



Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

SSC CHSL 2021 (Tier-I) Previous Year Paper (07-Jun-2022) (Shift 1)

Total Time: 1 Hour

Total Marks: 200

Instructions

Sl No.	Section Name	No. of Question	Maximum Marks	Negative Marks	Positive Marks
1	English Language	25	50	0.5	2
2	General Intelligence	25	50	0.5	2
3	Quantitative Aptitude	25	50	0.5	2
4	General Awareness	25	50	0.5	2

- 1.) A total of 60 minutes is allotted for the examination.
- 2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.
- 3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

English Language

1. Select the most appropriate ANTONYM of the given word. (+2, -0.5)

Meagre

- a. Civilised
- b. miserable
- c. Plentiful
- d. sparse

-
2. Select the most appropriate synonym of the given word. (+2, -0.5)

Slender

- a. Lively
- b. Energetic
- c. Defame
- d. Frail

-
3. Select the most appropriate meaning of the given idiom. (+2, -0.5)

To draw a blank

- a. To win by chance
- b. To fake something
- c. To be unsuccessful at eliciting a response

d. To get revenge

4. Select the option that can be used as a one-word substitute for the given group of words (+2, -0.5)

Take and use the thoughts, inventions, etc. of another person as one's own.

- a. Copyright
 - b. Compose
 - c. Produce
 - d. Plagiarise
-

5. Select the option that expresses the given sentence in direct speech. (+2, -0.5)

Kavi asked Gina if French was her mother tongue.

- a. "Whether French is your mother tongue?" Kavi asked Gina.
 - b. "Your mother tongue is French," Kavi enquired Gina.
 - c. "French is your mother tongue," Kavi told Gina.
 - d. "Is French your mother tongue?" Kavi asked Gina.
-

6. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

A major _____ of modern times is that we have come to assume that all creation is _____ to the material interests of us, the homo-sapiens inhabiting earth, which has cut the _____ relationship we otherwise enjoyed with other constituents of creation

- a. felicity, disobedient, hindering
 - b. frankness, superior, disadvantageous
 - c. fallacy, subservient, symbiotic
 - d. accuracy, domineering, encumbering
-

7. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

We have already said that inconsistency is not a matter of _____ education or lack of logical _____.

- a. indefinite, stupor
 - b. institutional, shiver
 - c. inadequate, rigour
 - d. inadvertent, snigger
-

8. Select the correct homonym from the given options to fill in the blank. (+2, -0.5)

Nadia had an apple and a _____ for breakfast.

- a. pear
 - b. prier
 - c. pair
 - d. pare
-

9. Identify the option that arranges the given parts in the correct order to form a meaningful and coherent paragraph. (+2, -0.5)

- a) Though she was a woman of slim build
- b) Mrs. Hima Raman used to teach us geography at school
- c) she was remarkably strong and energetic
- d) She had beautiful eyes and a sharp nose

a. b, d, a, c

b. a, c, d, b

c. a, b, c, d

d. c, d, a, b

10. Which word in the given sentence is the ANTONYM of – doubtful? (+2, -0.5)

The poverty of his childhood played a decisive role in his adult life.

a. decisive

b. played

c. adult

d. poverty

11. Select the correct homonym from the given options to fill in the blank. (+2, -0.5)

I wonder if the committee members changed_____plans.

a. they're

- b. their
 - c. dare
 - d. there
-

12. Select the most appropriate synonym of the given word. (+2, -0.5)

Chastise

- a. Discipline
 - b. Order
 - c. Sever ties
 - d. Chase
-

13. Select the most appropriate option that can substitute the underlined segment in the given sentence. (+2, -0.5)

We are waiting to the arrival of our cousins from the West.

- a. at
 - b. towards
 - c. since
 - d. for
-

14. Select the most appropriate option to fill in the blank. (+2, -0.5)

The news of the robbery spread faster than _____.

- a. wind
 - b. air
 - c. water
 - d. fire
-

15. Select the most appropriate meaning of the given idiom. (+2, -0.5)

Man of letters

- a. Dancer
 - b. Scholar
 - c. Singer
 - d. Actor
-

16. Select the most appropriate ANTONYM of the given word. (+2, -0.5)

Ignominy

- a. Beneficial
 - b. Restorative
 - c. Pejorative
 - d. Glory
-

17. Select the most appropriate meaning of the given idiom. (+2, -0.5)

Jump the gun

- a. Intentionally raise a false alarm
 - b. There is always a cost to do something
 - c. Start something too soon or act hastily
 - d. Watch a person carefully
-

18. Select the option that expresses the given sentence in passive voice. (+2, -0.5)

They propose to build a dam for irrigation purposes

- a. Irrigation dam is built.
 - b. Build a dam for irrigation purposes.
 - c. It is proposed to build a dam for irrigation purposes.
 - d. For the irrigation purposes a dam has been built.
-

19. Select the most appropriate synonym of the given word. (+2, -0.5)

Bestial

- a. Brutish
 - b. Greedy
 - c. High-minded
 - d. Noble
-

20. The following sentence has been split into four segments. Identify the segment that contains a grammatical error. (+2, -0.5)

The students stopped / their chatter / as soon as them noticed / the teacher enter the classroom.

- a. their chatter
- b. The students stopped
- c. the teacher enter the classroom
- d. as soon as them noticed

21. **Direction:** In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

The (1) _____ of roads in the 1700s and 1800s made the (2) _____ of goods and people much easier. Many nobles and businessmen (3) _____ their wealth in building bridges and tunnels. John Metcalfe was one of the most (4) _____ road builders of this period. He was blind and felt the surface of the road. This was done to make sure that it met his (5) _____.

Select the most appropriate option to fill in blank number 1.

- a. stagnation
- b. recovery
- c. setback
- d. improvement

22. **Direction:** In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

The (1) _____ of roads in the 1700s and 1800s made the (2) _____ of goods and people much easier. Many nobles and businessmen (3) _____ their wealth in building bridges and tunnels. John Metcalfe was one of the most (4) _____ road builders of this period. He was blind and felt the surface of the road. This was done to make sure that it met his (5) _____.

Select the most appropriate option to fill in blank number 2.

- a. traffic
- b. delivery
- c. shipment
- d. transportation

23. Direction: In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

The (1) _____ of roads in the 1700s and 1800s made the (2) _____ of goods and people much easier. Many nobles and businessmen (3) _____ their wealth in building bridges and tunnels. John Metcalfe was one of the most (4) _____ road builders of this period. He was blind and felt the surface of the road. This was done to make sure that it met his (5) _____.

Select the most appropriate option to fill in blank number 3.

- a. donated
- b. supported
- c. promoted

d. invested

- 24. Direction:** In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

The (1) _____ of roads in the 1700s and 1800s made the (2) _____ of goods and people much easier. Many nobles and businessmen (3) _____ their wealth in building bridges and tunnels. John Metcalfe was one of the most (4) _____ road builders of this period. He was blind and felt the surface of the road. This was done to make sure that it met his (5) _____.

Select the most appropriate option to fill in blank number 4.

- a. credulous
- b. fascinated
- c. attentive
- d. remarkable

- 25. Direction:** In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+2, -0.5)

The (1) _____ of roads in the 1700s and 1800s made the (2) _____ of goods and people much easier. Many nobles and businessmen (3) _____ their wealth in building bridges and tunnels. John Metcalfe was one of the most (4) _____ road builders of this period. He was blind and felt the surface of the road. This was done to make sure that it met his (5) _____.

Select the most appropriate option to fill in blank number 5.

- a. desire
- b. requirements
- c. wish
- d. condition

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General Intelligence

26. Select the correct mirror image of the given combination when the mirror is placed at MN as shown below. (+2, -0.5)



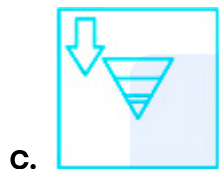
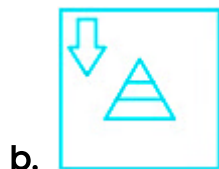
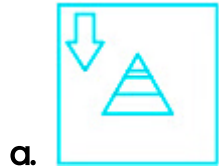
- a. h264by
- b. h294by
- c. y294bh
- d. h264by

27. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series. (+2, -0.5)

A _ D K P A B _ K P A B F _ P A B _ K P

- a. B P A G
- b. B E K G
- c. B C G D
- d. B D G E

28. Select the figure from among the given options that can replace the question mark (?) in the following series. ac (+2, -0.5)



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29. Select the option that is related to the fourth number in the same way as the first number is related to the second number and the fifth number is related to the sixth number. (+2, -0.5)

$$15 : 105 :: ? : 196 :: 4 : 28$$

- a. 30
- b. 25
- c. 28
- d. 22

30. Select the option that represents the correct order of the given words as they would appear in an English dictionary. (+2, -0.5)

- 1. Assignment
- 2. Assortment
- 3. Asymmetric
- 4. Astrology
- 5. Astronaut

- a. 1, 2, 3, 4, 5
- b. 1, 5, 4, 2, 3
- c. 1, 2, 4, 5, 3
- d. 1, 4, 2, 3, 5

31. In a certain code language, "DISEASE" is written as "EKVEASE", and "FACULTY" is written as "GCFULTY". How will "HELPFUL" be written in that language? (+2, -0.5)

- a. IGPPFUL
- b. IFOPFUL
- c. IGOPFUL
- d. IGNPFUL

32. The second number in the given number pairs is obtained by performing certain mathematical operation(s) on the first number. The same (+2, -0.5)

operation(s) are followed in all the number pairs except one. Find that odd number pair.

a. $678 : 42$

b. $546 : 30$

c. $283 : 28$

d. $125 : 16$

-
33. Select the set in which the numbers are related in the same way as are the numbers of the following set. (+2, -0.5)

(43, 34, 387)

(13, 10, 39)

(NOTE : Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding / deleting / multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is NOT allowed)

a. (18, 13, 90)

b. (16, 12, 54)

c. (19, 15, 44)

d. (17, 14, 67)

-
34. Which of the following numbers will replace the question mark (?) in the given series? (+2, -0.5)

627, 636, 619, ?, 611, 652

- a. 644
- b. 640
- c. 625
- d. 635

35. Select the set in which the numbers are related in the same way as are the numbers of the following set. (+2, -0.5)

(78, 13, 30)

- a. (56, 14, 80)
- b. (280, 70, 20)
- c. (360, 50, 40)
- d. (350, 17, 65)

36. Select the option that is related to the fifth term in the same way as the second term is related to the first term and the fourth term is related to the third term. (+2, -0.5)

CHAISE : EHIASC :: MODULE : EOUDLM :: SLIDER : ?

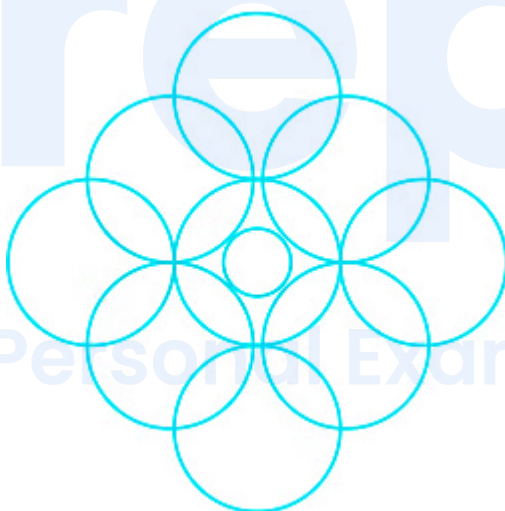
- a. RLIESD
- b. RLISDE
- c. RLDIES
- d. RLIDSE

37. Which letter-cluster will replace the question mark (?) to complete the given series? (+2, -0.5)

WAVR, ZHGG, ?, FVCK, ICNZ

- a. CISL
- b. DHXE
- c. DKAV
- d. CORV

38. How many circles are there in the given figure? (+2, -0.5)



- a. 12
- b. 10
- c. 11
- d. 9

39. Select the option that is related to the third term in the same way as the second term is related to the first term and the sixth term is related to the fifth term. (+2, -0.5)

10 : 40 :: 17 : ? :: 14 : 112

- a. 187
- b. 190
- c. 162
- d. 156

40. Two different positions of the same dice are shown, the six faces of which are numbered from 6 to 11. Select the number that will be on the face opposite to the one showing '6'. (+2, -0.5)



- a. 7
- b. 10
- c. 9
- d. 8

41. If 12 January 2019 was on Monday, what was the day on 14 December 1917? (+2, -0.5)

- a. Sunday
- b. Tuesday

- c. Monday
- d. Wednesday

42. The second number in the given number-pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) are followed in all the number-pairs EXCEPT one. Find that odd number-pair. (+2, -0.5)

- a. 100 : 7
- b. 25 : 4
- c. 169 : 10
- d. 64 : 5

43. Three Statements are given followed by Three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements. (+2, -0.5)

Statements:

All birds are parrots.

No parrot is a crow.

Some owls are crows.

Conclusions:

I. Some parrots are owls.

II. No crow is a bird.

III. No owl is a bird.

- a. Both conclusions I and III follow.
- b. Both conclusions I and II follow.
- c. Only conclusion II follows.
- d. Only conclusion I follows.

44. Select the correct combination of mathematical signs to replace the * signs and to balance the given equation. (+2, -0.5)

$$75 * 25 * 40 * 63 * 92 * 91$$

- a. $\div, \times, +, -, =$
- b. $\div, +, -, \times, =$
- c. $-, +, \div, \times, =$
- d. $-, \times, \div, +, =$

45. Select the option that is related to the fifth term in the same way as the second term is related to the first term and the fourth term is related to the third term. (+2, -0.5)

MADE : JXAB :: RULE: ORIB :: GOAL:?

- a. DMXI
- b. DLXH
- c. ELXI
- d. DLXI

46. Select the correct combination of mathematical signs to replace the * signs and to balance the given equation. (+2, -0.5)

$$17 * 3 * 48 * 42 * 14$$

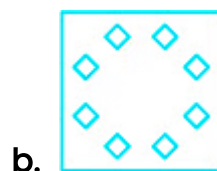
a. +, -, ×, =

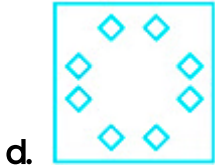
b. =, +, -, ×

c. ×, -, =, ÷

d. ÷, ×, =, -

47. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded? (+2, -0.5)





48. In a certain code language, 'UNDER' is written as 'WLFCT' and 'WORDS' is written as 'YMTBU'. How will 'LOFTY' be written in that language? (+2, -0.5)

- a. NGTRH
- b. NMHRA
- c. NHMYA
- d. NJKLA

49. If A denotes '+', B denotes '×', C denotes '-' and D denotes '÷', then what will come in place of '?' in the following equation? (+2, -0.5)

$$(17 \text{ B } 4) \text{ A } (29 \text{ B } 3) \text{ C } (85 \text{ D } 17) \text{ A } 26 \text{ C } 13 \text{ A } 52 = ?$$

- a. 240
- b. 230
- c. 215
- d. 225

50. Select the correct mirror image of the given combination when the mirror is placed at XY as shown. (+2, -0.5)

8F7E6D $\begin{array}{c} X \\ \hline Y \end{array}$

- a. 8F7E6D
- b. D6E7F8
- c. 8F7E6D
- d. D6E7F8

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Quantitative Aptitude

51. The marked price of an article is 30% more than the cost price. A discount of 15% is offered on the marked price. By what percentage is the final price more than the cost price? (+2, -0.5)
- a. 15.5%
 - b. 8.5%
 - c. 10.5%
 - d. 19.5%
-
52. The mean proportional between a number and 20 is 50. What is that number? (+2, -0.5)
- a. $10\sqrt{10}$
 - b. 8
 - c. 125
 - d. 100
-
53. The average run of 8 players is 6.5. The average run increases by 1 when 2 new players are included. What is the average run of new players? (+2, -0.5)
- a. 12.5
 - b. 11.5
 - c. 10.5
 - d. 9.5

54. The population of a city increased by 5%, 2% and 6% in the first, second and third year, respectively. At the end of the third year, the population became 56,763. Find the initial population of the city. (+2, -0.5)

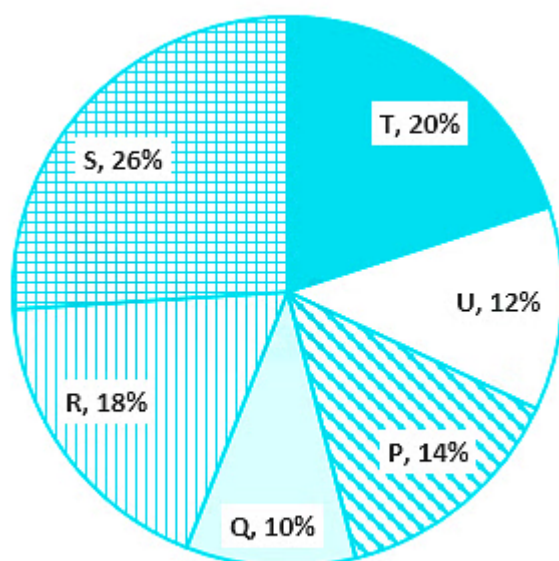
- a. 50000
- b. 52000
- c. 51000
- d. 53000

55. If $a + b = \sqrt{7}$ and $a - b = \sqrt{5}$, then find value of $8ab(a^2 + b^2) - (a - b)^2$. (+2, -0.5)

- a. 23
- b. 21
- c. 27
- d. 19

56. The following pie chart describes sales of a particular brand of T-shirts in 6 of their outlets P, Q, R, S, T, and U. (+2, -0.5)

The total sales in which two given outlets exceed the sales in outlet S?



- a. P and Q
- b. R and U
- c. Q and U
- d. P and U

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57. Find the area of a triangle with sides 3 cm, 4 cm, and 5 cm. (+2, -0.5)

- a. 7 cm^2
- b. 8.5 cm^2
- c. 10 cm^2
- d. 6 cm^2

58. Rani covers a distance of 475 m in a minute. How much distance would Rani have covered in an hour if she travelled at 1.2 times of her current speed? (+2, -0.5)

- a. 34.1 km
- b. 34.2 km
- c. 34.3 km
- d. 34.4 km

59. The population of a city is 225000. If the annual birth rate and death rates are 4.5% and 2.5%, respectively, calculate the increase in the population of the city after 2 years. (+2, -0.5)

- a. 9090
- b. 9099
- c. 9909
- d. 9009

60. If $\operatorname{cosec}^2 \theta + \cot^2 \theta = \frac{5}{3}$, then what is the value of $\cot 2\theta$? (+2, -0.5)

- a. $\frac{2}{\sqrt{3}}$
- b. $\frac{1}{\sqrt{3}}$
- c. $\frac{1}{\sqrt{3}}$
- d. $\frac{2}{\sqrt{3}}$

61. The table below gives the numbers of seats won in the local body election in a state by different political parties in the years 2019 to 2014. (+2, -0.5)

Name of the Party	Result in 2019	Result in 2014
AGP	303	282
Con Party	52	43
CMK	23	0
AICT	22	34
Kanta Dal	16	2
Shiv Party	18	18

Find the percentage increase in the number of seats won by AGP in 2019 over the number of seats it won in 2014.(Give your answer correct to two decimal places.)

