

# Prepp

## 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



BPS



UPTET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

# SSC MTS Previous Year Paper (Held on: 15 July 2022 Shift 1)

Total Time: 1 Hour : 30 Minute

Total Marks: 100

## Instructions

Sl No.	Section Name	No. of Question	Maximum Marks	Negative Marks	Positive Marks
1	General Intelligence & Reasoning	25	25	0.25	1
2	Numerical Aptitude	25	25	0.25	1
3	General English	25	25	0.25	1
4	General Awareness	25	25	0.25	1

- 1.) A total of 90 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.

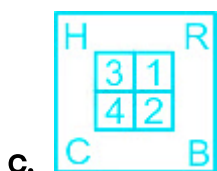
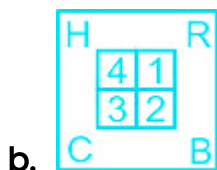
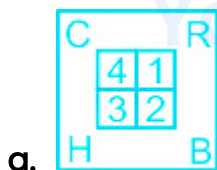
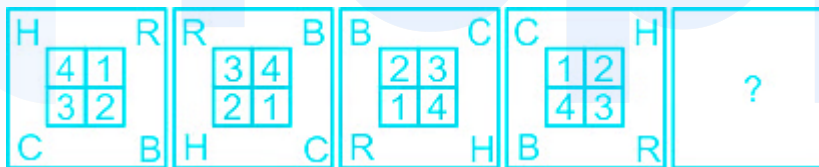
## General Intelligence & Reasoning

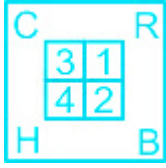
1. Select the option that can replace the question mark (?) in the following series. (+1, -0.25)

NB, OA, PZ, QY, ?

- a. RX
- b. WR
- c. RW
- d. RS

2. Select the figure from among the given options that can replace the question mark (?) in the following series. (+1, -0.25)





d.

3. 6 persons S, O, K, U, T and A are sitting around a circular table facing towards the centre (not necessarily in the same order). S is sitting second to the right of A. Only one person is sitting between O and U. T is sitting to the immediate right of K. Only two persons are sitting between O and A. (+1, -0.25)

Who is sitting third to the left of K ?

- a. U
- b. A
- c. S
- d. T

4. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster. (+1, -0.25)

REAS : SGDW :: ABRO : BDUS :: MOBI : ?

- a. NPEM
- b. LQEM
- c. NQEM
- d. NPDM

5. There are eight persons, A, B, C, D, E, F, G and H, all having different weights. **(+1, -0.25)**  
Only two persons are lighter than F. F is heavier than A but lighter than B. D is lighter than E but heavier than G. H is lighter than A. C is heavier than E. C is not the heaviest person. The weights of the second heaviest and the second lightest persons are 78 kg and 48 kg, respectively.

How many persons are lighter than the person who is just lighter than D ?

- a. One
- b. Three
- c. Four
- d. Two

- 
6. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements. **(+1, -0.25)**

**Statements:**

All cricketers are sportspersons.

Some players are sportspersons.

**Conclusions:**

- I. No cricketer is a player.
- II. Some cricketers are players.

- a. Only conclusion I follows
- b. Only conclusion II follows

- c. Either conclusion I or II follows
- d. Both conclusions I and II follow

---

7. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements. (+1, -0.25)

**Statements:**

- I. No X is W.
- II. Some R are X.

**Conclusions:**

- I. Some W are not X.
  - II. No W is R.
- a. Both conclusions I and II follow
  - b. Only conclusion II follows
  - c. Only conclusion I follows
  - d. Neither conclusion I nor II follows

---

8. If '-' stands for '×', '+' stands for '÷' and '÷' stands for '-', then what will be the value of  $812 + 58 - 65 + 26 - 2 = ?$  (+1, -0.25)

- a. 70
- b. 90

c. 30

d. 50

- 
9. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number. (+1, -0.25)

232 : 21 :: 343 : 30 :: 157 : ?

a. 39

b. 33

c. 42

d. 36

- 
10. In a certain code language, if mustard is called fruit, fruit is called potato, potato is called burger, burger is called flower, and flower is called rice, then what is rose? (+1, -0.25)

a. potato

b. rice

c. flower

d. fruit

- 
11. Select the correct mirror image of the given figure when the mirror is placed at the right side. (+1, -0.25)



12. Select the number from among the given options that can replace the question mark (?) in the following series. (+1, -0.25)

100, 98, 104, 92, 112, ?

