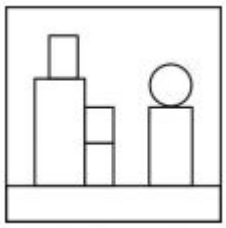
Question figure shows 3D view of an object. Identify the most appropriate top view of the given 3D object looking in the direction of an arrow, from the given answers figures.



(1) 

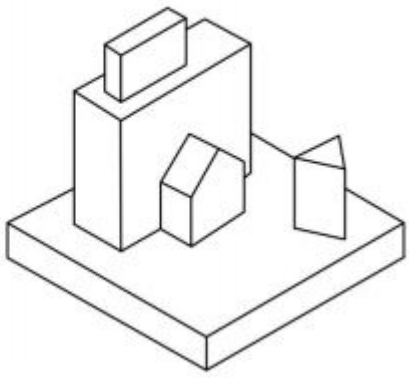
(2) 

(3) 

(4) 

78. 4 marks

Identify the number of surfaces in the problem figure.



(1) 24

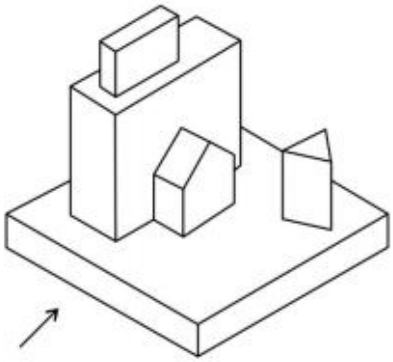
(2) 25

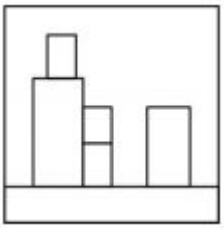
(3) 23

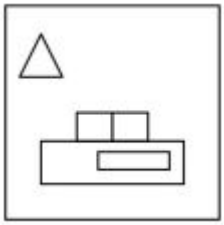
(4) 20

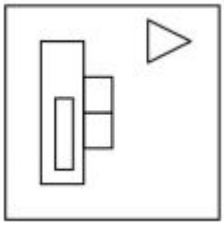
79. 4 marks

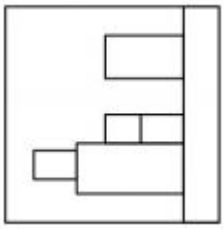
The question figure shows 3D view of an object. Identify the most appropriate elevation of the given 3D object, looking in the direction of an arrow, from the given answer figures.



(1) 

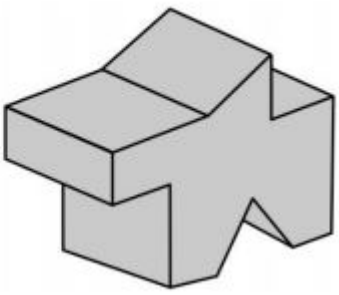
(2) 

(3) 

(4) 

80. 4 marks

Find out the total number of surfaces of the 3D object.



(1) 12

(2) 13

(3) 14

(4) 15

Planning

81. 4 marks

GIS as a tool used for spatial connectedness for

(1) Topology

(2) Topography

(3) Ecology

(4) Climatology

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82. 4 marks

Smart city scheme has been launched in which year?

(1) 2012

(2) 2016

(3) 2015

(4) 2014

---

83. 4 marks

With reference to the area which one among the following is the largest?

(1) Zonal Plan

(2) Master Plan

(3) Regional Plan

(4) Layout Plan

---

84. 4 marks

Given below are two statements:

Statement I: Full form of NFDB is "National Fisheries Development Board".

Statement II: Full form of NFDB is "National Forest Development & Board.

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

(1) Both Statement I and Statement II are true

(2) Both Statement I and Statement II are false

(3) Statement I is true but Statement II is false

(4) Statement I is false but Statement II is true

---

85. 4 marks

The Gandhian plan was presented by

(1) Sriman Narayan Agarwal

(2) J.L. Nehru

(3) M.M. Roy

(4) P.V. Narasimha Rao

86. 4 marks

In which 5 year plan, the growth, social justice and equality was focused.