- a. 5.45%
- b. 6.45%
- c. 4.45%
- d. 7.45%

Your Personal Exams Guide

62. Raghav and Aditya can complete a work in 3 days. Aditya and Ishaan can complete the same work in 4 days. Ishaan and Raghav can complete it in 6 days. How many days will it take for Raghav, Aditya and Ishaan, combined together, to complete the same amount of work? (+2, -0.5)
- a. $3\frac{2}{3}$
 - b. $2\frac{2}{3}$
 - c. $3\frac{3}{4}$
 - d. $2\frac{4}{5}$

63. $96 \div 48 \times \frac{29}{2} + 5^2 - (1 + 2 + 3 + 4) = ?$

(+2, -0.5)

a. 54

b. 34

c. 44

d. 64

64. What will be the average of the odd numbers from 21 to 81?

(+2, -0.5)

a. 51

b. 79

c. 29

d. 61

65. The total surface area of a solid cylinder whose radius is r cm and height is $\frac{r}{2}$ cm (in cm^2) is:

(+2, -0.5)

a. $3\pi \frac{r^2}{2}$

b. $4\pi r^2$

c. $3\pi r^2$

d. $\pi \frac{r^3}{2}$

66. If two successive discounts of 10% and 5%, are given, then what will be the net discount percentage? (+2, -0.5)

- a. 14.5%
- b. 12.5%
- c. 15.5%
- d. 16.5%

67. Find the ratio in which pulses at ₹80 per kg can be mixed with pulses at ₹95 per kg to get a mixture worth ₹85 per kg. (+2, -0.5)

- a. 2 : 1
- b. 3 : 2
- c. 2 : 5
- d. 1 : 2

68. When payment is made online, the discount offered is 20%. Additional discount of 8% is given to ABC credit card holders. Sandeep buys a laptop of ₹35,000 by paying online and pays through his ABC credit card. How much does he need to pay? (+2, -0.5)

- a. ₹25,770
- b. ₹25,740
- c. ₹25,750
- d. ₹25,760

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69. Two triangles ΔABC and ΔDEF are similar. If $AB = 6$ cm, $BC = 8$ cm and $DE = 9$ cm, find EF . (+2, -0.5)

- a. 8 cm
- b. 9 cm
- c. 12 cm
- d. 10 cm

70. Number of puffs sold by 4 different bakeries in 3 different months. (+2, -0.5)

Bakery	January	February	March
A	150	109	138
B	78	87	125
C	157	220	220
D	175	132	197

What is the respective ratio between the number of puffs sold by bakeries A and B together in February and the total number of puffs sold by bakeries C and D together in the same month?

- a. 24 : 32
- b. 44 : 92
- c. 48 : 89
- d. 49 : 88

71. If a man were to sell his home theatre system for ₹14,400, he would lose 25%. But if he wants to gain 20%, the item should be sold for: (+2, -0.5)

- a. ₹23,000
- b. ₹22,960
- c. ₹23,040
- d. ₹23,300

72. Which of the following numbers is NOT divisible by 150? (+2, -0.5)

- a. 320550
- b. 333300
- c. 463750
- d. 201300

73. The surface area of a spherical balloon is $400\pi \text{ cm}^2$. What is the volume of air in it? (+2, -0.5)

- a. $\frac{400}{3}\pi \text{ cm}^3$
- b. $\frac{4000}{3}\pi \text{ cm}^3$
- c. $\frac{3000}{3}\pi \text{ cm}^3$
- d. $\frac{1000}{3}\pi \text{ cm}^3$

74. If $x + y = 13$, then $(x - 8)^3 + (y - 5)^3$ is: (+2, -0.5)

- a. 2197
- b. 169
- c. 0
- d. 13

75. The product of three consecutive odd numbers is 693. What is the smallest of the three numbers? (+2, -0.5)

- a. 9
- b. 11
- c. 5
- d. 7

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General Awareness

76. Who among the following is NOT a tabla player? (+2, -0.5)

- a. Swapan Chaudhuri
- b. Tanmoy Bose
- c. G N Balasubramaniam
- d. Bickram Ghosh

77. In May 2021, ushering in his second term, Pinarayi Vijayan took the oath as the _____ Chief Minister of Kerala. (+2, -0.5)

- a. 9th
- b. 14th
- c. 11th
- d. 13th

78. What type of precipitation is common at the equatorial depression in the Congo Basin, the Amazon Basin, and the islands of Southeast Asia? (+2, -0.5)

- a. Conventional precipitation
- b. Monsoonal precipitation
- c. Frontal precipitation
- d. Orographic precipitation

79. Who among the following founded the 'Shillong Chamber Choir'? (+2, -0.5)

- a. Neil Nongkynrih
- b. Madhup Mudgal
- c. Debashish Chaudhuri
- d. António Fortunato de Figueiredo

80. To which of the following states does Ramchandraiah, a Koya tribal singer, who received Padma Shri 2022, belong? (+2, -0.5)

- a. Uttarakhand
- b. Telangana
- c. Bihar
- d. Madhya Pradesh

81. In March 2021, _____ became the first female Indian cricketer and the second, internationally, after England's Charlotte Edwards, to breach the 10000-run mark in international cricket. (+2, -0.5)

- a. Mithali Raj
- b. Poonam Yadav
- c. Smriti Mandhana
- d. Harleen Deol

82. Whose memoir is titled 'My Life in Full: Work, Family and Our Future'? (+2, -0.5)

- a. Renuka Ramnath
- b. Indra Nooyi
- c. Shobhana Bhartia
- d. Kiran Majumdar Shaw

83. Arvind Adiga wrote his famous award winning novel _____ in 2008. (+2, -0.5)

- a. Last Man in Tower
- b. A Suitable Boy
- c. The White Tiger
- d. Selection Day

84. With whom did Camillo Golgi receive the Nobel Prize in 1906 for his work on the structure of the nervous system? (+2, -0.5)

- a. Lina Aletti
- b. Ettore Marchiafava
- c. Santiago Ramony Cajal
- d. Cesare Lombroso

85. Guru Vempati Chinna Satyam, awarded with the honour of Padma Bhushan (+2, -0.5)
by the Government of India, is known for his brilliant performance and
choreography in which for the following styles of Indian classical dances?

- a. Kuchipudi
 - b. Kathakali
 - c. Sattriya
 - d. Odissi
-

86. Who among the following has written the book 'A century is not enough: (+2, -0.5)
my roller coaster ride to success'?

- a. Kapil Dev
 - b. Virender Sehwag
 - c. Sourav Ganguly
 - d. Ravi Shastri
-

87. In which year was the Pro Kabaddi League founded in India? (+2, -0.5)

- a. 2014
 - b. 2016
 - c. 2013
 - d. 2015
-

88. With which musical instrument can you associate the name of Ali Akbar Khan? (+2, -0.5)

- a. Rudra Veena
- b. Been
- c. Sarangi
- d. Sarod

89. Atal Ranking of Institutions on Innovation Achievements is an initiative by: (+2, -0.5)

- a. Ministry of Education
- b. Ministry of Power
- c. Ministry of Tourism
- d. Ministry of Planning

90. Yamini Krishnamurthy, who received the Padma Vibhushan Award in 2016, is an Indian dancer in which of the following dance forms? (+2, -0.5)

- a. Mohiniyattam
- b. Odissi
- c. Manipuri
- d. Bharatanatyam

91. Identify the chemical structure for potassium hydroxide. (+2, -0.5)

- a. K_2H_2
- b. POH_2
- c. KOH
- d. K_2O

92. Vidyagauri Adkar is associated with _____ classical dance form. (+2, -0.5)

- a. Kuchipudi
- b. Odissi
- c. Kathak
- d. Bharatanatyam

93. Which element's symbol is derived from the Greek name hydrargyrum, meaning 'liquid silver' – indicating its shiny surface? (+2, -0.5)

- a. Zirconium
- b. Silver
- c. Mercury
- d. Antimony

94. The idea of a single citizenship in the Constitution of India was borrowed from: (+2, -0.5)

- a. Austria

- b.** Germany
 - c.** United Kingdom
 - d.** France
-

95. Padma Bhushan awardee Pandit Nikhil Jyoti Ghosh was a _ _ _ _ _ **(+2, -0.5)**
player.

- a.** tabla
 - b.** flute
 - c.** harmonium
 - d.** sarod
-

96. Which element of Group 13 of the periodic table liquefies just above room **(+2, -0.5)**
temperature?

- a.** Gallium
 - b.** Indium
 - c.** Thallium
 - d.** Aluminium
-

97. What was the rank of India in AIBA World Youth Boxing Championship 2021 **(+2, -0.5)**
held in Poland?

- a.** 2
- b.** 3

c. 4

d. 1

98. Since 2017, the Finance Minister in India has been presenting the Union Budget for the country on which date? **(+2, -0.5)**

a. 1 October

b. 1 August

c. 1 January

d. 1 February

99. Which of the following is a soft metal that ignites in air and reacts violently with water and has atomic number 37 in the periodic table? **(+2, -0.5)**

a. Caesium

b. Francium

c. Gallium

d. Rubidium

100. What type of forests, consisting of bushes and scrubs, exist in India where the regions receive less than 70 cm rainfall? **(+2, -0.5)**

a. Tropical deciduous forests

b. Montane forests

c. Tropical thorn forests

d. Tropical evergreen forests

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Answers

1. Answer: c

Explanation:

The correct answer is **Plentiful**.

★ Key Points

- The **most appropriate** antonym for the given word ' **Meagre** ' is ' **Plentiful** '.
- The meaning of the word ' **Meagre** ' is ' **too small in amount** '.
- The meaning of the word ' **Plentiful** ' is ' **available in large amounts or numbers** '.
- Hence, the **most appropriate** answer is ' **Plentiful** '.

★ Additional Information

- Let's understand the other options.
 - **Civilized** – well organized; having a high level of social and cultural development.
 - **Miserable** – unpleasant; making you feel unhappy.
 - **Sparse** – small in quantity or amount.

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2. Answer: d

Explanation:

The correct answer is **Frail**.

★ Key Points

- The **most appropriate** synonym for the given word ' **Slender** ' is ' **Frail** '.
- The meaning of the word ' **Slender** ' is ' **(used about a person or part of somebody's body) thin in an attractive way** '.
- The meaning of the word ' **Frail** ' is ' **weak or not healthy** '.

- Hence, the **appropriate** answer is ' **Frail** '.

★ Additional Information

- Let's understand the other options.
 - **Lively** – full of energy, interest, excitement, etc.
 - **Energetic** – full of or needing energy and enthusiasm.
 - **Defame** – to harm somebody by saying or writing bad or false things about him/her.

3. Answer: c

Explanation:

The correct answer is 'To be unsuccessful at eliciting a response '.

★ Key Points

- The **most appropriate** meaning of the given idiom ' **To draw a blank** ' is 'To be unsuccessful at eliciting a response '.
- **To draw a blank** : *to get no result or response.*
 - E.g. Detectives investigating the case have drawn a blank so far.
- Therefore, as per the points mentioned above, we find that the **correct answer** is Option 3.

★ Additional Information

- Let's look at some similar idioms.
 - **Fight a losing battle** – *to try hard to do something when there is no chance that you will succeed*
 - The police are fighting a losing battle against a rising tide of crime.
 - **Flog a dead horse** – *waste energy on a lost cause or a situation that cannot be changed.*
 - He keeps trying to get it published but I think he's flogging a dead horse.
 - **Running on empty** – *have exhausted all of one's resources.*

- He was running on empty and even the alcohol had worn off.

4. Answer: d

Explanation:

The correct answer is ' **Plagiarise** '.

★ Key Points

- The **appropriate** one-word substitution for 'Take and use the thoughts, inventions, etc. of another person as one's own' is ' **Plagiarise** '.
- Let's understand the other options.
 - **Copyright** – *the legal right to be the only person who may print, copy, perform, etc. a piece of original work, such as a book, a song, or a computer program.*
 - **Compose** – *to be the parts that together form something.*
 - **Produce** – *to make something to be sold, especially in large quantities.*

5. Answer: d

Explanation:

The correct answer is ' **"Is French your mother tongue?" Kavi asked Gina.** '

★ Key Points

- The **most appropriate** option that expresses the sentence ' **Kavi asked Gina if French was her mother tongue.** ' in direct speech is ' **"Is French your mother tongue?" Kavi asked Gina.** '
- **Direct speech** is when we simply repeat what someone says, putting the phrase between speech marks.
 - **E.g.** *Paul came in and said, "I'm really hungry."*
- Hence, as per the above-mentioned points, the correct answer is **Option 4.**

★ Additional Information

- Let's understand **Indirect speech** .
 - When we want to report what someone said without speech marks and without necessarily using exactly the same words, we can use indirect speech (also called reported speech).
 - **E.g. Direct speech** : "We're quite cold in here."
Indirect speech : They say (that) they're cold.

6. Answer: c

Explanation:

The correct answer is " **fallacy, subservient, symbiotic** ".

★ Key Points

- **Fallacy** means **untrue notions** .
 - **Example** : The belief that the corner house is haunted is a **fallacy**.
- **Subservient** means **acting as subordinate** .
 - **Example**: Even though Willy is talented, he acts as a **subservient** .
- **Symbiotic** means **dependence on each other equally** .
 - **Example**: Tina and her friend share a **symbiotic** relationship.
- Therefore, the appropriate answer is "fallacy, subservient, symbiotic".

★ Additional Information

- **Frankness** – being honest and open.
- **Superior** – in a higher rank or position.
- **Disadvantageous** – without any benefit.
- **Accuracy** – exactly to the point.
- **Domineering** – wanting to control other people with a strong character.
- **Encumbering** – a burden.
- **Felicity** – state of being very happy.
- **Disobedient** – refusal to listen to the rules.
- **Hindering** – troubling.

7. Answer: c

Explanation:

The correct answer is " **inadequate, rigour** ".

★ Key Points

- **Inadequate** means **not sufficient** .
 - **Example:***The time was **inadequate** to finish the exam.*
- **Rigour** means the **quality of being careful and detailed**.
 - **Example:***The detective examined the site **rigorously** for clues.*
- Therefore, the appropriate option is "inadequate, rigour".

★ Additional Information

- **Indefinite** - not fixed.
- **Stupor** - almost unconscious
- **Institutional** - connected to an institution or body.
- **Shiver** - trembling.
- **Inadvertent** - an unintentional action.
- **Snigger** - to laugh in an unpleasant way.

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8. Answer: a

Explanation:

The correct answer is **pear** .

★ Key Points

- The **most appropriate** homonym to fill in the blank is ' **pear** '.
- Considering *the other food item that is mentioned in the sentence is an apple, the other item will automatically be a fruit as well* .

- The word '**pear**' means '*a fruit that has yellow or green skin and is white inside. Pears are thinner at the top than at the bottom.*'
- Hence, the appropriate answer is '**pear**'.

★ Additional Information

- Let's understand the other options.
 - **Prier** – a curious or inquisitive person.
 - **Pair** – two things of the same type that are used or worn together.
 - **Pare** – to remove the thin outer layer of something.

9. Answer: a

Explanation:

The correct answer is **b, d, a, c**.

★ Key Points

- The **most appropriate** order for the sentences to make a meaningful and coherent paragraph is **b, d, a, and c**.
- *When a person is talked about, then the correct order to describe is to mention the name and designation, appearance, and then qualities.*
- So, according to the above-mentioned points, the paragraph will be as follows:
 - *Mrs Hima Raman used to teach us geography at school. She had beautiful eyes and a sharp nose. Though she was a woman of slim build, she was remarkably strong and energetic.*

10. Answer: a

Explanation:

The correct answer is '**decisive**'.

★ Key Points

- The **most appropriate** antonym for the given word 'doubtful' is 'decisive'.
- The meaning of the word 'doubtful' is 'unlikely or uncertain'.
- The meaning of the word 'decisive' is 'making something certain of final'.
- Hence, the most appropriate answer is 'decisive'.

★ Additional Information

- Let's understand the other options.
 - **Played** – to take a part in.
 - **Adult** – a person or an animal that is fully grown.
 - **Poverty** – the state of being poor.

11. Answer: b

Explanation:

The correct answer is 'their'.

★ Key Points

- The **most appropriate** homonym for the given blank is 'their'.
- The meaning of the word 'their' is 'of or belonging to them'.
- Hence, the appropriate answer is 'their'.

★ Additional Information

- Let's understand the other options.
 - **They're** – 'They're' is a contraction that means "they are."
 - **Dare** – to have enough courage to do something
 - **There** – used as the subject of 'be', 'seem', 'appear', etc. to say that something exists.

12. Answer: a

Explanation:

The correct answer is **Discipline**.

★ Key Points

- The **most appropriate** synonym for the given word 'Chastise' is 'Discipline'.
- The word 'Chastise' means 'to punish somebody physically'.
- The word 'Discipline' means 'train (someone) to obey rules or a code of behaviour, using punishment to correct disobedience'.
- Hence, the appropriate answer is 'Discipline'.

★ Additional Information

- Let's understand the other options.
 - **Order** – the way in which people or things are arranged in relation to each other.
 - **Sever ties** – to end a connection with someone or something.
 - **Chase** – to run after somebody/something in order to catch him/her/it.

13. Answer: d

Explanation:

The correct answer is 'for'.

★ Key Points

- The **most appropriate** option to substitute the word 'to' is 'for'.
- The word 'To' is *a preposition and a versatile little word that can be used to say many things. It can be used to indicate a goal or a direction of movement, as well as a place of arrival.*
- The word 'for' is used 'to indicate the place someone or something is going to or toward'.

★ Additional Information

- Let's understand the other options.
 - **At** – used to show where somebody/something is or where something happens.
 - **Towards** – used for describing 'in the direction of, in relation to, or in contribution to.
 - **Since** – used to describe proper time 'from a particular time in the past until a later time in the past or until now'.
-

14. Answer: d

Explanation:

The correct answer is 'fire'.