- a. 108
- b. 82

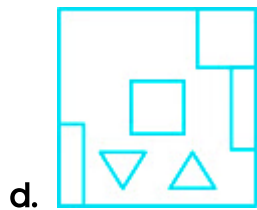
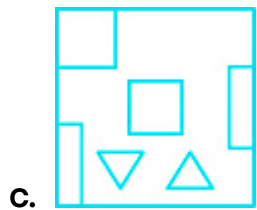
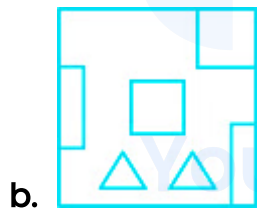
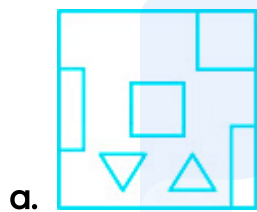


c. 72

d. 64

13. Select the correct mirror image of the given figure when the mirror is placed at AB as shown.

(+1, -0.25)



14. Which of the mathematical signs should be interchanged in the given equation to make it mathematically correct? (+1, -0.25)

$$12 + 66 \div 11 - 4 \times 91 = 159$$

- a.  $\div$  and  $\times$
  - b.  $+$  and  $-$
  - c.  $+$  and  $\times$
  - d.  $+$  and  $\div$
- 
15. Select the figure from the options that can replace the question mark (?) and complete the given pattern. (+1, -0.25)



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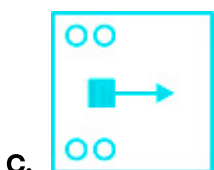
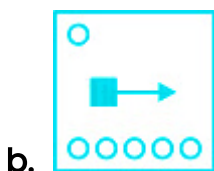
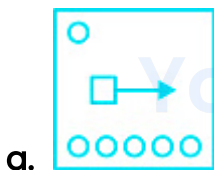
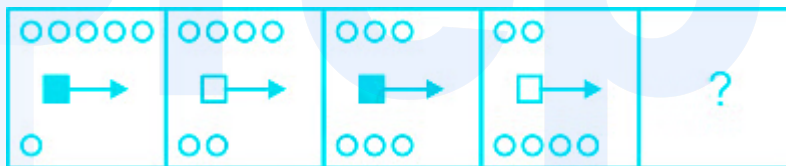
- a.
- b.
- c.
- d.

16. Select the number from among the given options that can replace the question mark (?) in the following series. (+1, -0.25)

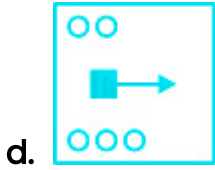
39, 78, 117, 156, ?, 234

- a. 205
- b. 195
- c. 185
- d. 175

17. Select the figure from among the given options that can replace the question mark (?) in the following series. (+1, -0.25)



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18. Select the option in which the given figure is embedded (rotation is not allowed). (+1, -0.25)



19. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster. (+1, -0.25)

BDF : ACE :: NPR : MOQ :: VXZ : ?

- a. UVY
  - b. TUW
  - c. UWY
  - d. WUY
- 

20. In a certain code language, 'TIK' is coded as '40', 'PDM' is coded as '33'. (+1, -0.25)  
How will 'RUG' be coded in that code language ?

- a. 47
  - b. 44
  - c. 46
  - d. 45
- 

21. Select the option that is related to the third letter-cluster in the same way (+1, -0.25)  
as the second letter-cluster is related to the first letter-cluster.

KTM : PGN :: ABC : ?

- a. ZWY
  - b. ZYW
  - c. ZYX
  - d. ZXY
- 

22. In a certain code language, 'SHAPE' is coded as 'VKDSH'. How will 'MODEL' (+1, -0.25)  
be coded in that language ?

- a. OPFGN
  - b. PRGHO
  - c. QRHIP
  - d. CFAHW
- 

23. In a certain code language, 'ACADEMIC' is written as 'AACEDIMC', 'ABSTRACT' is written as 'ASBRTCAT', and 'ACCURACY' is written as 'ACCRUCAY'. How will 'ABACAS' be written in that language ? (+1, -0.25)

- a. ABCAAS
  - b. AAABCS
  - c. ABAACS
  - d. AABACS
- 

24. Seven persons – G, M, R, K, L, P and C – are sitting around a circular table facing the centre. The following information is known about them. G is to the immediate right of K, who is third to the left of C. R is adjacent to both C and P. M is not adjacent to G. Who is third to the left of M ? (+1, -0.25)

- a. L
  - b. R
  - c. C
  - d. G
-

25. Select the option in which the two numbers are related in the same way as are the numbers in the given number-pair. (+1, -0.25)