(A) Second Five year plan

(B) Ninth Five year plan

(C) Third Five year plan

(D) Fourth Five year plan

Choose the correct answer from the options given below:

(1) A only

(2) B and D

(3) B only

(4) C only

87. 4 marks

In Urban Land Development, the model of sector theory was proposed by

(1) Charles Corea

(2) Ebenezer Howard

(3) Le-Corbusier

(4) Homer Hoyt

88. 4 marks

Who was the first Deputy Chairman of Planning Commission?

(1) Gulzarilal Nanda

(2) Sriman Narayan

(3) M.M. Roy

(4) P.V. Narasimha Rao

89. 4 marks

Grand Innovation Challenge was launched by:-

(1) "NITI" Aayog

(2) Finance Commission

(3) Planning Commission

(4) National Planning Committee

90. 4 marks

Who is the father of Indian Planning.

(1) Jawaharlal Nehru

(2) M.K. Gandhi

(3) Sir M. Vishveshshwariah

(4) B.R. Ambedkar

91. 4 marks

In master plan, a zone is shown in yellow colour. What is the land use of that zone?

(1) Residential

(2) Commercial

(3) Industrial

(4) Water Bodies

92. 4 marks

In master plan by which color, we show the industrial land use.

(1) Purple

(2) Grey

(3) Red

(4) Green

93. 4 marks

The book "Image of the City" is written by

(1) Christopher Alexander

(2) Kevin Lynch

(3) Oxford Newman

(4) Gorden Cullen

94. 4 marks

Match List I with List II.

List I	List II
(A) Carpet Area	(I) Built up area plus proportionate area of common areas
(B) Super built up Area	(II) Usable Area
(C) Set Back Area	(III) Entire carpet area plus external wall.
(D) Plinth Area	(IV) Minimum open space around the building

Choose the correct answer from the options given below:

(1) (A) – III, (B) – I, (C) – IV, (D) – II

(2) (A) – IV, (B) – II, (C) – I, (D) – III

(3) (A) – II, (B) – I, (C) – IV, (D) – III

(4) (A) – II, (B) – IV, (C) – III, (D) – I

95. 4 marks

Match List I with List II.

List I	List II
(A) Kolkata	(I) Radial
(B) Delhi	(II) Linear
(C) Chandigarh	(III) Organic
(D) Varanasi	(IV) Grid Iron

Choose the correct answer from the options given below:

(1) (A) – II, (B) – I, (C) – III, (D) – IV

(2) (A) – I, (B) – III, (C) – II, (D) – IV

(3) (A) – II, (B) – I, (C) – IV, (D) – III

(4) (A) – III, (B) – IV, (C) – I, (D) – II

96. 4 marks

In which year, HRIDAY Launched?

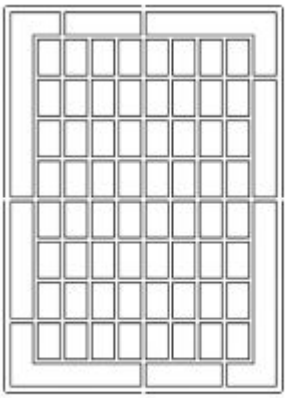
(1) 2014

(2) 2012

(3) 2015

(4) 2011

97. 4 marks



Which type of plan is this?

(1) Dandaka

(2) Chaturmukha

(3) Padmaka

(4) Karmukha

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98. 4 marks

The roman "FORUM" is also referred as:

(1) River

(2) Building

(3) Park

(4) Market Place

---

99. 4 marks

If all the directions are changed in the manner that North becomes South and Vice-Versa, then North-West will be

(1) South-East

(2) North-East

(3) South-West

(4) North-West

---

100. 4 marks

Inspector Shyam started from Police Station on inspection. After travelling straight for a distance of four (4) KM, he turned left for market and travelled straight 600 meters. He now turned left again and travelled straight for another 200 meters, and turned left and travelled straight for 600 meters. How far is Shyam from Police Station?