★ Key Points

- The most appropriate answer is 'fire'.
 - The actual idiom is 'spread like wildfire' which means 'to become known very quickly'.
 - A variation of the same idiom is given in the sentence.
 - Hence, the appropriate answer is 'fire'.
-

15. Answer: b

Explanation:

The correct answer is 'Scholar'.

★ Key Points

- The **most appropriate** meaning of the given idiom 'Men of letters' is 'Scholar'.

- **Men of letters** – *someone who is an expert in the arts and literature, and often a writer too*
 - **Example:** *He is a man of great experience, a man of letters and of law.*

★ Additional Information

- Let's understand the other options.
 - **Dancer** – *a person who dances, often as a job.*
 - **Singer** – *a person who sings.*
 - **Actor** – *a person who acts; whether in a movie or theatre.*

16. Answer: d

Explanation:

The correct answer is **Glory**.

★ Key Points

- The **most appropriate** antonym for the given word ' **Ignominy** ' is ' **Glory** '.
- The meaning of the word ' **Ignominy** ' is ' **public shame and embarrassment; a loss of honour** '.
- The meaning of the word ' **Glory** ' is ' **fame or honour that you get for achieving something** '.
- Hence, the **appropriate** answer is ' **Glory** '.

★ Additional Information

- Let's understand the other options.
 - **Beneficial** – having a good or useful effect.
 - **Restorative** – connected with treating the body or a part of it in order to repair it.
 - **Pejorative** – expressing disapproval or criticism.

17. Answer: c

Explanation:

The correct answer is 'Start something too soon or act hastily'.

★ Key Points

- The **most appropriate** meaning of the given idiom 'Jump the gun' is 'Start something too soon or act hastily'.
- **Jump the gun**: *to do something too soon, before the proper time.*
 - **Example**: *They only met three weeks ago – isn't it jumping the gun to start talking about marriage?*

★ Additional Information

- Let's look at some similar idioms.
 - **Time flies**: *Time passes extremely quickly*
 - **Example**: Look how fast our children grew up, how time flies.
 - **It's high time**: *It's the right time to do something, or past the appropriate time to do something.*
 - **Example**: It's high time he met with me to resolve this issue.
 - **Beat the clock**: *Finish something before time is up, before a deadline.*
 - **Example**: Although she was late to the exam, she managed to beat the clock and finished all of it 10 minutes before the end.

18. Answer: c

Explanation:

The correct answer is "It is proposed to build a dam for irrigation purposes."

★ Key Points

- The sentence given in the question is an active voice in a simple present tense (Subject+ first form of verb+ object).
- If the active sentence starts with 'People think/acknowledge/know/consider/understand/believe/find/say/report/claim/**propose**that he is', it can be changed into passive form in two different ways.
- Use the dummy subject "it":
 - It was thought..... It was written.....
 - It was said..... It was declared.....
- The subject of the noun clause in the active sentence is used as the subject of the passive form.
 - Besides this 'to' is used.

Hence, from the above explanation, we can say that the correct sentence is: ***"It is proposed to build a dam for irrigation purposes."***

★ Additional Information

'People say' is replaced by 'It is said':

- Example:
- *People believed that the earth was flat. (active)*
- *The earth was believed to be flat. (passive)*
- *It was believed that the earth was flat. (passive)*

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19. Answer: a

Explanation:

The correct answer is **Brutish**.

★ Key Points

- The **most appropriate** synonym for the given word 'Bestial' is 'Brutish'.
- The meaning of the word 'Bestial' is 'savagely cruel and depraved'.
- The meaning of the word 'Brutish' is 'cruel and unpleasant'.
- Hence, the most appropriate synonym is 'Brutish'.

★ Additional Information

- Let's understand the other options.
 - **Greedy** : wanting more food, money, power, etc. than you really need.
 - **High-minded** : having strong moral principles.
 - **Noble** : belonging to the highest social class, honest; full of courage, and care for others.

20. Answer: d

Explanation:

The correct answer is 'as soon as them noticed'.

★ Key Points

- The segment that contains the **error** is the **3rd segment** .
- In the segment, the word ' **them** ' needs to be replaced with the word ' **they** '.
- The word ' **them** ' is a third-person pronoun .
- ' **Them** ' is **used as the object of a verb or preposition** .
- The word ' **they** ' is used for ' **the people or things that have been mentioned** '.
- As per the above-mentioned options the **error** exists in the **3rd segment**.

21. Answer: d

Explanation:

The correct answer is **Improvement**.

★ Key Points

- In the given passage the correct option to be filled in the blank is **Improvement**.
- **Improvement**: Alterations that improve the character or state of someone or something.

- **Example:** *We have seen some improvement in the condition of the slums.*
- Therefore the correct option is Improvement.

The complete sentence is: **The improvement of roads in the 1700s and 1800s made the transportation of goods and people much easier.**

★ Additional Information

- **Stagnation** refers to a circumstance where something remains unchanged and does not change and develop.
- **Recovery** refers to the process of healing from a disease or injury.
- **Setback** refers to something that takes place that hinders or delays the development of a process.

22. Answer: d

Explanation:

The correct answer is **Transportation**.

★ Key Points

- In the given passage the correct option to be filled in the blank is **Transportation**.
- **Transportation**: The transfer of goods or persons between locations.
 - Example: *A bicycle is a cheap means of transportation.*
- Therefore the correct option is Transportation.

The complete sentence is: The improvement of roads in the 1700s and 1800s made the transportation of goods and people much easier.

★ Additional Information

- **Traffic** refers to the number of vehicles travelling along a road or the number of vehicles travelling by plane, rail, or ship.
- **Delivery** refers to the action of delivering items, correspondence, packages, etc. to people's homes or places of employment.

- **Shipment** refers to sending several items at once to a location or the act of sending them.
-

23. Answer: d

Explanation:

The correct answer is **Invested**.

★ Key Points

- In the given passage the correct option to be filled in the blank is **Invested**.
- **Invested**: To invest time, money, effort, etc. in anything in order to gain a benefit or profit.
 - Example: *He has invested his money in the property market.*
- Therefore the correct option is **Invested**.

The complete sentence is: **Many nobles and businessmen invested their wealth in building bridges and tunnels.**

★ Additional Information

- **Donated** refers to helping a person or group by giving money or goods.
 - **Supported** refers to praising someone or something because you want them to be successful.
 - **Promoted** refers to the act of persuading someone to like, support, utilise, or purchase something.
-

24. Answer: d

Explanation:

The correct answer is **Remarkable**.

★ Key Points

- In the given passage the correct option to be filled in the blank is Remarkable.
- Remarkable: Unusual or exceptional, hence startling and noteworthy.
 - Example: *Mother Teresa was a truly remarkable woman.*
- Therefore the correct option is Remarkable.

The complete sentence is: **John Metcalfe was one of the most remarkable road builders of this period. He was blind and felt the surface of the road.**

★ Additional Information

- **Credulous** refers to being too trusting of what you are told and being so easily duped.
- **Fascinated** refers to something that is extremely interesting.
- **Attentive** refers to someone who is listening carefully.

25. Answer: b

Explanation:

The correct answer is Requirements.

★ Key Points

- In the given passage the correct option to be filled in the blank is Requirements.
- Requirements: Something you have to accomplish or what you need.
 - Example: *Many jobs have a minimum requirement of a decent degree.*
- Therefore the correct option is Requirements.

The complete sentence is: **This was done to make sure that it met his requirements.**

★ Additional Information

- **Desire** refers to having a strong interest in something.
- **Wish** refers to expressing your sorrow or regret over a current status or circumstance.
- **Condition** refers to the specific state that something or someone is in is described.

26. Answer: b

Explanation:

The correct mirror image of the given combination when the mirror is placed at MN is as shown below :-



Detailed Explanation :-

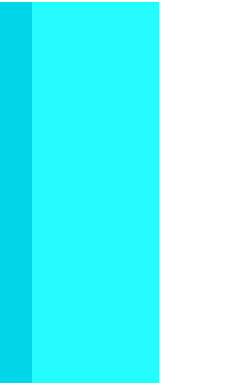
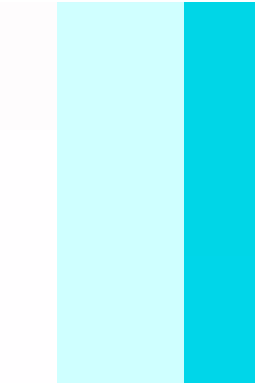
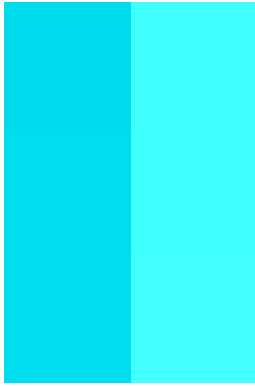
- The line **MN** is the **mirror** .
- The word

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ends with





. So, the mirror image will start with

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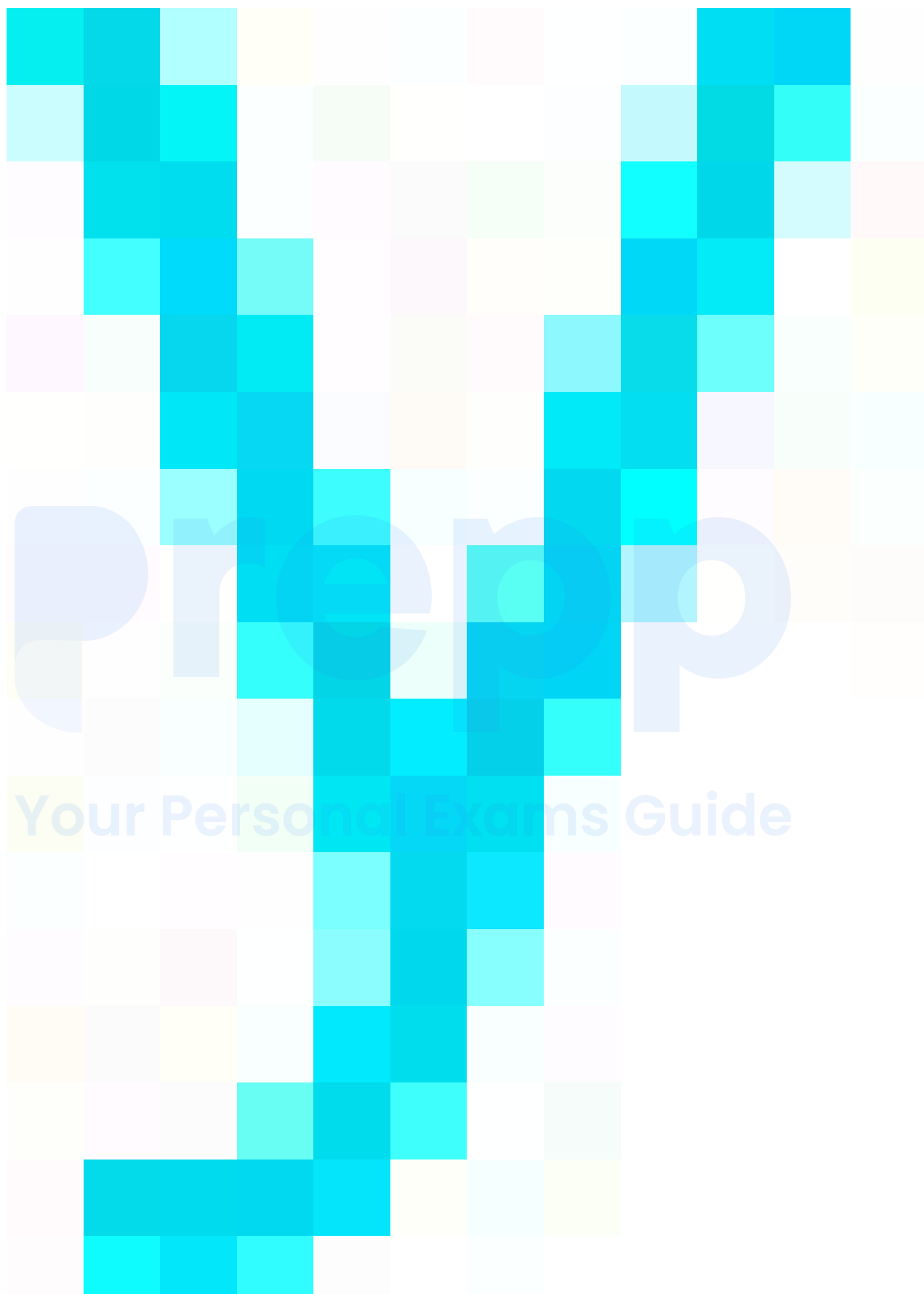
Prepp

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- Options 3 is eliminated.
- The first letter is

prepp

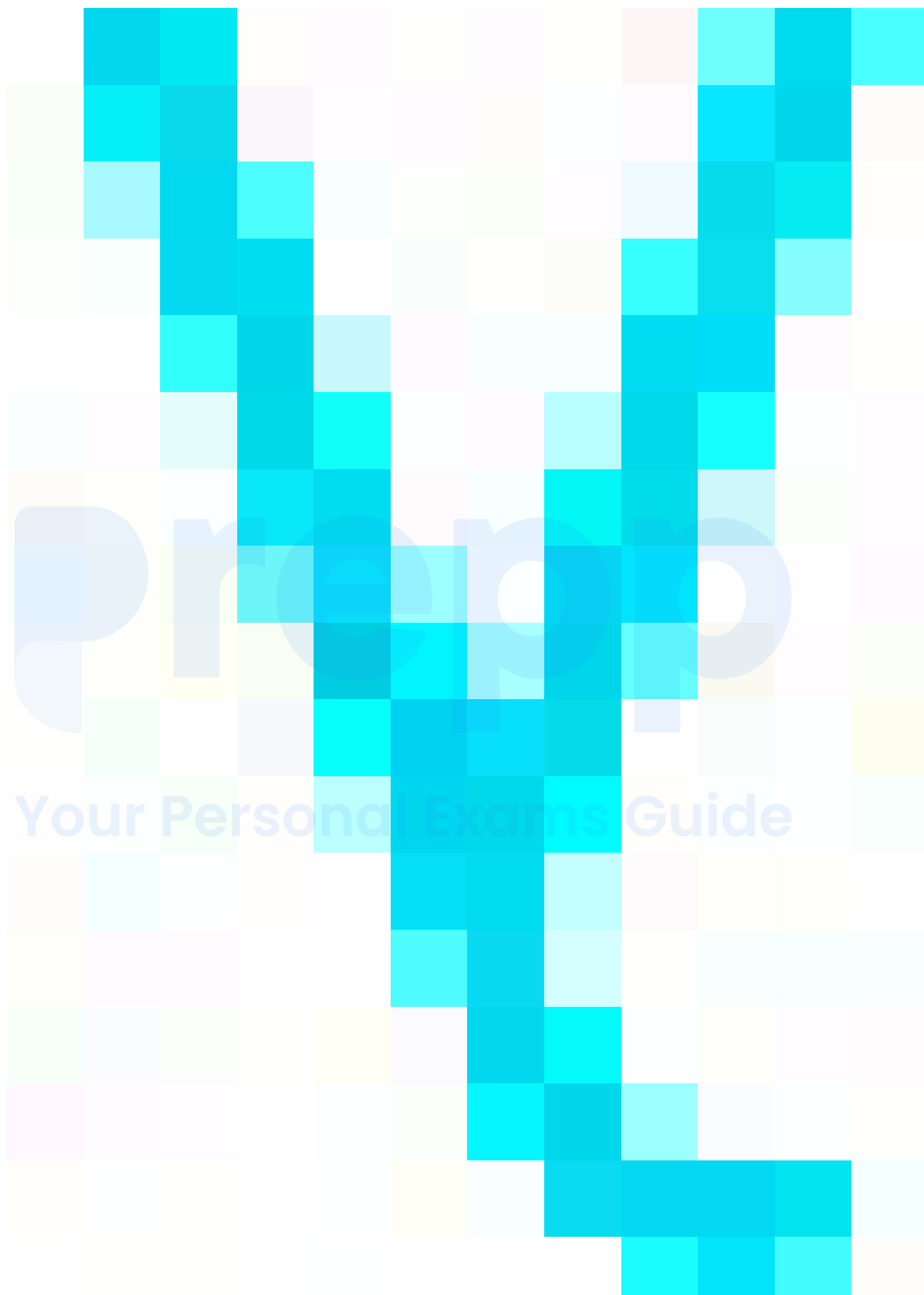
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. So, the last letter in the mirror image will be

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- Options 4 is eliminated.
- The second letter is



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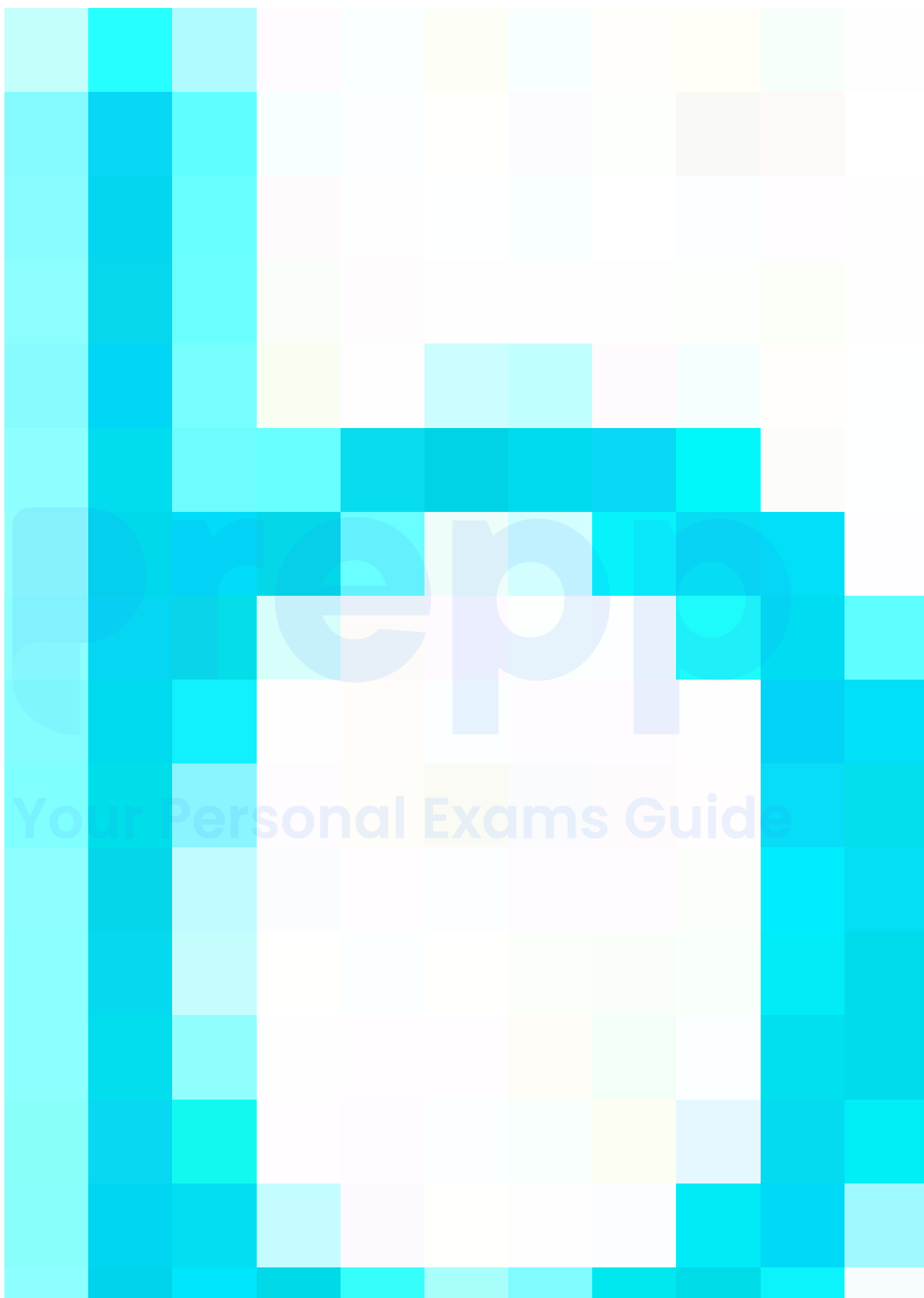
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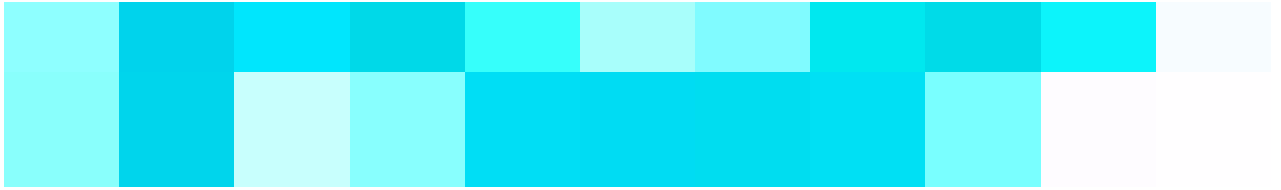


. So, the second last letter in the mirror image will be

prepp

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→ Options 1 is eliminated.