248 : 428

a. 428 : 824

b. 268 : 628

c. 462 : 264

d. 284 : 842

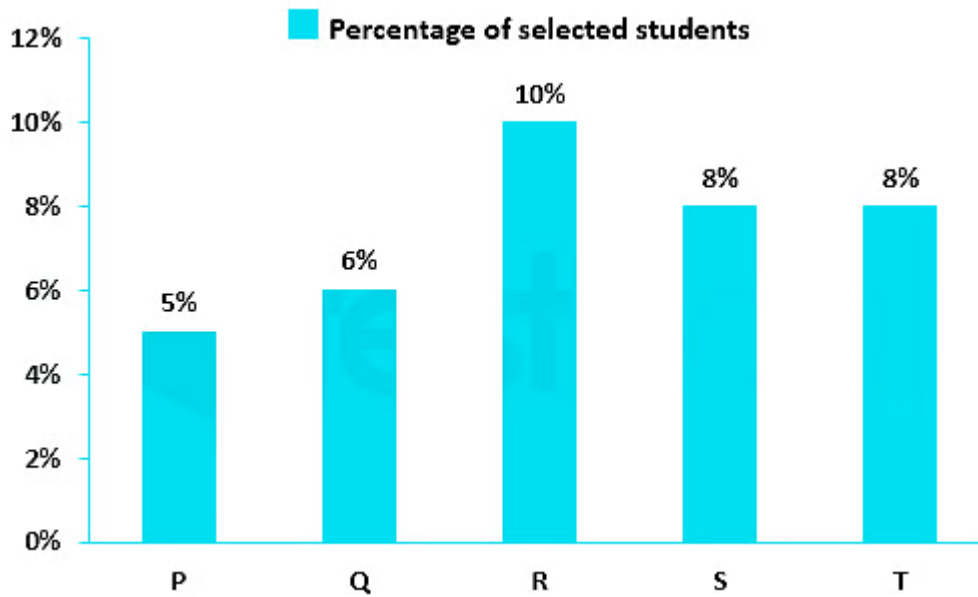
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## Numerical Aptitude

26. The difference between the compound interest and the simple interest on a certain sum of money at 10% per annum for 2 years is ₹200. What is the sum of money, if in the case of compound interest, interest is compounded annually ? (+1, -0.25)
- a. ₹25,000
- b. ₹15,000
- c. ₹12,000
- d. ₹20,000
- 
27.  $P = 2^5 \times 3^8$  and  $Q = 2^3 \times 3^K$ . If the highest common factor of P and Q is  $2^3 \times 3^3$ , then what is the value of K ? (+1, -0.25)
- a. 1
- b. 2
- c. 3
- d. 5
- 
28. The following bar graph shows the percentage of students from five different colleges who are selected for a maths quiz. (+1, -0.25)





The ratio of the number of students in colleges P, Q, R, S and T is 2 : 4 : 3 : 1 : 3, respectively. If 25 students are selected from college P, then what is the total number of students selected for the quiz ?

- a. 172
- b. 180
- c. 240
- d. 210

29. A bus can travel 20% faster than a scooter. Both start from point P at the same time, and reach point Q. 60 km away from point P, at the same time. On the way, however, the bus lost about 10 minutes while stopping at bus stations, while the scooter did not stop anywhere. What is the speed of the bus ? (+1, -0.25)
- a. 68 km/h
  - b. 80 km/h

- c. 60 km/h
  - d. 72 km/h
- 

30. 15% of the marked price of an item is equal to 25% of its cost price. If a discount of 25% is given on the scale of the item, then what will be the profit percentage ? (+1, -0.25)

- a. 22.5%
  - b. 20%
  - c. 17.5%
  - d. 25%
- 

31. In an election between 2 candidates, the winning candidate gets 2940 valid votes, while the losing candidate gets 40% of the valid votes. If 2% of the votes polled were declared invalid, then what is the total number of votes polled ? (+1, -0.25)

- a. 4500
  - b. 5000
  - c. 6000
  - d. 5500
- 

32. What is the height of a cylinder whose radius of base is 12 cm and volume is  $19008 \text{ cm}^3$  ? [Use  $\pi = \frac{22}{7}$ ] (+1, -0.25)

- a. 6 cm

- b. 24 cm
- c. 38 cm
- d. 42 cm

---

33. When 8 is added to the numerator of a fraction and 12 is added to its denominator, the fraction becomes  $\frac{1}{2}$ . When 2 is subtracted from its numerator and denominator, the fraction becomes  $\frac{1}{8}$ . Find the original fraction. (+1, -0.25)

- a.  $\frac{9}{19}$
- b.  $\frac{3}{10}$
- c.  $\frac{4}{7}$
- d.  $\frac{5}{11}$

---

34. If on a certain sum, the simple interest for 4 years is ₹2,000, then what is the simple interest for 6 years on the same sum? (+1, -0.25)

- a. ₹3,500
- b. ₹3,000
- c. ₹4,000
- d. ₹2,800

---

35. P is increased successively by 15% and 20% to get Q. If P = 200, then what is the value of Q? (+1, -0.25)

- a. 266

- b. 284
- c. 276
- d. 292

---

36. Vinay purchased two bottles of a total of ₹100, and he sells these two bottles at the rate of ₹100 per bottle. What is the overall profit percentage that Vinay had on selling the two bottles ? (+1, -0.25)

- a. 50%
- b. 100%
- c. 200%
- d. 80%

---

37. The average of a set of 15 numbers is 41. Five numbers 21, 24, 39, 47 and 97 are removed from the above set. What will the average of the remaining 10 numbers ? (+1, -0.25)