(1) 3.4 Km

(2) 4.8 Km

(3) 3.8 Km

(4) 4.4 Km

---

101. 4 marks

The highest body which approves five year plans of India is:

(1) Parliament

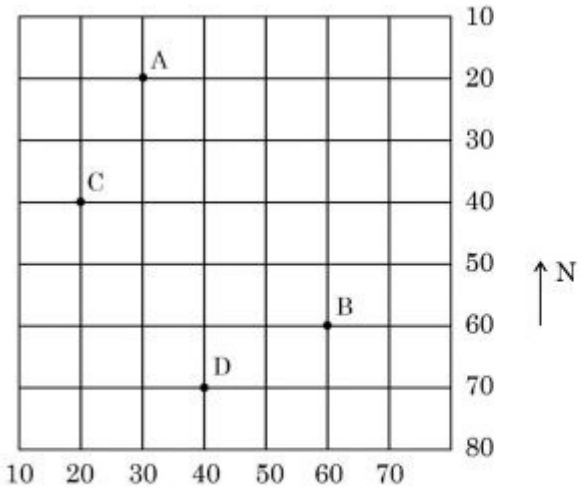
(2) Planning Commission

(3) Union Cabinet

(4) National Development Council

---

102. 4 marks



In the given diagram, from A point to C point, how much you have to move

(1) 20

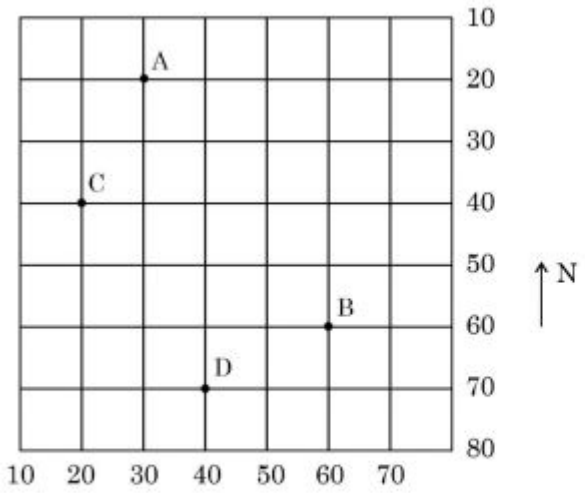
(2) 30

(3) 10

(4) 40

---

103. 4 marks



In the given diagram, from point C to point B, which direction you have to move

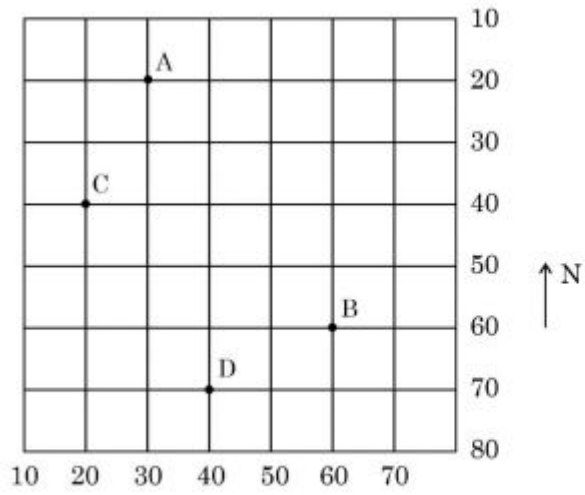
(1) East – North

(2) North – South

(3) South – East

(4) West – South

104. 4 marks



With the reference to the diagram, choose the correct statement.

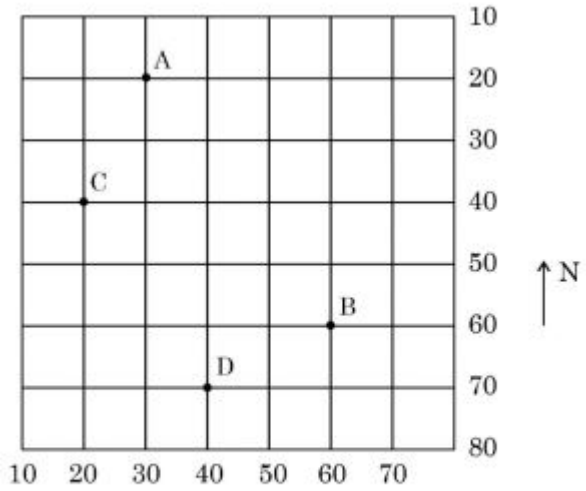
(1) The distance from B to D is 20

(2) The distance from B to D is 10

(3) The distance from B to C is 10

(4) The distance from B to D is 30

105. 4 marks



In the given diagram, northern most point is

(1) C only

(2) D only

(3) B only

(4) A only