Hence, Option 2) is the correct answer.

★ Additional Information

- In a mirror image Left changes to right and the right changes to left where top and bottom remains the same .
- When placement of mirror not given, by default we will assume it in vertical direction .
- The starting letter word will be at last after the mirror image drawn with left changes to right and right changes to left

27. Answer: b

Explanation:

Given: A _ D K P A B _ K P A B F _ P A B _ K P

Let's check each option:

1) B P A G → A B D K P - A B P K P - A B F A P - A B G K P

2) **B E K G** → A B D K P - A B E K P - A B F K P - A B G K P

- Here, we can observe a pattern.
 - 3rd letter is increasing by +1, rest letters are same.
 - $D + 1 = E$; $E + 1 = F$; $F + 1 = G$

3) B C G D → A B D K P - A B C K P - A B F G P - A B D K P

4) B D G E → A B D K P - A B D K P - A B F G P - A B E K P

Hence, 'B E K G ' is the correct answer.

28. Answer: a

Explanation:

The figure from among the given options that can replace the question mark (?) in the following series is:



Explanation:

- The **triangle** in center is **rotating anti-clockwise** at the same place.
- The **arrow** in the corner is **moving clockwise** from corner to corner and changing it's pointing direction from **Down to Up** and **vice versa**.

Hence, **option 1** is the correct answer.

29. Answer: c

Explanation:

The logic followed here is:

Second number $\div$ 7 = First number

$$\Rightarrow 15 : 105 \rightarrow 105 \div 7 = 15$$

$$\Rightarrow 4 : 28 \rightarrow 28 \div 7 = 4$$

Similarly,

$$\Rightarrow ? : 196 \rightarrow 196 \div 7 = 28$$

Hence, **option 3** is the correct answer.

30. Answer: c

Explanation:

The option that represents the correct order of the given words as they would appear in an English dictionary is shown below:

1. Assignment
2. Assortment
4. Astrology
5. Astronaut
3. Asymmetric

Hence, '1, 2, 4, 5, 3' is the correct answer.

31. Answer: c

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:-

The first three letters are increased by +1, +2, and +3 respectively, rest letters remain unchanged.

- DISEASE

D	I	S	E	A	S	E
+1	+2	+3	+0	+0	+0	+0
↓	↓	↓	↓	↓	↓	↓
E	K	V	E	A	S	E

- Therefore, code = EKVEASE
- FACULTY

F	A	C	U	L	T	Y
+1	+2	+3	+0	+0	+0	+0
↓	↓	↓	↓	↓	↓	↓
G	C	F	U	L	T	Y

- Therefore, code = GCFULTY
- Similarly, **HELPFUL**

H	E	L	P	F	U	L
+1	+2	+3	+0	+0	+0	+0
↓	↓	↓	↓	↓	↓	↓
I	G	O	P	F	U	L

- Therefore, code = **IGOPFUL**

Hence, "option 3" is the correct answer.

32. Answer: c

Explanation:

The logic followed here:

(Addition of the individual numbers of the first number) $\times$ 2 = Second number

1) $678 : 42 \rightarrow 678 \rightarrow 6 + 7 + 8 = 21 \rightarrow 21 \times 2 = 42$

2) $546 : 30 \rightarrow 546 \rightarrow 5 + 4 + 6 = 15 \rightarrow 15 \times 2 = 30$

3) $283 : 28 \rightarrow 283 \rightarrow 2 + 8 + 3 = 13 \rightarrow 13 \times 2 = 26 \neq 28$

4) $125 : 16 \rightarrow 125 \rightarrow 1 + 2 + 5 = 8 \rightarrow 8 \times 2 = 16$

Hence, **option 3** is the correct answer.

33. Answer: a

Explanation:

The logic followed here:

First number $\times$ (First number - Second number) = Third number

$(43, 34, 387) \rightarrow 43 \times (43 - 34) = 43 \times 9 = 387$

$(13, 10, 39) \rightarrow 13 \times (13 - 10) = 13 \times 3 = 39$

Similarly,

$(18, 13, 90) \rightarrow 18 \times (18 - 13) = 18 \times 5 = 90$

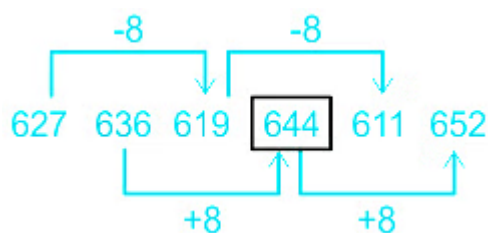
Hence, **option 1** is the correct answer.

34. Answer: a

Explanation:

Here, we need to find the pattern to get the missing number.

The logic here is: The odd terms are subtracted by 8 to get the next odd term and each even terms are added by 8 to get the next even numbers.



Hence, the missing number is "644".

35. Answer: b

Explanation:

Here, we need to find the pattern to get the correct answer.

The logic here is: The 1st number is divided by 2nd number and the answer is multiplied by 5 to get the 3rd number.

So, (78, 13, 30): $78 \div 13 = 6, 6 \times 5 = 30$

First we will check all the options one by one:

1) (56, 14, 80): $56 \div 14 = 4, 4 \times 5 = 20 \neq 80$. This is not true

2) (280, 70, 20): $280 \div 70 = 4, 4 \times 5 = 20$. This is true

3) (360, 50, 40): $360 \div 50 = 7.2, 7.2 \times 5 = 36 \neq 40$. This is not true

4) (350, 17, 65): $350 \div 17 = 20.58, 20.58 \times 5 = 102.94 \neq 65$. This is not true.

Hence, the number pair '(280, 70, 20)' is the correct answer.

36. Answer: c

Explanation:

Here, the alphabets and their positions are shown as below:

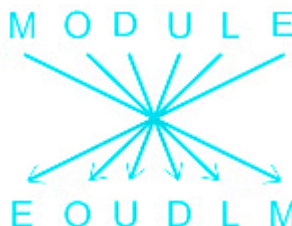
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic here is: Each odd term word has 1st and last letter are interchanged, then 2nd and 2nd last letter are at their own place and the middle letters too interchange their positions.

For the word CHAISE : EHIASE, we have:



For the word MODULE : EOUDLM, we have:



Similarly for the word SLIDER : ?, we have:



Thus, for the given word SLIDER, the code language is: RLDIES

Hence, the code language is 'RLDIES' for the given word.

Confusion Point: Keep in mind the positions of all the letters.

37. Answer: d

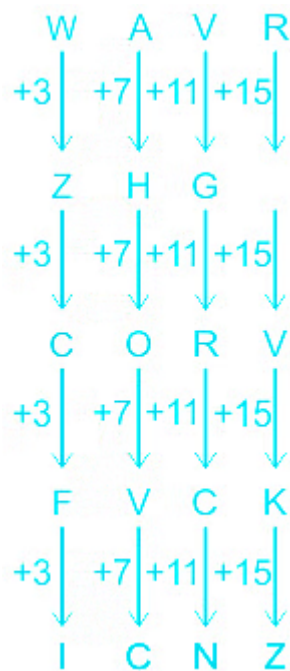
Explanation:

Here, the alphabets and their positions are shown as below:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic here is: The first letter is added by 3 to get the next 1st letter. Similarly the 2nd letter by +7, 3rd letter by +11 and the 4th letter by +15.

Thus, we have:



Hence, the correct answer is 'CORV'

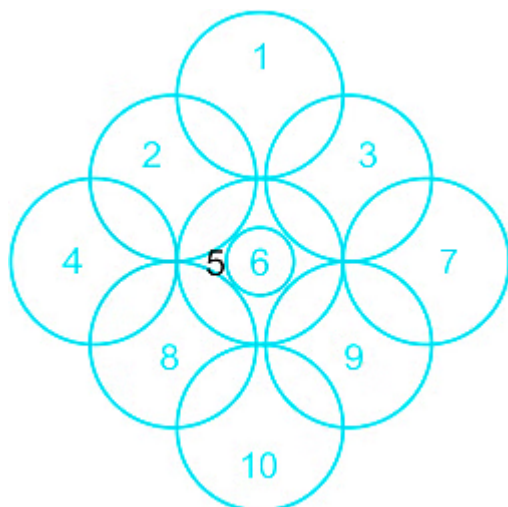
Confusion Point: Keep in mind the positions of all the letters.

38. Answer: b

Explanation:

Here, we need to count number of circles.

First we will count all circles we can see directly:



Hence, the correct answer is 10

39. Answer: a

Explanation:

Here, we need to find the pattern to get the final output of missing number.

The logic here is: Each even term is completely divisible by each odd term.

So, $40 \div 10 = 4$, $112 \div 14 = 8$

First we will check all the options:

1) $187 \div 17 = 11$

2) $190 \div 17 = 11.17$

3) $162 \div 17 = 9.52$

4) $156 \div 17 = 9.17$

Thus, only option 1 is completely divisible by 17.

Hence, the missing number is 187.

40. Answer: c

Explanation:

Here, we have two dices and both have two faces in common.

Given:



So, we will rotate the 2nd dice in such a way that the common faces are in the same position as the 1st one.

Thus, we can say that face 9 is opposite to face 6.

Hence, the number '9' will be on the face opposite to the one showing '6'.

41. Answer: a

Explanation:

Given: 12 January 2019 was on Monday.

Year	Odd Days
100	5
200	3
300	1
400	0

For 12th Jan 2019, 2019 = 2000 years + 18 Years + 12 days

$$= 0 \text{ (odd days)} + 4 \text{ (leap years)} + 14 \text{ years} + 12 \text{ days}$$

$$= 0 \text{ (odd days)} + 4 \times 2 \text{ (odd days)} + 14 \text{ (odd days)} + 12 \text{ days}$$

$$= 8 + 14 + 12 \text{ (odd days)}$$

$$= 34 \text{ odd days} = 34/7 = \mathbf{6 \text{ odd days}}$$

In the question, 6 odd days are given as Monday.

According to the question,

Day	Odd days
Tuesday	0
Wednesday	1
Thursday	2
Friday	3
Saturday	4
Sunday	5
Monday	6

For 14th Dec 1917 (Non - leap year)

$$14\text{th Dec } 1917 = 1600 \text{ Years} + 300 \text{ Years} + 16 \text{ Years} + (\text{Jan} - \text{Nov}) + 14 \text{ Days}$$

$$= 0 \text{ (Odd days)} + 1 \text{ Odd days} + 4 \text{ leap years} + 12 \text{ years} + [(6 \times 3) + (4 \times 2)] \text{ days} + 14 \text{ days}$$

Till 14th December,

31 days in 6 months

30 days in 4 months

<30 days are in 1 month

$$= 1 + (4 \times 2) + (12 \times 1) + 18 + 8 + 14$$

$$= 1 + 20 + 40$$

$$= 61 \text{ odd days}$$

$$= 8 \text{ weeks} + 5 \text{ odd days} = 5 \text{ Odd days}$$

From the above table, we can see that 5 odd days means Sunday.

Hence, the correct answer is "Sunday".

42. Answer: b

Explanation:

Here, we have to find out the pattern used to get the odd pair out.

First we will check the options one by one as below:

$$1) 100 : 7 \Rightarrow \sqrt{100} = 10 - 3 = 7$$

$$2) 25 : 4 \Rightarrow \sqrt{25} = 5 - 3 = 2 \text{ but they have given 4. This is not true.}$$

$$3) 169 : 10 \Rightarrow \sqrt{169} = 13 - 3 = 10$$

$$4) 64 : 5 \Rightarrow \sqrt{64} = 8 - 3 = 5$$

Hence, the correct answer is **25 : 4**

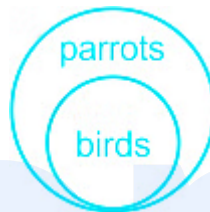
43. Answer: c

Explanation:

Here, we are given some statements and we need to check which conclusion are true.

First we will see the venn diagram of each statements by one by:

1) All birds are parrots:



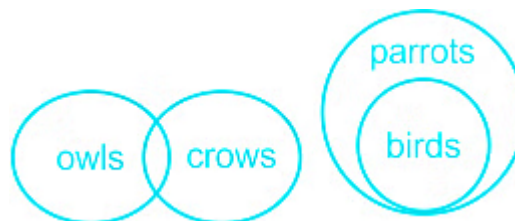
2) No parrot is a crow:



3) Some owls are crows:



Thus, combining all the statements, we will get,



Next, we will see the conclusion:

- 1) Some parrots are owls: Since they have not mentioned any relation between parrots and owls. This is not true.
- 2) No crow is a bird: From the above figure, we can say that, this is true.
- 3) No owl is a bird: Since they have not mentioned any relation between parrots and owls. This is not true.

Hence, only conclusion 2 follows.

44. Answer: a

Explanation:

Here, we will substitute the signs given to get a balance equation.

Given: $75 * 25 * 40 * 63 * 92 * 91$

First, we will check the options one by one:

1) $\div, \times, +, -, =$

$$\Rightarrow 75 \div 25 \times 40 + 63 - 92 = 91$$

Applying BODMAS rule, we will get,

$$\Rightarrow 3 \times 40 + 63 - 92 = 91$$

$$\Rightarrow 120 + 63 - 92 = 91$$

$$\Rightarrow 91 = 91, \text{ which is possible. This is true.}$$

2) $\div, +, -, \times, =$

$$\Rightarrow 75 \div 25 + 40 - 63 \times 92 = 91$$

Applying BODMAS rule, we will get,

$$\Rightarrow 3 + 40 - 63 \times 92 = 91$$

$$\Rightarrow 3 + 40 - 5796 = 91$$

$\Rightarrow -5753 = 91$, which is not possible. This is not true.

3) $-, +, \div, \times, =$

$$\Rightarrow 75 - 25 + 40 \div 63 \times 92 = 91$$

Applying BODMAS rule, we will get,

$$\Rightarrow 75 - 25 + 0.63 \times 92 = 91$$

$$\Rightarrow 75 - 25 + 57.96 = 91$$

$\Rightarrow 107.96 = 91$, which is not possible. This is not true.

4) $-, \times, \div, +, =$

$$\Rightarrow 75 - 25 \times 40 \div 63 + 92 = 91$$

Applying BODMAS rule, we will get,

$$\Rightarrow 75 - 25 \times 0.63 + 92 = 91$$

$$\Rightarrow 75 - 15.87 + 92 = 91$$

$\Rightarrow 151.13 = 91$, which is not possible. This is not true.

Hence, the correct option is 1.

Confusion Point: Keep in mind to apply BODMAS rule, while solving these types of problems.

45. Answer: d

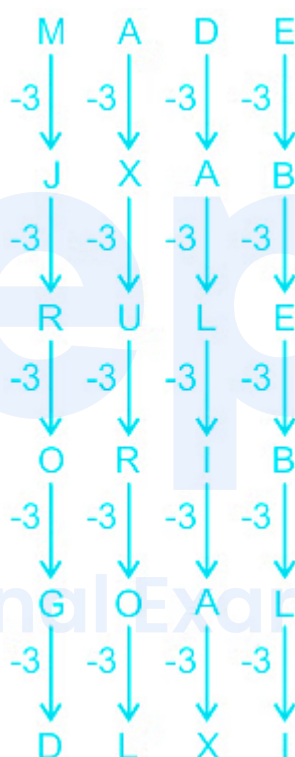
Explanation:

Here, the alphabets and their positions are shown as below:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic here is: Each 1st letter is subtracted by 3 to get the next 1st term. Similarly for all the letters.

Thus, we have:



Hence, the missing word is 'DLXI'.

Confusion Point: Keep in mind the positions of all the letters.

46. Answer: c

Explanation:

Here, we will substitute the signs given to get a balance equation.