- a. 39.2
- b. 37.6
- c. 38.7
- d. 36.4

---

38. What is the value of  $\frac{17-8 \times 5+4 \times 3}{5 \times 3 \div 6+2 \times 4}$  ? (+1, -0.25)

- a.  $\frac{-25}{21}$

b.  $\frac{-22}{21}$

c.  $\frac{-5}{6}$

d.  $\frac{-8}{7}$

---

39. The selling price of a desktop is 9 times of the profit earned on selling this desktop. What is the profit percentage ? **(+1, -0.25)**

a. 10%

b. 12.5%

c. 11.11%

d. 8.33%

---

40. A, B and C together can do a piece of work in 6 days. A and B together can do the same work in 12 days. B alone can do the same work in 18 days. In how many days can A and C together do the same work ? **(+1, -0.25)**

a. 9 days

b. 10.5 days

c. 8 days

d. 7.5 days

---

41. A can do a piece of work alone in 40 days. A and B together can do the same work in 10 days. C is 50% less efficient than B. In how many days can A and C together complete the same work ? **(+1, -0.25)**

a. 20 days

- b. 24 days
  - c. 16 days
  - d. 12 days
- 

42. What will be the average of all the prime numbers between 9 and 22 ? (+1, -0.25)
- a. 14
  - b. 15
  - c. 10
  - d. 12
- 

43. 5 times of the perimeter of a square is 600 cm. What will be the area of this square ? (+1, -0.25)
- a.  $900 \text{ cm}^2$
  - b.  $1150 \text{ cm}^2$
  - c.  $750 \text{ cm}^2$
  - d.  $480 \text{ cm}^2$
- 

44. What is the average of the first 10 prime numbers ? (+1, -0.25)
- a. 10.9
  - b. 12.9
  - c. 11.9

d. 13.9

45. The value of  $(256)^{\frac{1}{2}} - (1331)^{\frac{1}{3}} + 23 \times 13$  is: (+1, -0.25)

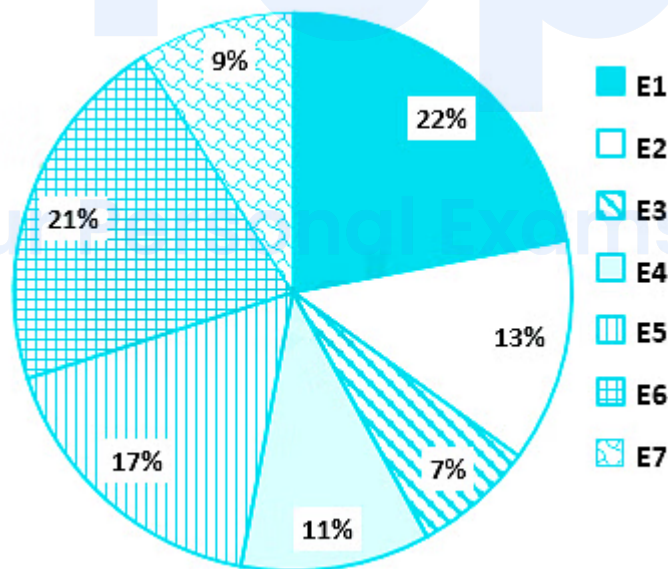
a. 304

b. 305

c. 309

d. 302

46. The following pie chart shows the amounts of money spent under different heads by a household as percentages of the total money spent by the household on these 7 heads taken together. (+1, -0.25)



If the total money spent on these 7 heads is ₹2,300, then what is the amount spent on E5 ?

a. ₹483

b. ₹253

c. ₹391

d. ₹299

---

47. A leaves station P at 8:00 a.m. and reaches station Q at 11:00 a.m. B leaves station Q at 9:00 a.m. and reaches station P at 11:00 a.m. At what time will they cross each other ? **(+1, -0.25)**

a. 10:00 a.m.

b. 10:05 a.m.

c. 9:48 a.m.

d. 9:52 a.m.

---

48. The following table shows the number of students of class 6, class 7, class 8, class 9 and class 10, in schools A, B and C. **(+1, -0.25)**

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School	Class				
	Class 6	Class 7	Class 8	Class 9	Class 10
School A	25	45	35	55	80
School B	65	45	55	45	20
School C	35	65	40	25	30

What is the total number of students in class 9 and class 10, taken together, in school B ?

- a. 55
- b. 100
- c. 135
- d. 65

- 
49. Two numbers are, respectively, 25% and 30% less than a third number. (+1, -0.25)  
 What is the ratio of the first two numbers, in the order mentioned in the previous statement ?
- a. 6 : 5
  - b. 5 : 6
  - c. 14 : 15

d. 15 : 14

---

50. The area of a square is  $144 \text{ cm}^2$ . What is the length of each of its diagonals ? (+1, -0.25)

a.  $14\sqrt{2}$  cm

b.  $6\sqrt{2}$  cm

c.  $12\sqrt{2}$  cm

d. 12 cm

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## General English

51. Select the most appropriate option to fill in the blank. (+1, -0.25)

He has a high paying job, \_\_\_\_\_ he never seems to have any money.