Given: $17 * 3 * 48 * 42 * 14$

First, we will check the options one by one:

1) $+, -, \times, =$

$$\Rightarrow 17 + 3 - 48 \times 42 = 14$$

$$\Rightarrow 17 + 3 - 2016 = 14$$

$$\Rightarrow -1996 = 14, \text{ which is not possible. This is not true.}$$

2) $=, +, -, \times$

$$\Rightarrow 17 = 3 + 48 - 42 \times 14$$

$$\Rightarrow 17 = 3 + 48 - 588$$

$$\Rightarrow 17 = -537, \text{ which is not possible. This is not true.}$$

3) $\times, -, =, \div$

$$\Rightarrow 17 \times 3 - 48 = 42 \div 14$$

$$\Rightarrow 17 \times 3 - 48 = 3$$

$$\Rightarrow 51 - 48 = 3$$

$$\Rightarrow 3 = 3, \text{ which is possible. This is true.}$$

4) $\div, \times, =, -$

$$\Rightarrow 17 \div 3 \times 48 = 42 - 14$$

$$\Rightarrow 5.66 \times 48 = 42 - 14$$

$$\Rightarrow 272 = 42 - 14$$

$$\Rightarrow 272 = 28, \text{ which is not possible. This is not true.}$$

Hence, the correct option is 3.

Confusion Point: Keep in mind to apply BODMAS rule, while solving these types of problems.

47. Answer: b

Explanation:

Here, we have folded the paper two times and made a design by cutting it.

When we open the 1st fold, we get,

So, we the same image in fig 2 as in fig 1.

Next, we open the last fold, we will get the same image in the next half too.



Thus, we have:



Hence, the correct answer is option 2.

48. Answer: b

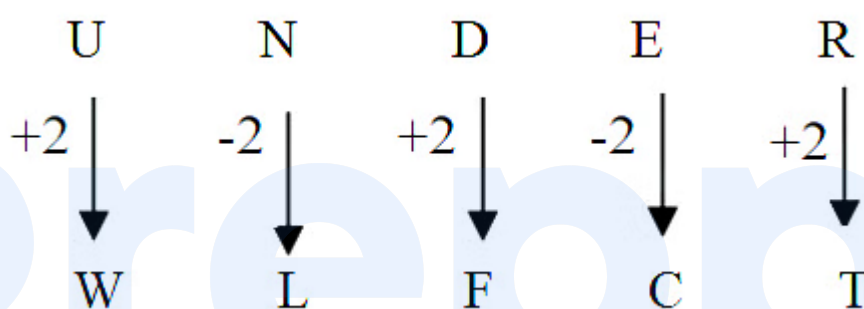
Explanation:

Here, the alphabets and their positions are shown as below:

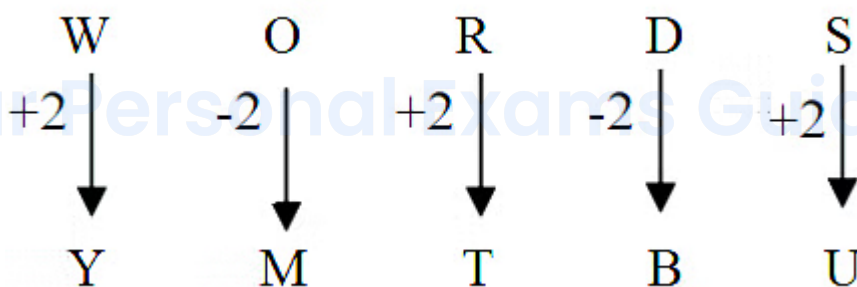
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic here is: In each word, the odd letters are added by 2 and the even letters are subtracted by 2 to get the code language.

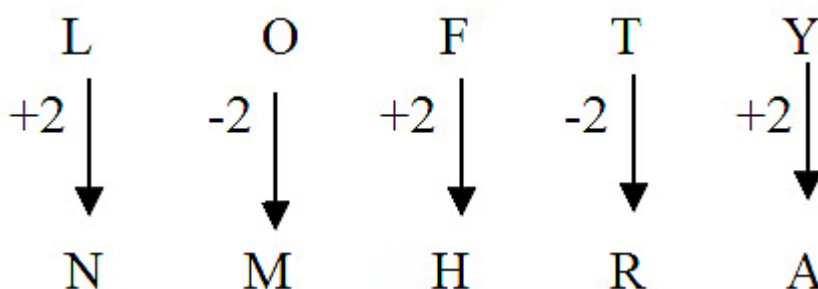
For the word UNDER, we have code language as WLFCT,



For the word WORDS, we have code language as YMTBU,



Thus for the word LOFTY, we have:



Hence, the code language is 'NMHRA' for the given word.

Confusion Point: Keep in mind the positions of all the letters.

49. Answer: c

Explanation:

Here, we need to apply sign at the letters to get the answer.

Given: $(17 \text{ B } 4) \text{ A } (29 \text{ B } 3) \text{ C } (85 \text{ D } 17) \text{ A } 26 \text{ C } 13 \text{ A } 52$

Substituting the values of A as '+', B as 'x', C as '-' and D as '÷', we will get,

$$= (17 \times 4) + (29 \times 3) - (85 \div 17) + 26 - 13 + 52$$

Applying BODMAS rule, we will get,

$$= (17 \times 4) + (29 \times 3) - 5 + 26 - 13 + 52$$

$$= 68 + 87 - 5 + 26 - 13 + 52$$

$$= 215$$

Hence, the answer is 215 of the given equation.

Confusion Point: Keep in mind to apply BODMAS rule, while solving these types of problems.

50. Answer: c

Explanation:

Here, we are given the word and we need to find the mirror image of it.

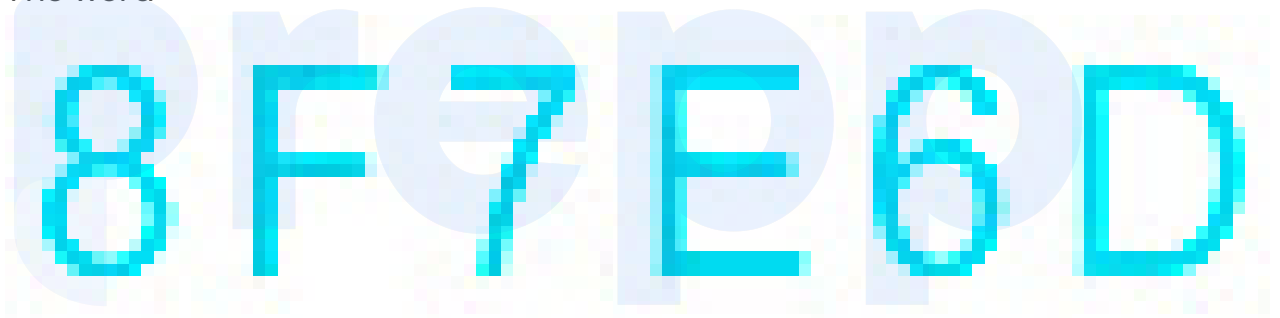
First keep in mind that, in mirror image the first letter will be the last letter of the given word. Also, the size of the letters will not change i.e. capital letters will appear capital only.

The correct mirror image of the given combination when the mirror is placed at XY is as shown below :-



Detailed Explanation :-

- The line XY is the mirror.
- The word

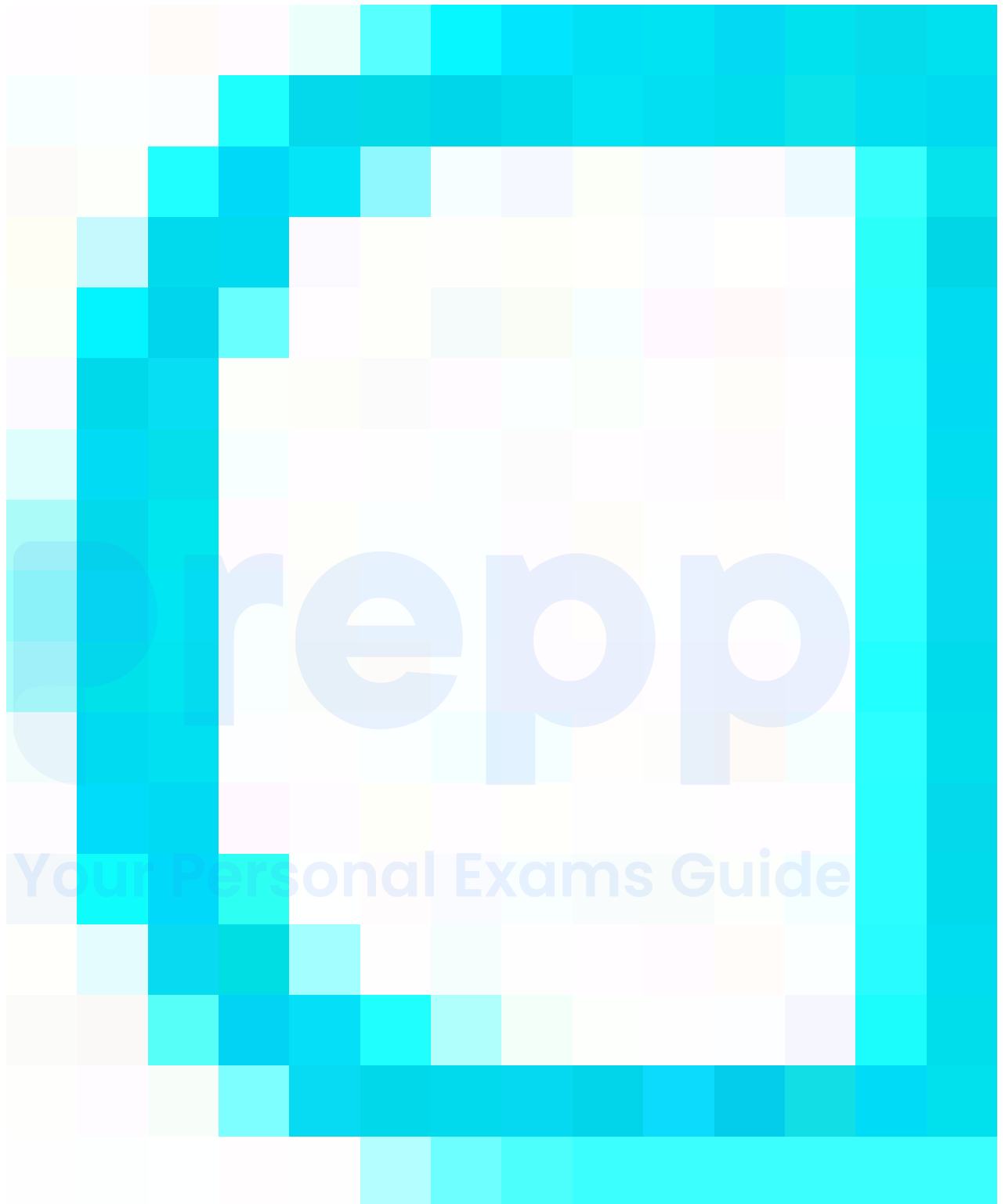


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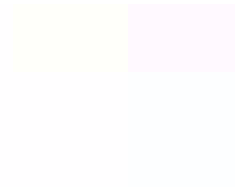
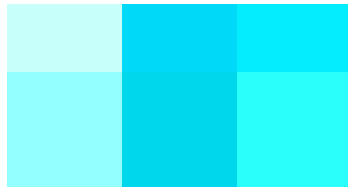
. So, the mirror image will start with



. → Options 2 and 4 are eliminated.

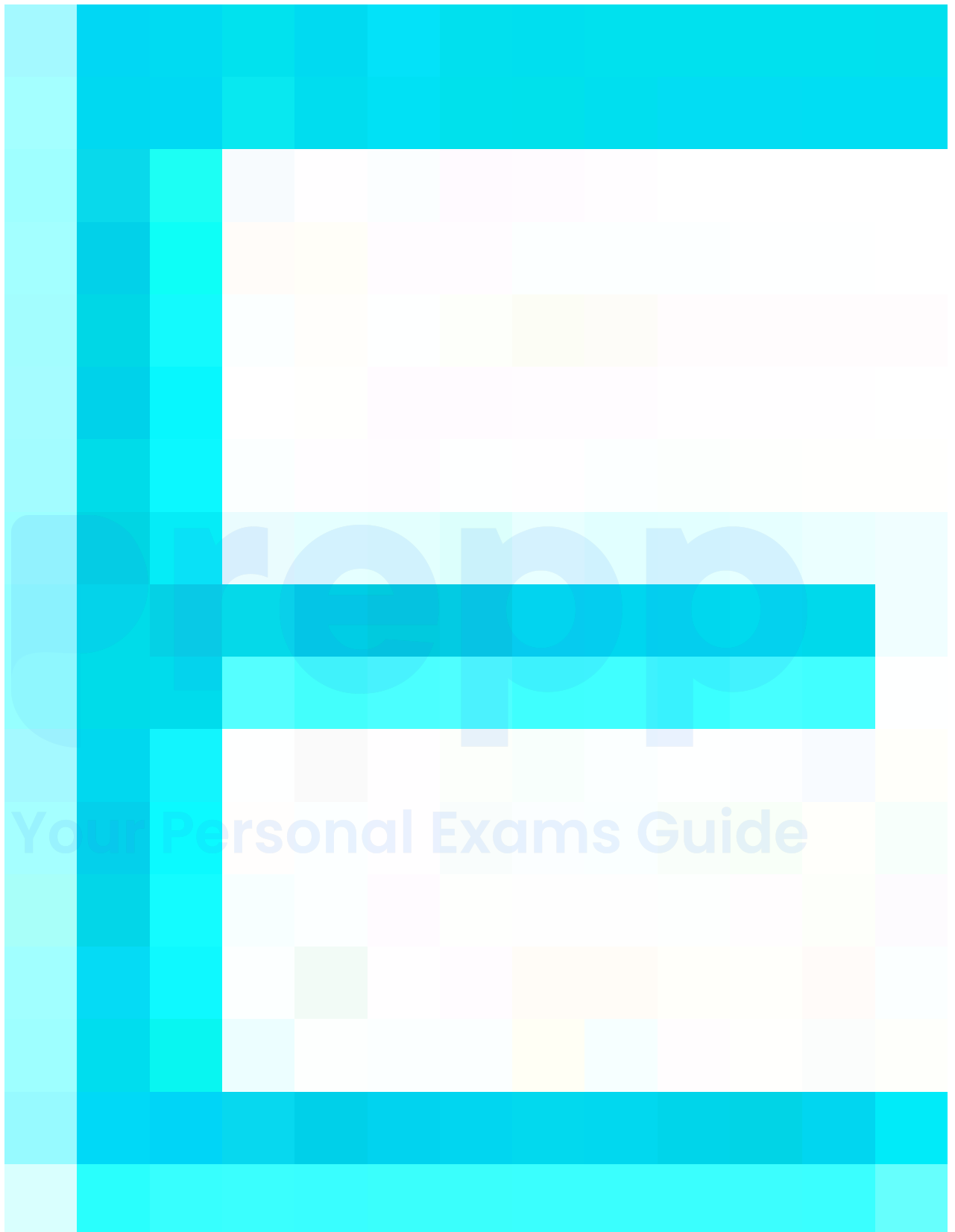
- The number-letter



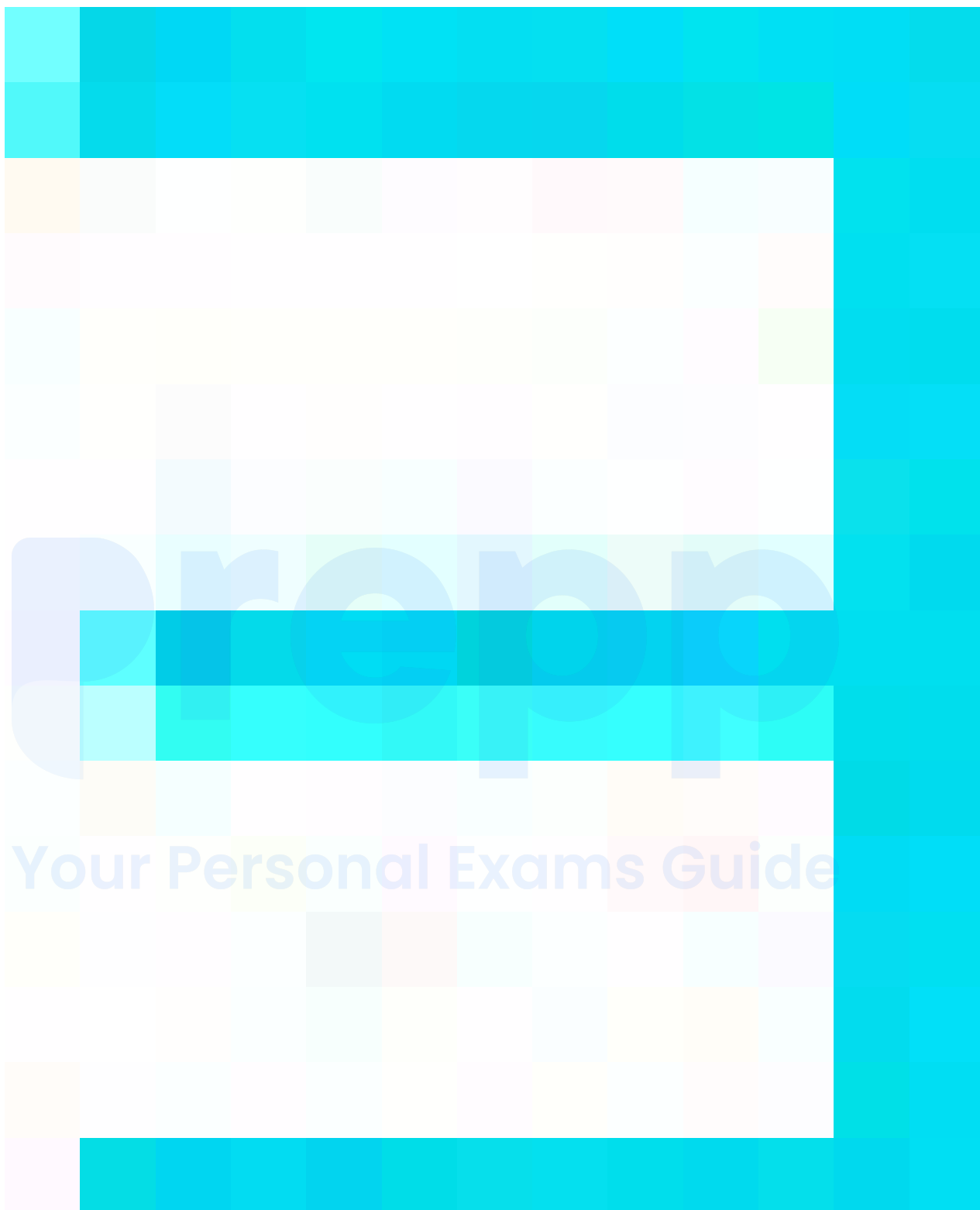


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is used . So, the mirror image will be





. Also their positions must not be interchanged → Options 1 is eliminated.