- a. by
- b. yet
- c. from
- d. so

52. Select the most appropriate meaning of the given idiom. (+1, -0.25)

That ship has sailed

- a. Too extreme to follow
- b. To reach safely
- c. Too late to do something
- d. To arrive early

53. Select the option that can be used as a one-word substitute for the given group of words. (+1, -0.25)

One who has a long experience of any occupation

- a. Veteran
- b. Staunch

- c. Practitioner
  - d. Reverent
- 

54. Select the correctly spelt word. (+1, -0.25)

- a. Entyrely
  - b. Entierly
  - c. Entierely
  - d. Entirely
- 

55. Select the option that can be used as a one-word substitute for the given group of words. (+1, -0.25)

An agreement between enemies or opponents to stop fighting, arguing, etc., for a certain period of time

- a. Unanimous
  - b. Truce
  - c. Graft
  - d. Surplus
- 

56. Parts of the given sentence have been given as options. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer. (+1, -0.25)

It feels greatly to be with you at this ceremony.

- a. to be with you
  - b. It feels greatly
  - c. at this ceremony
  - d. No error
- 

57. Select the option that can be used as a one-word substitute for the given (+1, -0.25)  
group of words.

One who knows all

- a. Bully
  - b. Omniscient
  - c. Topper
  - d. Anarchist
- 

58. Select the most appropriate option to fill in the blank. (+1, -0.25)

Yesterday, after a nice walk, we \_\_\_\_\_ to sit on the bench, watch the birds, and rest for a while.

- a. decide
  - b. decided
  - c. decides
  - d. deciding
-

59. Select the most appropriate option to fill in the blank.

(+1, -0.25)

The \_\_\_\_\_ of directors will decide the penalty.

- a. braid
- b. bowed
- c. board
- d. bored

60. Select the most appropriate option to fill in the blank.

(+1, -0.25)

Accuracy rates of facial recognition algorithms are \_\_\_\_\_ low in the case of minorities, women and children, as demonstrated in multiple studies across the world.

- a. smoothly
- b. Beautifully
- c. Carelessly
- d. Particularly

61. Select the most appropriate option to fill in the blank.

(+1, -0.25)

I prefer to listen to relaxing and \_\_\_\_\_ music when meditating.

- a. tormenting
- b. soothing
- c. fretting

d. abrading

---

62. Select the most appropriate synonym of the given word. (+1, -0.25)

Erring

- a. Blundering
  - b. Sloppy
  - c. Tidy
  - d. Flawless
- 

63. Select the option that will improve the underlined part of the given sentence. In case no improvement is needed, select 'No improvement required'. (+1, -0.25)

Carrying an umbrella is not at all a good idea during thunderstorms.

- a. No improvement required
  - b. Carrying a umbrella
  - c. Carry an umbrella
  - d. Carried an umbrella
- 

64. The following sentence has been split into four segments. Identify the segment that contains a grammatical error. (+1, -0.25)

The earthy / fragrance of soil / after a first rain / is always refreshing.

- a. fragrance of soil

- b. The earthy
  - c. is always refreshing
  - d. after a first rain
- 

65. Select the correctly spelt word. (+1, -0.25)

- a. Ecstasy
  - b. Equilibrium
  - c. Unravel
  - d. Compeling
- 

66. Select the most appropriate meaning of the highlighted idiom. (+1, -0.25)

My mother is in raptures over her new stove.

- a. working vigorously
  - b. completely dissatisfied with
  - c. extremely delighted
  - d. extremely angry
- 

67. Select the most appropriate option to fill in the blank. (+1, -0.25)

The reality of the effects of rising aviation industry emissions on climate change has been known for decades, yet the industry and its emissions has continued to grow without \_\_\_\_\_.



- a. easiness
  - b. neglect
  - c. constraint
  - d. comfort
- 

68. Select the most appropriate ANTONYM of the given word. (+1, -0.25)

Abundant

- a. Scarce
  - b. Rich
  - c. Surplus
  - d. Brilliant
- 

69. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer. (+1, -0.25)

He got afflicted with the disease / when he was / a teenager.

- a. when he was
  - b. He got afflicted with the disease
  - c. a teenager
  - d. No error
-

70. Select the most appropriate synonym of the given word.

(+1, -0.25)

Penniless

- a. Broke
- b. Reckless
- c. Cranky
- d. Wealthy

71. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

(+1, -0.25)

Anthony Abraham, a 34-year-old crane driver, (1) \_\_\_\_\_ managed to get out of the way of falling steel. Turning around, he could hardly believe the (2) \_\_\_\_\_ scene that lay before him. Girders were (3) \_\_\_\_\_ on top of the crane in a haphazard fashion, like gigantic pick up sticks. All he could see of the machine was its rear wheels and a section of what had been the cab. Abraham (4) \_\_\_\_\_ to the cab, shouting his friend George Burns' name. By then, three other iron workers had reached the (5) \_\_\_\_\_ of the carnage. One of them yelled, 'George, can you hear me ?' Over the din of the diesel engine, a strained voice responded.

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

- a. simultaneously
- b. rarely
- c. substantially
- d. barely

72. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+1, -0.25)

Anthony Abraham, a 34-year-old crane driver, (1) \_\_\_\_\_ managed to get out of the way of falling steel. Turning around, he could hardly believe the (2) \_\_\_\_\_ scene that lay before him. Girders were (3) \_\_\_\_\_ on top of the crane in a haphazard fashion, like gigantic pick up sticks. All he could see of the machine was its rear wheels and a section of what had been the cab. Abraham (4) \_\_\_\_\_ to the cab, shouting his friend George Burns' name. By then, three other iron workers had reached the (5) \_\_\_\_\_ of the carnage. One of them yelled, 'George, can you hear me ?' Over the din of the diesel engine, a strained voice responded.

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

- a. crooked
- b. horrible
- c. pleasant
- d. criminal

73. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+1, -0.25)

Anthony Abraham, a 34-year-old crane driver, (1) \_\_\_\_\_ managed to get out of the way of falling steel. Turning around, he could hardly believe the (2) \_\_\_\_\_ scene that lay before him. Girders were (3) \_\_\_\_\_ on top of the crane in a haphazard fashion, like gigantic pick up sticks. All he could see of the machine was its rear wheels and a section of what had been the cab. Abraham (4) \_\_\_\_\_ to the cab, shouting his friend George Burns' name. By then, three other iron workers had reached the

(5) \_\_\_\_\_ of the carnage. One of them yelled, 'George, can you hear me ?' Over the din of the diesel engine, a strained voice responded.

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

- a. riled
- b. dived
- c. piled
- d. duped

74. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+1, -0.25)

Anthony Abraham, a 34-year-old crane driver, (1) \_\_\_\_\_ managed to get out of the way of falling steel. Turning around, he could hardly believe the (2) \_\_\_\_\_ scene that lay before him. Girders were (3) \_\_\_\_\_ on top of the crane in a haphazard fashion, like gigantic pick up sticks. All he could see of the machine was its rear wheels and a section of what had been the cab. Abraham (4) \_\_\_\_\_ to the cab, shouting his friend George Burns' name. By then, three other iron workers had reached the (5) \_\_\_\_\_ of the carnage. One of them yelled, 'George, can you hear me ?' Over the din of the diesel engine, a strained voice responded.

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

- a. raced
- b. assisted
- c. shoved
- d. halted

75. In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. (+1, -0.25)

Anthony Abraham, a 34-year-old crane driver, (1) \_\_\_\_\_ managed to get out of the way of falling steel. Turning around, he could hardly believe the (2) \_\_\_\_\_ scene that lay before him. Girders were (3) \_\_\_\_\_ on top of the crane in a haphazard fashion, like gigantic pick up sticks. All he could see of the machine was its rear wheels and a section of what had been the cab. Abraham (4) \_\_\_\_\_ to the cab, shouting his friend George Burns' name. By then, three other iron workers had reached the (5) \_\_\_\_\_ of the carnage. One of them yelled, 'George, can you hear me ?' Over the din of the diesel engine, a strained voice responded.

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

- a. sign
- b. sight
- c. trace
- d. scene

## General Awareness

76. Which of the following animals does NOT have a backbone? (+1, -0.25)
- a. Frog
  - b. Pigeon
  - c. Human
  - d. Spider
- 
77. According to the fundamental duties given in the Indian Constitution, it shall be the duty of every citizen of India to uphold and protect the sovereignty, \_\_\_\_\_ of India. (+1, -0.25)
- a. liberty and equality
  - b. unity and integrity
  - c. equality and fraternity
  - d. spirituality and unity
- 
78. Which of the following state governments announced a four-year mentorship programme called 'Project Arohan', to provide guidance to students and improve their skills, in February 2022? (+1, -0.25)
- a. Assam
  - b. Uttar Pradesh
  - c. Karnataka
  - d. Himachal Pradesh

79. The remains of the dead plants and animals trapped in the layers of rocks are called \_\_\_\_\_ (+1, -0.25)

- a. manures
- b. moulds
- c. fossils
- d. remnants

80. Who won the men's singles title in Australian Open 2022? (+1, -0.25)

- a. Rafael Nadal
- b. Stefanos Tsitsipas
- c. Matteo Berrettini
- d. Daniil Medvedev

81. What is speed? (+1, -0.25)

- a. It is the distance covered by an object in a unit time.
- b. It is the velocity of an object per unit time.
- c. It is the force applied on covering a unit distance.
- d. It is the acceleration of an object per unit time.