Hence, 'Option 3' is the correct answer.

★ Additional Information

- In a mirror image Left changes to right and the right changes to left where top and bottom remains the same .
- When placement of mirror not given, by default we will assume it in vertical direction .
- The starting letter word will be at last after the mirror image drawn with left changes to right and right changes to left.

51. Answer: c

Explanation:

GIVEN:

Marked price = 30% more than Cost price

Discount = 15%

FORMULA USED:

Discount % = $(\text{Discount} / \text{M.P.}) \times 100$

Discount = M.P. - S.P.

Where, M.P. = Marked price, S.P. = Selling price.

CALCULATION:

Let's assume the Cost price will be Rs100.

According to the question,

M.P. = 30% more than the cost price.

$$\Rightarrow \text{M.P.} = (100 + 100 \times 30/100) = \text{Rs.130.}$$

Now, discount% = 15

$$\Rightarrow \text{Discount\%} = (\text{Discount} / \text{M.P.}) \times 100$$

$$\Rightarrow 15 = (\text{Discount} / 130) \times 100$$

$$\Rightarrow \text{Discount} = \text{Rs.19.5}$$

$$\text{Now, S.P.} = (\text{M.P.} - \text{Discount}) = (130 - 19.5) = \text{Rs.110.5.}$$

Now, S.P. = final price = Rs110.5 and Cost price = Rs.100

$$\text{Difference} = (110.5 - 100) = 10.5$$

$$\text{Required percentage} = (10.5 / 100) \times 100 = 10.5\%.$$

Hence, the final price is 10.5% more than the Cost price.

Concept used:

★ Alternate Method

$$\text{C.P/M.P} = (100 - d\%) / (100 + P\%)$$

Calculation:

$$\Rightarrow \text{C.P/M.P} = (100 - d\%) / (100 + P\%)$$

$$\Rightarrow 10/13 = (100 - 15\%) / (100 + x\%)$$

$$\Rightarrow 10/13 = 85 / (100 + x\%)$$

$$\Rightarrow (100 + x\%) = (85 \times 13) / 10$$

$$\Rightarrow (100 + x\%) = 110.5$$

$$\Rightarrow x\% = (110.5 - 100) = 10.5\%$$

$\therefore$ The correct answer is 10.5%.

52. Answer: c

Explanation:

GIVEN:

Mean proportional between a number and 20 = 50.

FORMULA USED:

Mean proportional to x, y is $\sqrt{(x \times y)}$.

CALCULATION:

Let the required number be x

Now, the mean proportion is between x and 20 = 50.

$$\Rightarrow \sqrt{(x \times 20)} = 50$$

$$\Rightarrow x \times 20 = 2500.$$

$$\Rightarrow x = 125.$$

$\therefore$ The required number is 125.

53. Answer: b

Explanation:

GIVEN:

The average run of 8 players = 6.5.

2 new players have added average increases = 1

FORMULA USED:

Average = Sum of values / No. of values.

CALCULATION:

The average run of 8 players = sum/number of players

$$\Rightarrow 6.5 = \text{sum} / 8$$

$$\Rightarrow \text{Sum} = 52.$$

Now when two new players are added the average increases by 1 hence, it becomes 7.5

$\Rightarrow$ Average run of 10 players = sum/ number of players

$$\Rightarrow 7.5 = \text{sum} / 10$$

$$\Rightarrow \text{Sum} = 75.$$

The sum of a run of two new players = (sum of run of 10 players - sum of run of 8 players)

$$\text{The sum of a run of two new players} = (75 - 52) = 23.$$

$$\text{Average run of new players} = 23/2 = 11.5.$$

$\therefore$ The average run of new players is 11.5.

54. Answer: a

Explanation:

GIVEN:

Rate of increments = 5% , 2% and 6%

Present population = 56,763.

FORMULA USED:

Population after each increment = $x \times (100 + r) / 100$

Where, x = initial population, r = rate of increment.

CALCULATIONS:

Let the population of the city three years before be x , then

$$\Rightarrow x \times (105/100) \times (102/100) \times (106/100) = 56,763$$

$$\Rightarrow x = 56763 \times (20/21) \times (50/51) \times (50/53)$$

$$\Rightarrow x = 50000$$

$\therefore$ The initial population was 50000.

55. Answer: d

Explanation:

GIVEN:

$$(a + b) = \sqrt{7}$$

$$(a - b) = \sqrt{5}$$

FORMULA USED:

$$(a - b)^2 = a^2 + b^2 - 2ab$$

$$(a + b)^2 = a^2 + b^2 + 2ab$$

CALCULATION:

$$\Rightarrow a + b = \sqrt{7}$$

Squaring both sides of the equation:

$$\Rightarrow (a + b)^2 = 7$$

$$\Rightarrow a^2 + b^2 + 2ab = 7 \quad \text{----- (1)}$$

Now,

$$\Rightarrow a - b = \sqrt{5}$$

Squaring both sides of the equation:

$$\Rightarrow (a - b)^2 = 5$$

$$\Rightarrow a^2 + b^2 - 2ab = 5 \quad \text{----- (2)}$$

On adding (1) and (2) we get,

$$\Rightarrow 2 \times (a^2 + b^2) = 12$$

$$\Rightarrow (a^2 + b^2) = 6 \quad \text{----- (3)}$$

Putting the value of equation (3) in equation (1)

$$\Rightarrow a^2 + b^2 + 2ab = 7$$

$$\Rightarrow ab = 1/2$$

Putting the required value in the equation:

$$8ab \times (a^2 + b^2) - (a - b)^2$$

$$\Rightarrow (8 \times 1/2 \times 6) - (\sqrt{5})^2$$

$$\Rightarrow (24 - 5) = 19.$$

$\therefore$ The required value is 19.

56. Answer: b

Explanation:

Given:

Sale in Outlet S = 26%

Calculation:

According to the question,

From the options:

Option A,

$$\Rightarrow P + U = 14\% + 12\% = 26\%$$

It is equal to S not more than that.

option B,

$$\Rightarrow R + U = 18\% + 12\% = 30\%$$

It is more than S

$\therefore$ Option B is the correct answer.

57. Answer: d

Explanation:

GIVEN:

Triangle with sides 3 cm, 4 cm and 5 cm

FORMULA USED:

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

$$\text{Where, } s = \text{semi-perimeter} = \frac{(a+b+c)}{2}$$

and a, b, and c are the respective sides.

CALCULATION:

Here, a = 3 cm, b = 4 cm, c = 5 cm

$$\text{Now, } s = (3 + 4 + 5) / 2 = 12/2 = 6.$$

$$\text{Area} = \sqrt{6(6-3)(6-4)(6-5)}$$

$$\Rightarrow \sqrt{6 \times 3 \times 2 \times 1} = 6 \text{ cm}^2$$

∴ The required area is 6 cm².

★ Shortcut Trick

Calculation :

Since 3,4 and 5 are popular triples of right angle triangle.

Here, the base (B) = 3, perpendicular (P) = 4, and hypotenuse (H) = 5

$$\text{Area of triangle} = (1/2) \times B \times P$$

$$\Rightarrow (1/2) \times 3 \times 4$$

$$\Rightarrow 6 \text{ cm}^2$$

∴ The correct answer is 6 cm²

58. Answer: b

Explanation:

GIVEN:

Distance = 475m

Time = 1 minute

FORMULA USED:

Distance = Speed × Time

CALCULATION:

Distance = 475m = $475/1000$ km

Time = 1 min = $1/60$ hours

Now, Speed = Distance $\div$ Time = $(475/1000) \div (1/60)$

$\Rightarrow (475/1000) \times 60 = 28.5$ km/h

According to the question:

She travelled at 1.2 times of current speed

New speed = $1.2 \times 28.5 = 34.2$ km/h and New time = 1 h

Now, Distance = 34.2 km/h $\times$ 1 h = 34.2 km.

$\therefore$ Distance is 34.2 km.

59. Answer: a

Explanation:

GIVEN :

Population = 225000

Birth rate = 4.5%

Death rate = 2.5%

FORMULA USED:

The population after t years = $P \times (1 + R/100)^t$

Where, P = initial population , R = Rate, t = Time

CALCULATION:

According to the problem,

Net increased per year = $(4.5 - 2.5)\% = 2\%$

The population after 2 years = $225000 \times (1 + 2/100)^2$

$$\Rightarrow 225000 \times 51/50 \times 51/50 = 234090$$

Now, increase in population = (population after 2 years - initial population)

$$\Rightarrow (234090 - 225000) = 9090.$$

$\therefore$ The increase in population is 9090.

60. Answer: c

Explanation:

GIVEN:

$$\operatorname{cosec}^2 \theta + \cot^2 \theta = 5/3$$

FORMULA USED:

$$\operatorname{cosec}^2 \theta = 1 + \cot^2 \theta$$

$$\cot 60^\circ = 1/\sqrt{3}$$

$$\cot(180^\circ - \theta) = -\cot \theta$$

CALCULATION:

According to the question:

$$\operatorname{cosec}^2 \theta + \cot^2 \theta = 5/3$$

$$\Rightarrow 1 + \cot^2 \theta + \cot^2 \theta = 5/3$$

$$\Rightarrow 2 \cot^2 \theta = (5/3 - 1) = 2/3$$

$$\Rightarrow \cot^2 \theta = 1/3$$

$$\Rightarrow \cot \theta = 1/\sqrt{3}$$

$$\Rightarrow \cot \theta = \cot 60^\circ$$

$$\Rightarrow \theta = 60^\circ$$

$$\text{Now, } \cot 2\theta = \cot (2 \times 60)$$

$$\cot 120^\circ = \cot (180^\circ - 60^\circ) = -\cot 60^\circ = -1/\sqrt{3}$$

$\therefore$ The required value is $-1/\sqrt{3}$.

61. Answer: d

Explanation:

Given:

The table shows the numbers of seats won in the local body election in a state by different political parties in the years 2019 to 2014.

Name of the Party	Result in 2019	Result in 2014
AGP	303	282
Con party	52	43
CMK	23	0
AICT	22	34
Kanta Dal	16	2
Shiv Party	18	18

Calculations:

The increase in the number of seats won by AGP in 2019 compared to 2014 is

$$\Rightarrow 303 - 282$$

⇒ 21

The percentage increase in the number of seats won by AGP in 2019 compared to 2014 is

$$\Rightarrow \frac{(\text{Increase in no. of seats won by AGP})}{\text{No. of seats won by AGP in 2014}} \times 100$$

$$\Rightarrow \frac{21}{282} \times 100$$

$$\Rightarrow 7.45 \%$$

∴ The percentage increase in the number of seats won by AGP in the year 2019 is 7.45%.

62. Answer: b

Explanation:

Given:

Raghav and Aditya can complete the work in 3 days.

Aditya and Ishaan can complete the same work in 4 days.

Ishaan and Raghav can complete it in 6 days.

Calculations:

Raghav and Aditya's 1 day work = $\frac{1}{3}$ rd part of work

Aditya and Ishaan's 1 day work = $\frac{1}{4}$ th part of the work

Ishaan and Raghav's 1 day work = $\frac{1}{6}$ th part of work

Now, we have :

Raghav, Aditya and Ishaan all together 1 day work

$$= \frac{1}{2} (\text{Raghav and Aditya's 1 day work} + \text{Aditya and Ishaan's 1 day work} + \text{Ishaan and Raghav's 1 day work})$$

Hence, Raghav, Aditya and Ishaan's together 1 day work = $\frac{(\frac{1}{3} + \frac{1}{4} + \frac{1}{6})}{2} = \frac{9}{24}$ th part of work

Therefore, Raghav, Aditya and Ishaan took $24/9$ days to complete the work.

∴ The time taken by all of them together to complete the work is $\frac{24}{9} = 2\frac{2}{3}$ days.

Calculation:

★ Shortcut Trick

Efficiency	Person	Time	Total work
4	Raghav + Aditya	3	12
3	Aditya+ Ishaan	4	
2	Ishaan + Raghav	6	

Now,

$$\text{Raghav} + \text{Aditya} + \text{Ishaan} = (4 + 3 + 2)/2 = 9/2$$

$$\text{Required number of days} = 12 \div (9/2)$$

$$\Rightarrow (12 \times 2)/9 = 8/3 = 2\frac{2}{3} \text{ days.}$$

∴ The correct answer is $2\frac{2}{3}$ days.

63. Answer: c

Explanation:

Concept used:

BODMAS

B	Brackets in order (), {}, []	ब्रैकेट (), {}, [] क्रम में
O	of	का
D	Division (÷)	विभाजन (÷)
M	Multiplication (×)	गुणा (×)
A	Addition (+)	जोड़ (+)
S	Subtraction (−)	घटाव (−)

Calculations:

$$\Rightarrow 96 \div 48 \times \frac{29}{2} + 52 - (1 + 2 + 3 + 4)$$

$$\Rightarrow 96 \div 48 \times \frac{29}{2} + 52 - (10)$$

$$\Rightarrow 2 \times \frac{29}{2} + 25 - 10$$

$$\Rightarrow 29 + 25 - 10$$

$$\Rightarrow 54 - 10$$

$$\Rightarrow 44$$

∴ Required simplified value is 44.

64. Answer: a

Explanation:

Formula used:

$$\text{The sum of } (1 + 2 + \dots + n) = \frac{n(n+1)}{2}$$

$$\text{Average} = \frac{\text{The sum of all number}}{\text{Total number}}$$

Calculation:

The sum of odd numbers between 21 to 81,

$$21 + 23 + 25 + \dots + 81$$

$$\Rightarrow (21 + 0) + (21 + 2) + (21 + 4) + \dots + (21 + 60)$$

$$\Rightarrow \{21 + 21 + 21 + \dots (31 \text{ times})\} + 0 + 2 + 4 + \dots + 60$$

$$\Rightarrow 31(21) + (0 + 2 + 4 + 6 + \dots + 60)$$

$$\Rightarrow 651 + 2(1 + 2 + 3 + \dots + 30)$$

$$\Rightarrow 651 + 2 \left[\frac{30(30+1)}{2} \right]$$

$$\Rightarrow 651 + 930$$

$$\Rightarrow 1581$$

Average = The sum of all number / (Total number)

$$\Rightarrow \text{Average} = (1581) / 31$$

$$\Rightarrow \text{Average} = 51$$

$\therefore$ The average of all odd numbers from 21 to 81 is 51.

Concept used:

★ Shortcut Trick

If the series is in A.P, then

$$\text{Average of the series} = (\text{First term} + \text{last term}) / 2$$

Calculation:

The consecutive odd numbers are:

$$21 + 23 + 25 + \dots + 81$$

So this series is in A.P

Average of all odd numbers from 21 to 81 = $(21 + 81)/2$

$$\Rightarrow 102/2 = 51$$

$\therefore$ The average of all odd numbers from 21 to 81 is 51.

65. Answer: c

Explanation:

Given:

Radius of solid cylinder = r cm

Height of Solid cylinder = $r/2$ cm

Formula used:

Total surface area of cylinder = $2\pi rh + 2\pi r^2$

Calculations:

Total surface area of solid cylinder

$$\Rightarrow 2\pi rh + 2\pi r^2$$

$$\Rightarrow 2\pi r(h + r)$$

$$\Rightarrow 2\pi r\left(\frac{r}{2} + r\right)$$

$$\Rightarrow 2\pi r\left(\frac{3}{2}r\right)$$

$$\Rightarrow 3\pi r^2$$

$\therefore$ The Required total surface area is $3\pi r^2$.

66. Answer: a

Explanation:

Given:

Two successive discounts = 10% and 5%

Concept Used:

Discounted Value = Actual Value $(1 - \text{Discount}\%)$

Calculation:

Let the MP be 100

After 1st discount of 10% price becomes $(100 - 10)\%$

$\Rightarrow 90$

After 2nd discount of 5% price becomes $\{90 - (5\% \text{ of } 90)\}$

$\Rightarrow 90 - \frac{9}{2} = 90 - 4.5 = 86.45$

$\therefore$ The net discount offered to the buyer is $(100 - 86.45)$

$\Rightarrow 14.5\%$

$\therefore$ Net discount is 14.5%

★ Shortcut Trick

For effective discount we can use,

$\Rightarrow a + b - (a \times b)/100,$

where a and b are two discounts

$\Rightarrow 10 + 5 - (10 \times 5)/100$

$\Rightarrow 15 - 0.5$

$\Rightarrow 14.5$

$\therefore$ Net discount is 14.5%

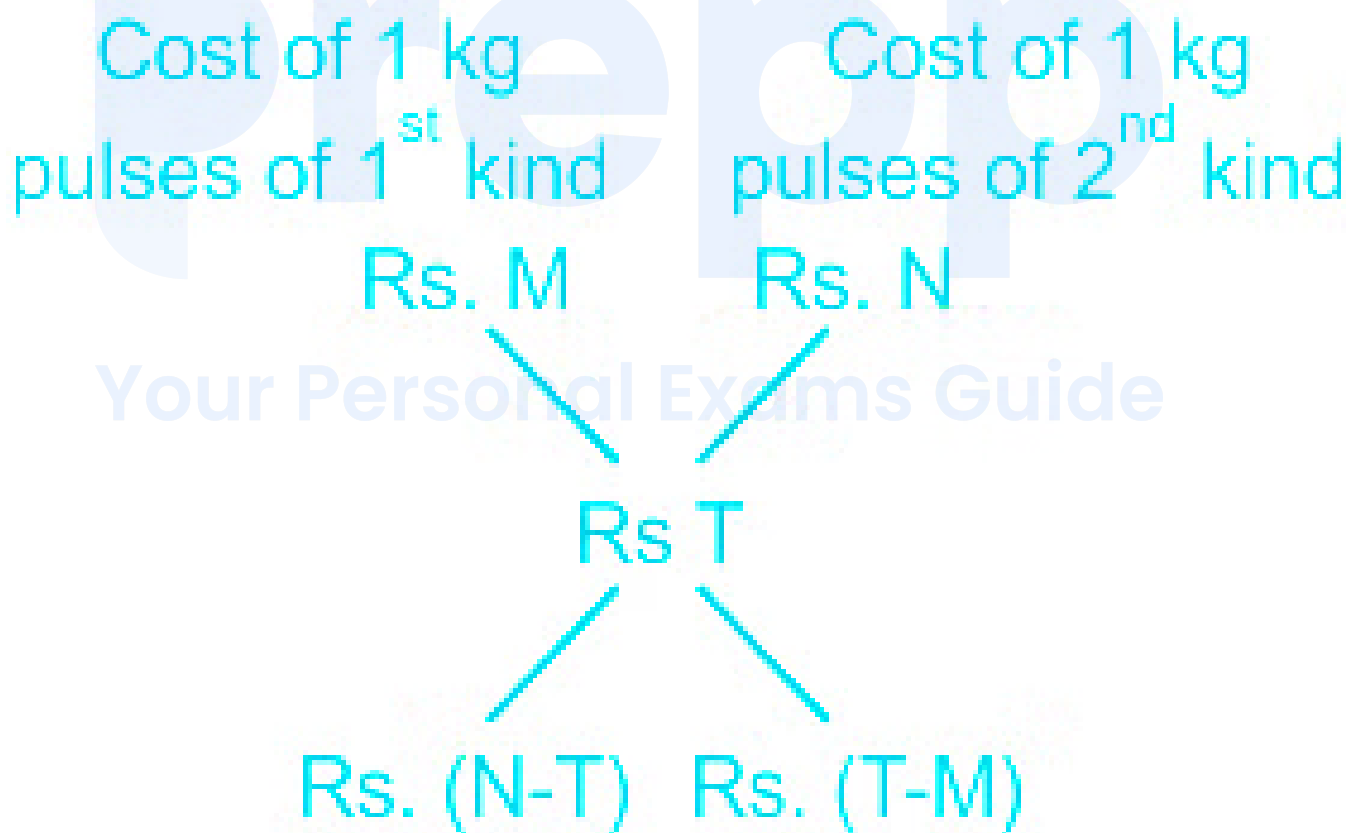
67. Answer: a

Explanation:

Given:

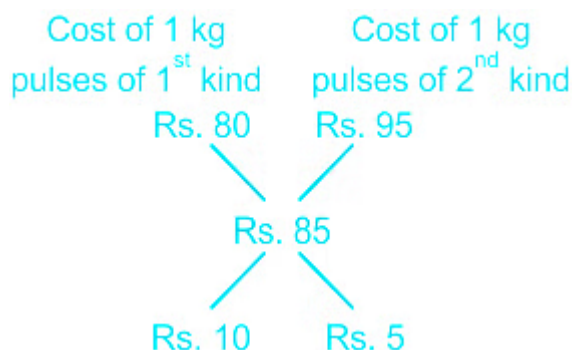
Pulses of rates Rs.80 per kg and Rs.95 per kg are mixed together to get pulse worth Rs.85 per kg.