82. The Census of India provides us with information regarding \_\_\_\_\_ (+1, -0.25)

- a. industrial production
  - b. pollution
  - c. food security
  - d. the population
- 

83. Which of the following financial institutions of India protects the interests of the investors and facilitates the functioning of the stock market intermediaries? (+1, -0.25)

- a. Securities and Exchange Board of India (SEBI)
  - b. National Housing Bank (NHB)
  - c. Small Industries Development Bank of India (SIDBI)
  - d. India Infrastructure Finance Company Ltd (IIFCL)
- 

84. Which of the following novels is based on the Member of Parliament (India), Phoolan devi, and written by the author Roy Moxham ? (+1, -0.25)

- a. Outlaw: India's Bandit Queen and Me
  - b. The Woman Who Knew Infinity
  - c. Spy Princess
  - d. Lilavati's Daughters
- 

85. Ustad Allarakha Qureshi, also known as Alla Rakha, was associated with which musical instrument? (+1, -0.25)



- a. Piano
  - b. Tabla
  - c. Sarod
  - d. Flute
- 

86. Where does the Eastern Coastal Plain of India lie? (+1, -0.25)

- a. Between Diu and Kerala
  - b. Between the Eastern Ghats and the Bay of Bengal
  - c. Between the Gulf of Cambay and Cape Comorin
  - d. Between Maharashtra and Kerala
- 

87. Which of the following persons was appointed as the Commissioner of Delhi Police in July 2021? (+1, -0.25)

- a. Kiran Bedi
  - b. Rakesh Asthana
  - c. Athar Aamir Khan
  - d. Tina Dabi
- 

88. The \_\_\_\_\_ is an Act of the Parliament of the United Kingdom that partitioned British India into two new independent dominions of India and Pakistan in 1947. (+1, -0.25)

- a. Indian Independence Act

- b. Industrial Disputes Act
  - c. Rowlatt Act
  - d. Government of India Act
- 

89. In which year did Babur defeat Rana Sanga at Khanua ? (+1, -0.25)

- a. 1531
  - b. 1527
  - c. 1529
  - d. 1525
- 

90. Ancient Harappan site 'Lothal' was found in which state of India ? (+1, -0.25)

- a. Gujarat
  - b. Rajasthan
  - c. Maharashtra
  - d. Madhya Pradesh
- 

91. With which of the following Indian classical dance forms was T Balasaraswati associated ? (+1, -0.25)

- a. Kathak
- b. Kathakali
- c. Bharatanatyam

d. Manipuri

---

92. In which year did Mahatma Gandhi first introduce a nationwide satyagraha in India ? (+1, -0.25)

a. 1915

b. 1921

c. 1919

d. 1916

---

93. Recommended Dietary Allowances = ? (+1, -0.25)

a. Balanced diet – Extra nutrients

b. Requirements + Margin of safety

c. Extra nutrients

d. Intermittent fasting + Extra nutrients

---

94. Which of the following sports was NOT played at the 2020 Summer Olympic Games (played in 2021) ? (+1, -0.25)

a. Cricket

b. Shooting

c. Football

d. Hockey

---

95. As of April 2022, amongst others, Legislative Councils are present in the states of \_\_\_\_\_ . (+1, -0.25)
- a. Meghalaya, Punjab and Goa
  - b. Uttar Pradesh, Bihar and Maharashtra
  - c. Chhattisgarh, Delhi and Goa
  - d. Tamil Nadu, West Bengal and Gujarat
- 

96. Who among the following was the founder of the Shunga Dynasty (185 BC - 73 BC) ? (+1, -0.25)
- a. Bhagabhadra
  - b. Agnimitra
  - c. Vasumitra
  - d. Pushyamitra
- 

97. Which famous Indian Kathak dancer received the 'Padma Vibhushan' in 1986 ? (+1, -0.25)
- a. Rukmini Devi Arundale
  - b. Mallika Sarabhai
  - c. Guru Bipin Singh
  - d. Pandit Birju Maharaj
-

98. The Festival of Salhesh is celebrated in the state of \_\_\_\_\_. (+1, -0.25)

- a. Tamil Nadu
  - b. Punjab
  - c. Gujarat
  - d. Bihar
- 

99. When was the latest census conducted in India ? (+1, -0.25)

- a. 2005
  - b. 2021
  - c. 2011
  - d. 2001
- 

100. Which of the following neighbours of India has the highest population density ? (+1, -0.25)

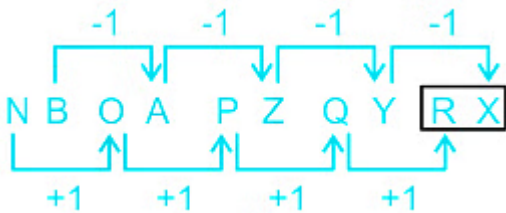
- a. Bangladesh
- b. Sri Lanka
- c. China
- d. Pakistan

## Answers

### 1. Answer: a

#### Explanation:

The logic followed here is:



So, 'RX' will complete the series.

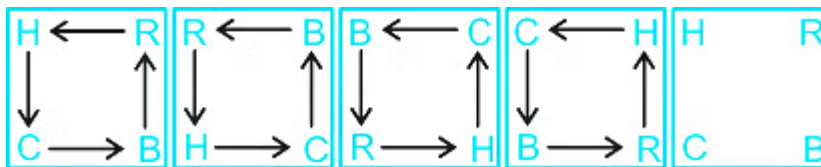
Hence, the correct answer is "RX".