Concept used:



Ratio of 1st kind and 2nd kind in mixture = $(N - T) : (T - M)$

Calculations:



So, the ratio of 1st kind of pulse to 2nd kind in mixture

$$\Rightarrow 10 : 5 = 2 : 1$$

$\therefore$ The Required ratio is 2 : 1.

68. Answer: d

Explanation:

Given:

Discount offered on cash payment = 20%,

Discounts offered to ABC credit card holders = 8%.

Sandeep bought a laptop for Rs.35,000 by paying online with his ABC credit card.

Calculations:

Price after first 20% discount

$$\Rightarrow \frac{100-20}{100} \times 35,000$$

$$\Rightarrow \frac{80}{100} \times 35,000$$

$$\Rightarrow \text{Rs.}28,000$$

Now, the price after second 8% discount on the card payment of Rs. 28,000

$$\Rightarrow \frac{100-8}{100} \times 28,000$$

$$\Rightarrow \frac{92}{100} \times 28,000$$

$$\Rightarrow 92 \times 280$$

$$\Rightarrow \text{Rs.}25,760$$

$\therefore$ Sandeep needs to be paid to buy the laptop is Rs.25,760.

Calculation:

★ Alternate Method

First discount = 20%; Second discount = 8%

Sandeep needs to pay to buy the laptop:

$$\Rightarrow 35000 \times 80\% \times 92\%$$

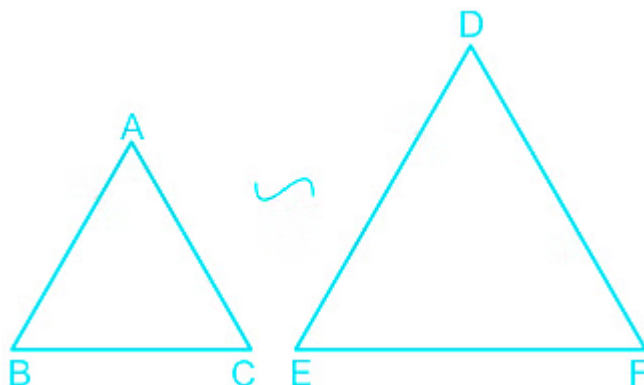
$$\Rightarrow \text{Rs.}25,760$$

$\therefore$ The correct answer is Rs.25,760.

69. Answer: c

Explanation:

Given:



$\Delta ABC \sim \Delta DEF$, $AB = 6 \text{ cm}$

$$BC = 8 \text{ cm}$$

$$DE = 9 \text{ cm}$$

Concept:

The ratio of the corresponding sides of two similar triangles are equal.

$$\Rightarrow (AB)/(DE) = (BC)/(EF)$$

Calculation:

According to question, $\triangle ABC \sim \triangle DEF$,

$$\text{So, } (AB)/(DE) = (BC)/(EF)$$

$$\Rightarrow \frac{6}{9} = \frac{8}{EF}$$

$$\Rightarrow EF = \frac{72}{6}$$

$$\Rightarrow EF = 12$$

$\therefore$ The value of $EF = 12 \text{ cm}$.

70. Answer: d

Explanation:

Given:

Number of puffs sold by 4 different bakeries in 3 different months

Bakery	January	February	March
A	150	109	138
B	78	87	125
C	157	220	220
D	175	132	197

Calculations:

Number of puffs sold by bakeries A and B together in February

$$\Rightarrow 109 + 87$$

$$\Rightarrow 196$$

Number of puffs sold by bakeries C and D together in February

$$\Rightarrow 220 + 132$$

$$\Rightarrow 352$$

The ratio between the number of puffs sold by bakeries A and B together in February to the total number of puffs sold by bakeries C and D together in the same month

$$\Rightarrow 196 : 352$$

$$\Rightarrow 49 : 88$$

$\therefore$ The required ratio is 49 : 88.

71. Answer: c

Explanation:

Given:

Selling price at 25% loss = ₹14,400

Gain wanted = 20%

Formula used:

$$S.P = \frac{(100 + \text{gain}\%)}{100} \times C.P$$

$$S.P = \frac{(100 - \text{loss}\%)}{100} \times C.P$$

Calculation:

According to the question,

S.P at 25% loss = Rs. 14,400

$$\Rightarrow \frac{(100 - 25)}{100} \times C.P = 14,400$$

$$\Rightarrow C.P = 14,400 \times \frac{100}{75}$$

$$\Rightarrow C.P = 19,200$$

Hence, C.P = Rs.19,200

Now, S.P at 20% gain

$$\Rightarrow \frac{(100 + 20)}{100} \times 19,200$$

$$\Rightarrow \frac{120}{100} \times 19,200$$

$$\Rightarrow \text{Rs.}23,040$$

$\therefore$ To gain 20%, the item should be sold for Rs.23,040.

72. Answer: c

Explanation:

Concept used:

The number is divisible by 150 only if it is divisible by 3, 5 and 10.

Calculations:

According to the question, we have:

320550, 333300, 463750 and 201300

They all have the last digits 0 hence, they are all divisible by 10 and 5

Now we need to check the divisibility by 3

For this we need the sum of the digits:

320550, $3 + 2 + 0 + 5 + 5 + 0 = 15$, which is divisible by 3,

333300, $3 + 3 + 3 + 3 + 0 + 0 = 12$, which is also divisible by 3,

463750, $4 + 6 + 3 + 7 + 5 + 0 = 25$, which is NOT divisible by 3

and 201300, $2 + 0 + 1 + 3 + 0 + 0 = 6$, which is divisible by 3.

Hence, only 463750 is not divisible by 150.

∴ The number among the options that is not divisible by 150 is 463750.

73. Answer: b**Explanation:****Given:**

The total surface area of a sphere is $400\pi \text{ cm}^2$.

Formula used:

Total surface area of sphere = $4\pi r^2$

Volume of sphere = $\left(\frac{4}{3}\right) \times \pi r^3$

Calculations:

According to the question,

Total surface area of sphere = 400π

$$\Rightarrow 4\pi r^2 = 400\pi$$

$$\Rightarrow r^2 = 100$$

$$\Rightarrow r = 10 \text{ cm}$$

Now, Volume of sphere = $\frac{4\pi r^3}{3}$

$$\Rightarrow \frac{4}{3} \times 10^3 \times \pi$$

$$\Rightarrow \frac{4000}{3} \pi$$

$$\therefore \text{The Volume is } \frac{4000}{3} \pi \text{ cm}^3$$

74. Answer: c

Explanation:

Given:

$$x + y = 13$$

Formula used:

$$a^3 + b^3 = (a + b)^3 - 3ab(a + b)$$

Calculations:

According to question, we have:

$$x + y = 13$$

if we put $x = 8$, and $y = 5$ then

$$\Rightarrow x + y = 8 + 5$$

Equation is satisfied with these values.

So,

$$\Rightarrow (x - 8) + (y - 5) = 0$$

From the question:

$$\Rightarrow (x - 8)^3 + (x - 5)^3$$

$$\Rightarrow \{(x - 8) + (x - 5)\}^3 - 3(x - 8)(x - 5) \{(x - 8) + (x - 5)\}$$

$$\Rightarrow \{(x - 8) + (y - 5)\} [\{(x - 8) + (y - 5)\}^2 - 3(x - 8)(x - 5)]$$

$$\Rightarrow 0 \times [\{(x - 8) + (y - 5)\}^2 - 3(x - 8)(x - 5)]$$

$$\Rightarrow 0$$

$\therefore$ Required value is 0.

75. Answer: d

Explanation:

Given:

The product of three consecutive odd numbers is 693.

Calculation:

Let the three consecutive odd numbers be $(P - 2)$, P , and $(P + 2)$.

Sum of the three consecutive odd numbers = $(P - 2) + P + (P + 2)$

According to the question,

Product of three consecutive odd numbers = 693

$$\Rightarrow P \times (P - 2) \times (P + 2) = 693$$

Let us take the prime factors of 693 i.e., 3, 3, 7, 11

Hence, the possible value can be 7, 9, 11

$$\Rightarrow 9 \times (9 + 2) \times (9 - 2)$$

$$\Rightarrow 7 \times 9 \times 11$$

$$\Rightarrow 693$$

$\therefore$ The smallest of the three numbers is clearly 7.

76. Answer: c

Explanation:

The correct answer is G N Balasubramaniam.

★ Key Points

- Gudalur Narayanaswamy Balasubramaniam popularly known as GNB, was an Indian Carnatic singer.
- He, along with his contemporaries Semmangudi Srinivasa Iyer and Madurai Mani Iyer, are mentioned as the 20th century male trinity of Carnatic music.
- G N Balasubramaniam was also a Tamil film actor.
- Ariyakudi Iyengar motivated him.
- He appeared in films, including *Bama Vijayam* (1934), *Sathi Anusuya* (1937), *Sakuntalai* (1940), *Udayanan Vasavadatta* (1947) (with Vasundhara Devi, mother of Vijayanthimala) and *Rukmangadhan* (1947).



★ Additional Information

- Pandit **Swapan Chaudhuri** (born 30 March 1945) is an Indian tabla player.
- **Tanmoy Bose**, whose name is frequently preceded by the title Pandit (Master), is an Indian percussionist and tabla player, musical producer, and film actor.
- **Bickram Ghosh** is an Indian classical tabla player. Bickram Ghosh was born in Kolkata, West Bengal.

77. Answer: d

Explanation:

The correct answer is 13th.

★ Key Points

- In May 2021, ushering in his second term, **Pinarayi Vijayan** took the oath as the 13th **Chief Minister of Kerala**.
- He served as the secretary of the Kerala State Committee of the CPI(M) from 1998 to 2015.
- Chief Minister of Kerala beginning at **25 May 2016**.
- Member of the CPI(M) politburo **beginning at 2002**.
- He was directed the oath by **Governor Arif Mohammad Khan** about Central Stadium in **Thiruvananthapuram**.

★ Additional Information

- Important information about Kerala.
 - Chief Minister: Pinarayi Vijayan
 - Governor: Arif Mohammed Khan
 - State Bird: Great Hornbill.
 - State Animal: Indian Elephant.
 - State Language: Malayalam.
 - Members in Loksabha: 20
 - Members in Rajyasabha: 9

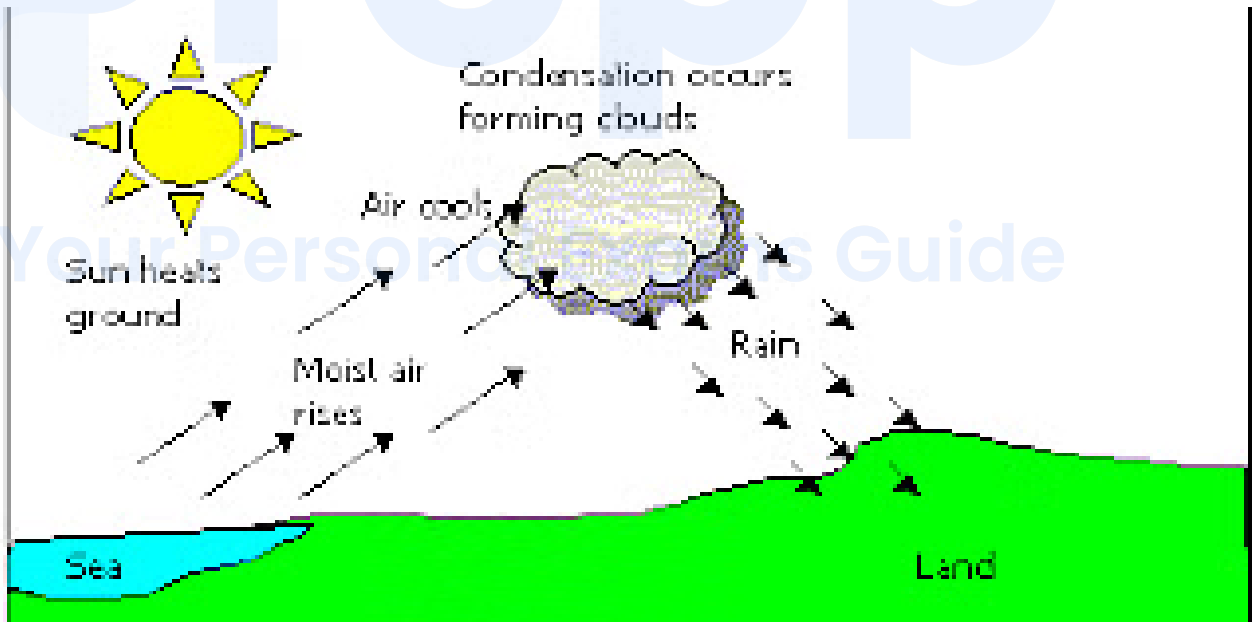
78. Answer: a

Explanation:

Correct answer is Conventional precipitation.

★ Key Points

- Convective precipitation happens when air increases vertically through the (temporarily) self-sustaining procedure of convection.
- Stratiform precipitation happens when large air masses rise diagonally as larger-scale winds and atmospheric dynamics force them to proceed over each other.
- Convective rainfall is common in areas where the ground is heated by the hot sun, like the Tropics.
- This is why areas, like the Amazon Rainforest, record heavy rainfall nearly all afternoons.



★ Additional Information

- A monsoon is a circulation arrangement with certain well-defined features.
- In summer, lower tropospheric winds runs toward heated continents away from the colder oceanic regions of the winter hemisphere.

- Orographic precipitation, rain, snow, or other precipitation generated when moist air is lifted as it proceeds over a mountain range.
- Frontal precipitation is the outcome of lifting of lighter hot moist air over extra dense cold air.

79. Answer: a

Explanation:

Correct answer is Neil Nongkynrih.

★ Key Points

- Neil Nongkynrih was an Indian musical performance pianist and conductor.
- He established the Shillong Chamber Choir (SCC), which achieved the trophy of the reality show *India's Got Talent* in 2010.
- He was awarded Padma Shri, the fourth highest civilian trophy of India in 2015.
- Nongkynrih learned music at Trinity College and Guildhall School of Music in London.
- He represents in many concerts as a concert pianist in United Kingdom.



★ Additional Information

- Madhup Mudgal is an Indian Hindustani classical music vocalist, famous for his khayal and bhajan renditions.
- Debashish Chaudhuri is an Indian symphonic director of Western traditional music.

- **António Fortunato de Figueiredo** was India's first conductor of Western classical music.

80. Answer: b

Explanation:

Correct answer is Telangana.

★ Key Points

- **Sakini Ramachandraiah**, a vocal folk singer and musical instrument player, was awarded Padma Shri by the President.
- He is famous for 'Kanchu melam-Kanchuthalam' – a tribal art form related to the **Koya people** in **Telangana** and **Andhra Pradesh**.
- This year's list terms **four Padma Vibhushan, 17 Padma Bhushan and 107 Padma Shri awards**.
- The awards are presented by **the President of India** at official functions which are organized at **Rashtrapati Bhawan**.

★ Additional Information

- **Padma Awards 2022:** **Sonu Nigam** accepts Padma Shri Award, **Victor Banerjee** awarded with Padma Bhushan.
- 2022 list terms **four Padma Vibhushan, 17 Padma Bhushan and 107 Padma Shri awards**.
- Thirty four of the awardees are women and the list as well includes 10 people from the class of **Foreigners, Non resident Indians and Overseas Citizens of India**, apart from 13 posthumous awardees.
- In the middle of the the awardees are **Padma Vibhushan** receivers – **Radhey Shyam**, former president of **Gita Press**, and **General Bipin Rawat**. **Rawat** died in a tragic chopper crash last year along with his wife and 11 others.

81. Answer: a

Explanation:

The correct answer is Mithali Raj.

★ Key Points

- **Mithali Raj** on Friday became the first Indian girl cricketer and 2d the world over to complete **10,000 runs**.
- Mithali Dorai Raj is an Indian cricketer who performs as a proper-handed batter.
- She is the only lady cricketer to surpass the **7,000 run** mark in ladies at some point in international matches.
- Mithali is a recipient of numerous countrywide and international awards.

★ Additional Information

- **Harleen Kaur Deol** is an Indian cricketer. She plays for Himachal Pradesh.
- **Smriti Shrinivas Mandhana** is an Indian cricketer who plays for the Indian girls' countrywide crew.
- **Poonam Yadav** is an Indian cricketer who performs as a leg-spin bowler for the country-wide girls' cricket crew.

82. Answer: b

Explanation:

The correct answer is Indra Nooyi.

★ Key Points

- **My life in complete:** paintings, own family, and Our future is the memoir of **sixty-five-yr-old former PepsiCo CEO Indra Nooyi**.
- It became published in the month of **September 2021 via Portfolio books**.
- Indra Nooyi is continuously ranked among the maximum effective girls in the international.

★ Additional Information

- **Shobhana Bhartia** is an Indian businesswoman.
- She is the chairperson and editorial director of **HT Media**.
- She was the first girl chief government of a countrywide newspaper.
- **Renuka Ramnath** is an Indian personal fairness fund supervisor.
- She founder and **CEO of Multiples Asset Control Ltd.**

83. Answer: c

Explanation:

The correct answer is The White Tiger.

★ Key Points

- **The White Tiger** is a novel by Indian writer Aravind Adiga.
- It was published in **2008** and gained the fortieth man Booker Prize the equal yr.
- The radical offers a darkly funny perspective of India's elegance war in a globalized international as informed via a retrospective narration from Balram Halwai, a village boy.
- The White Tiger received the **2008 man Booker Prize**.

★ Additional Information

- A Suitable Boy is a BBC television drama miniseries directed by **Mira Nair**.
- The series megastar **Tanya Maniktala**, as the main individual Lata.
- The ultimate guy in Tower is a 2011 novel by way of Indian writer **Aravind Adiga**.
- Choice Day is an Indian sports activities drama streaming tv collection, based on **Aravind Adiga's 2016** novel of the same name.

84. Answer: c

Explanation:

The correct answer is Santiago Ramon y Cajal.

★ Key Points

- **Camillo Golgi** becomes an Italian biologist and pathologist.
- **Golgi** acquired the very best honors and awards in popularity for his work.
- He shared the **Nobel Prize in 1906** with **Santiago Ramón y Cajal** for his work on the shape of the frightened machine.

★ Additional Information

- **Cesare Lombroso** turned into an Italian criminologist, phrenologist, doctor, and founder of the Italian school of Positivist Criminology.
- He have become a professor of forensic medication and hygiene at Turin in 1878.
- **Ettore Marchiafava** changed into an Italian medical doctor, pathologist, and neurologist.
- He spent most of his profession as a professor of medicine at the college of Rome.

85. Answer: a

Explanation:

The correct answer is Kuchipudi.

★ Key Points

- **Sattriya Nritya** is a chief Indian classical dancer.
- **Vempati Chinna Satyam** changed into an Indian dancer and a guru of the Kuchipudi dance form.
- Chinna Satyam sublimated and systematized Kuchipudi, giving it a more excellent classical foundation.
- Chinna Satyam started the **Kuchipudi artwork Academy at Madras in 1963**.
- He changed into honored with a Doctorate degree using **Andhra University**.

- He was also awarded the Padma Bhushan with the aid of the government of India.

★ Additional Information

- **Sattriya** is a dance shape that is more than 500 years old and derived from the Vaishnavite monasteries of Assam northeast India.
- Odissi also known as Orissa in old literature, is a chief historical Indian classical dance that originated in the Hindu temples of Odisha – **an eastern coastal country of India.**
- **Kathakali** or 'tale play' took form in Kerala in southern India in the seventeenth century under the patronage of the prince of Karnataka,

86. Answer: c

Explanation:

The correct answer is Sourav Ganguly.

★ Key Points

- **A Century is Not Enough:** My Roller-coaster Ride to Success (2018) is an English autobiography written by former Indian cricketer and captain Sourav Ganguly with Gautam Bhattacharya
- The book was first published by Juggernaut **on 24 February 2018.**
- In this book, Ganguly discussed his cricketing career in detail.

★ Additional Information

- **Kapil Dev Ramlal Nikhanj** is an Indian former cricketer.
- Kapil Dev's latest book title The Sikhs were released in 2019.
- Ravishankar Jayadritha Shastri is the former head coach of the India national cricket team, a cricket commentator, and a former captain of the Indian Cricket Team.
- Virender Sehwag Records

- Only batsman in history to have scored **7,500-plus runs** in both Tests & ODIs as an opener.
 - Their fastest Test triple century for which he took **278 balls**.
-

87. Answer: a

Explanation:

The correct answer is **2014**.

★ **Key Points**

- The **2014 pro-Kabaddi League** become the first season of the pro-Kabaddi League.
- **Fifty-six games** had been to be played within the first round and four within the playoff degree making a complete of 60 video games.
- The first recreation changed into played on **July 26** between U Mumba and Jaipur red Panthers.

★ **Additional Information**

- **Seasoned Kabaddi League** or abbreviated to **PKL** is a men's expert Kabaddi league in India.
 - The seasoned Kabaddi League's guidelines are just like that of the indoor group version of Kabaddi, but with additional rules to inspire more scoring.
 - **The league's inception** became inspired by the popularity of the Kabaddi tournament at the **2006 Asian games**.
 - The primary seasoned Kabaddi identity became won by way of the **Jaipur pink Panthers** in **2014**.
-

88. Answer: d

Explanation:

The correct answer is Sarod.

★ Key Points

- **Ali Akbar Khan** played the sarod, a stringed, lute like instrument that is part of the musical tradition in Hindustan.
- Khan became instrumental in popularizing Indian classical songs in the West, both as a performer and as an instructor.
- Khan was accorded India's second highest civilian honor, the **Padma Vibhushan**, in 1989

★ Additional Information

- Ali Akbar Khan was awarded the Padma Bhushan in 1967 and the Padma Vibhushan in 1989.
- **The Sarangi** is a fretless, bowed string tool used in Hindustani classical songs and folk traditions of north India.
- **The Rudra Veena** is noted in court docket statistics as early because of the reign of **Zain-ul Abidin**.

89. Answer: a

Explanation:

The correct answer is Ministry of Education.

★ Key Points

- Atal ranking of institutions on Innovation achievement 2021 award listing became released on Wednesday with the aid of the authorities.
- The top position has been achieved by **IIT Madras** the most innovative educational institute in India in the technical category.
- Atal Ranking of Institutions on Innovation Achievement 2021 award list released, **IIT Madras** was named the most innovative educational institute in India in the technical category.
- It changed into released via the Ministry of education on **30 August 2018**.

★ Additional Information

- The **Ministry of Tourism**, a branch of the Government of India is the apex body for the formulation and administration of the rules, regulations, and laws relating to the development and promotion of tourism in India.
- The Ministry of making plans is a ministry in India. The minister responsible is the Hon'ble top Minister of India.
- The contemporary Union cupboard Minister is **Raj Kumar Singh**.

90. Answer: d

Explanation:

The correct answer is Bharatanatyam.

★ Key Points

- Mungara Yamini Krishnamurthy is an Indian dancer of **Bharatanatyam** and **Kuchipudi** styles of dancing.
- Her dancing career brought her many awards, including the **Padma Shree (1968)**, **Padma Bhushan (2001)**, and **Padma Vibhushan (2016)**.
- She was honored with the "Natya Shastra" award by the Shambhavi School of Dance at "Nayika-Excellence Personified" on the occasion of Women's Day on 8 March 2014.

★ Additional Information

- Kalamandalam Satyabhama **Padma Shri Awarded In 2014**.
- Kalamandalam Satyabhama was an Indian classical dancer, teacher, and choreographer.
- **Kelucharan Mohapatra awards**.
 - Sangeet Natak Akademi Award, 1966
 - Padma Shri, 1974
 - Padma Bhushan, 1988

91. Answer: c

Explanation:

The correct answer is KOH.

★ Key Points

- **Potassium hydroxide** is an inorganic compound with the components KOH and is generally referred to as caustic potash.
- Together with sodium hydroxide (**NaOH**), **KOH** is a prototypical sturdy base
- KOH is noteworthy as the precursor to maximum smooth and liquid soaps, as well as numerous potassium-containing chemicals.
- Even at high temperatures, solid KOH does not dehydrate without difficulty.

★ Additional Information

- This light yellow solid is the **handiest oxide of potassium**.
- KOH complete name Potassium Hydroxide is a robust base.
- **Potassium** in the marketplace Caustic or Potash Caustic is likewise known through their names.
- **Potassium salts** are organized by using neutralization reactions related to **KOH**.

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92. Answer: c

Explanation:

The correct answer is Kathak.

★ Key Points

- She has performed in lots of track festivals consisting of the Khajuraho pageant of Dances, the Chilanka Dance festival in Thiruvananthapuram, the festival of Dance and track, Delhi, and so forth.
- **Vidyagauri Adkar track festivals**.

- Khajuraho competition of Dances
- Kathak Prabha – festival of India in South Africa
- 2012 Kathak Mahotsava, Delhi
- World Dance Day celebration, New Delhi

★ Additional Information

- Odissi turned into the handiest Indian dance shape present in **Michael Jackson's 1991 hit** unmarried Black or White.
- **Odissi Dance** originates from the Indian kingdom of Odisha. In line with Natya Shastra, 'Odhra Magadha' is the earliest shape of present-day Odissi Dance.
- **Kuchipudi** is a dance-drama performance, with its roots inside the historic Hindu Sanskrit textual content of Natya Shastra.
- Bharatanatyam is a dance of Tamil Nadu in southern India.

93. Answer: c

Explanation:

The correct answer is Mercury.

★ Key Points

- **Mercury's image** of Hg comes from its Greek call, hydrargyrum, meaning "**liquid silver**", because of its mobility and vibrant floor.
- Mercury is used in electrical switches of thermostats, but it is most commonly seen in the new compact fluorescent light bulbs.
- A heavy, silvery-white metal. The only metal (mercury) is liquid at room temperature.

★ Additional Information

- Antimony is a semi-metallic chemical element with an atomic **number 51** and the symbol Sb in the Periodic Table.
- **Zirconium (Zr)**, a chemical element, the metal of Group 4 (IVb) of the periodic table, is used as a structural material for nuclear reactors.

- The symbol Ag derives from the Latin Argentum and Sanskrit argues from "bright". Silver was known in prehistoric times.
- It is used for jewelry and silver tableware.

94. Answer: c

Explanation:

The correct answer is United Kingdom.

★ Key Points

- The idea of unmarried citizenship has been followed in India by the **UK's British constitution**.
- **Citizens of India** have access to the most effective shape of citizenship.
- It's miles impossible to be each a country citizen and a citizen of the arena.
- This promotes patriotism with the aid of fostering solidarity throughout ethnic and cultural divides.
- **The Indian constitution** grants all residents of the nation unmarried citizenship.

★ Additional Information

- In contrast, in the **United States**, a person's botti is a citizen of the United States and of the state in which he or she lives.
- It also promotes fundamental freedoms such as the freedom to travel and live anywhere in the country.
- This concept of single citizenship is borrowed from the Constitution of **Great Britain**.

95. Answer: a

Explanation:

The correct answer is Tabla.

★ Key Points

- **Pandit Nikhil Jyoti Ghosh** was an Indian musician, teacher, and writer, known for his proficiency in the percussion instrument tabla.
- The Government of India awarded him the third highest civilian honor of the **Padma Bhushan, in 1990**, for his contributions to Music.
- A recipient of the Ustad Hafiz Ali Khan Award, his style was known to have been aligned with the Delhi, Ajrada, Farukhabad, Lucknow, and Punjab Gharana of music.
- He founded Sangit Mahabharata, an institution of music **in 1956**.

★ Additional Information

- **Ustad Amjad Ali Khan** is an Indian classical sarod participant.
- Khan changed into offering the **21st Rajiv Gandhi** countrywide Sadbhavna Award.
- **Mehmood Dhaulpuri** turned into an Indian musician of Hindustani music, called a main exponent of Harmonium,
- **James Galway** is taken into consideration by using many pro and beginner flute players as one of the finest flute players and the most well-known in the global.

96. Answer: a

Explanation:

The correct option is Gallium.

★ Key Points

- Group 13 elements are also known as **Boron Family**.
- The **elements are Boron, Aluminium, Gallium, Indium, Thallium**.
- The general **electronic configuration** for the group 13 elements is $ns^2 np^1$.
- Gallium was discovered in 1875 by French chemist Paul-Émile Lecoq de Boisbaudran.
- Atomic number of **Gallium** is 31 and chemical symbol is **Ga**.

★ Additional Information

- **Boron** is the lightest element of Boron family, the chemical symbol **B** and atomic number is 5. In its crystalline form it is a brittle, dark, lustrous metalloid ; in its amorphous form it is a brown powder.
- **Aluminium's** chemical symbol **Al** and atomic number 13. It has a density lower than those of other common metals.
- **Thallium** is a chemical element with the symbol **Tl** and atomic number 81. It is a gray post-transition metal that is not found free in nature.
- **Indium** is a chemical element with the symbol **In** and atomic number 49. Indium is the softest metal that is not an alkali metal . It is a silvery-white metal that resembles Tin in appearance. It is a post-transition metal that makes up 0.21 parts per million of the Earth's crust.

97. Answer: d

Explanation:

The correct answer is 1.

★ Key Points

- India secured **first rank with 8 gold and 3 bronze medals**.
- The **2021 AIBA World Youth Boxing Championship** (21st) were held in Kielce, Poland , from 13 to 23 April 2021.
- Its the third time in tournament's history when men and women fought the same championship.
- **Russia** was first runner up in the tournament followed by **Uzbekistan**.
- Russia won **three golds, five silvers and three bronze medals** in the championship whereas Uzbekistan won **three golds, one silver and six bronze medals**.

★ Additional Information

- **Nikhat Zareen** became only the fifth Indian female boxer to become a world champion in **2022 Women's World Boxing Championships in Istanbul**.

- **Manisha (57kg)** and **Parveen (63kg)** signed off with **bronze medals** after their semi-finals finish at the 2022 World Boxing Championship.
- India and Turkey were both at the runner up in 2022 World Boxing Championship with a gold and two bronze medals.
- **Chinese Taipei** secured third place in the championship.

98. Answer: d

Explanation:

The correct is 1 February.

★ Key Points

- The **Union Budget of India**, also referred to as the *Annual Financial Statement* in Article 112 of the Constitution of India is the annual budget of the Republic of India.
- The union budget of India is presented by the **Finance Minister in the Parliament**.
- India's financial year starts from **1 April**.
- Since 1947, there have been a total of **73 annual budgets, 14 interim budgets and four special budgets, or mini-budgets**.
- Currently the Finance Minister of India is **Smt. Nirmala Sitharaman**.

★ Additional Information

Finance Ministers presented the Union Budget the highest times:

Finance Ministers	Presented Union Budget
Morarji Desai	10 times
P Chindambaram	09 times
Pranab Mukherjee	08 times
Yashwant Sinha	07 times
Yashwantrao Chavan	07 times
C.D. Deshmukh	07 times
Manmohan Singh	06 times
T.T. Krishnamachari	06 times

99. Answer: d

Explanation:

The correct option is Rubidium.

★ Key Points

- **Rubidium** is the chemical element with the symbol **Rb** and atomic number 37.
- Rubidium is a very soft, whitish-grey metal in the alkali metal group. Rubidium metal shares similarities to **Potassium** metal and **Caesium** metal in physical appearance, softness and conductivity.
- Rubidium was discovered in 1861 by **Robert Bunsen and Gustav Kirchhoff**, in Heidelberg, Germany.
- Rubidium reacts violently with water and can cause fires.
- It is also used in fireworks to give it a purple color.

★ Additional Information

- **Caesium** (or **cesium**) is a chemical element with the symbol **Cs** and atomic number 55. It is one of only five elemental metals that are liquid at or near room

- temperature. In 1860, Robert Bunsen and Gustav Kirchhoff discovered caesium.
- **Francium** is a chemical element with the symbol **Fr** and atomic number 87. It is extremely radioactive and second rarest naturally occurring element. Francium was discovered by Marguerite Perey in France in 1939.
 - **Gallium** is a chemical element with the symbol **Ga** and atomic number 31. Discovered by French chemist Paul-Émile Lecoq de Boisbaudran in 1875, Gallium is in group 13 of the periodic table and is similar to the other metals of the group.

100. Answer: c

Explanation:

The correct option is Tropical thorn forests.

★ Key Points

- A thorn forest is characterized by dense, scrubland with vegetation as dry subtropical and with warm temperate areas.
- India has a landmass of **7,12,249 sq. km** covered with forest from which **16,491 sq km** consist of tropical thorn forest.
- The tropical thorn forests in India are found in the areas of **southwest Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh, and also in Uttar Pradesh.**
- In the tropical thorn forest trees like – **Babool tree, Ber tree and Wild Date Palm, Khair tree, Neem, Khejri tree, Palas tree, etc.**
- There are five types of forests found in India:
 - Moist Tropical forest
 - Dry Tropical forest
 - Montane temperate forest
 - Montane sub tropical forest
 - Alpine forest

★ Additional Information

- **Moist Tropical forest**
 - Areas with annual rainfall ranges between 200 and 250 cm.

- Found along the Western Coast, in Upper Assam, lower slopes of the eastern Himalaya, Orissa coast and neighbouring hills.
- Important plant varieties include Bamboos, Epiphytes, Aini, Semul.
- **Dry Tropical forest**
 - These forests are generated where average annual rainfall ranges varies from 51 cm to 151.
 - found in Indian Northern Hilly regions and some states of Southern India.
 - Some significant trees of dry tropical forest are sal, acacia, mangoes and bamboo.
- **Montane temperate forests**
 - It takes about 201 cm average annual rainfalls to produce these types of forests.
 - These types of forests are mainly generated in Northern middle Himalayas ranges (1801 to 3001 m) and Southern Niligiri higher Mountain ranges.
 - Some significant trees of montane temperate forest are rhododendrons, ferns, oak, maple etc.
- **Montane sub tropical forest**
 - These types of forests mainly generated in the state of Assam, Nagaland, Mizoram, Meghalaya, Manipur, Arunachal Pradesh, etc.
 - Some significant trees of montane sub tropical forest are poonspar, cinnamon, rhododendron, sal, sandan, laburnum, pomegranate, olive.
- **Alpine forest**
 - They are common in both the main Himalayan regions as well as the barren cold deserts of the Trans Himalaya.
 - The vegetation consists mainly of the black juniper, the drooping juniper; honeysuckle and willow are the common trees.