### 2. Answer: b

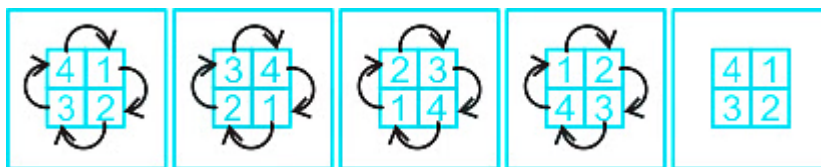
#### Explanation:

The logic followed here is:

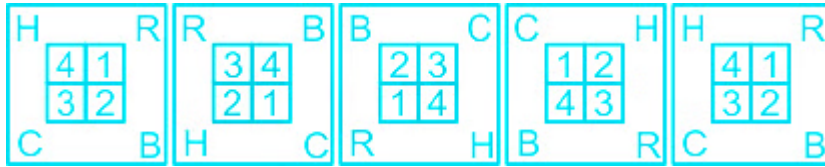
Step I:- The alphabets is getting shifted one place in clockwise direction.



Step II:- The numbers are getting shifted one place in anticlockwise direction.



So, the series will be:



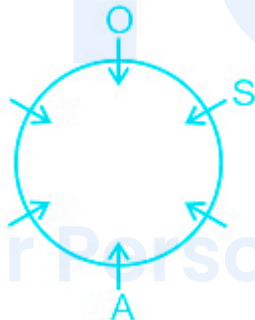
Hence, the correct answer is "Option 2".

**3. Answer: a**

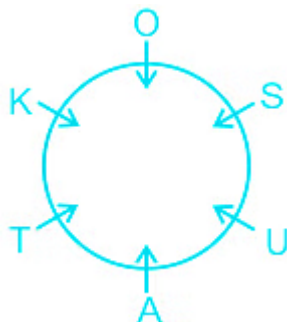
**Explanation:**

Given: 6 persons S, O, K, U, T and A.

- 1) S is sitting second to the right of A.
- 2) Only two persons are sitting between O and A.



- 3) T is sitting to the immediate right of K.
- 4) Only one person is sitting between O and U.



So, 'U' is sitting third to the left of K.

Hence, the correct answer is "U".

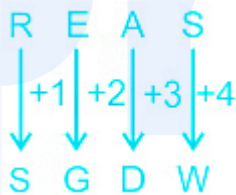
4. Answer: c

Explanation:

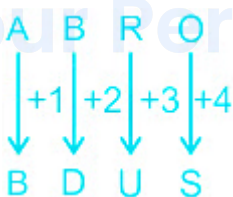
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:

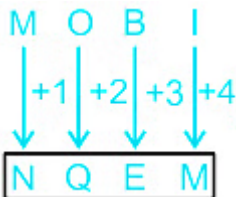
For, REAS : SGDW



For, ABRO : BDUS



Similarly, for MOBI :



Hence, the correct answer is "Option 3".



5. Answer: b

**Explanation:**

Given: Eight persons, A, B, C, D, E, F, G and H.

1) Only two persons are lighter than F.

\_\_ > \_\_ > \_\_ > \_\_ > \_\_ > F > \_\_ > \_\_

2) F is heavier than A.

3) H is lighter than A.

\_\_ > \_\_ > \_\_ > \_\_ > \_\_ > F > A > H

4) C is heavier than E.

5) D is lighter than E but heavier than G.

6) C is not the heaviest person.

\_\_ > C > E > D > G > F > A > H

7) F is lighter than B.

B > C > E > D > G > F > A > H

The weights of the second heaviest and the second lightest persons are 78 kg and 48 kg, respectively.

So, B > C(78 kg) > E > D > G > F > A(48 kg) > H

Here, G is just lighter than D.

And, Three persons are lighter than G.

So, there are Three persons are lighter than the person who is just lighter than D.

Hence, the correct answer is "Three".

6. Answer: c

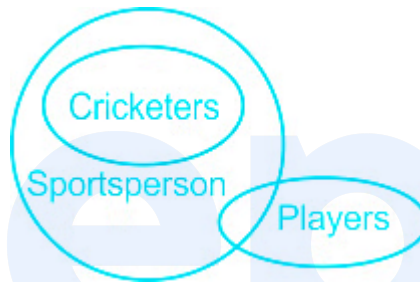
**Explanation:**

Statement:

All cricketers are sportspersons.

Some players are sportspersons.

The least possible diagram for the given statements is as follows:



Conclusions:

(i) No cricketer is a player – False (Because No definite relation given between cricketer and player, so it can be possible only).

(ii) Some cricketers are players – False (Because No definite relation given between cricketer and player, so it can be possible only ).

Here, Both the conclusions are wrong, but it forms the complementary pair for Either-or.

So, Either conclusion I or II follows.

Hence, the correct answer is "Option 3" .

★ **Additional Information**

Complementary pairs for Either or case are:-

1) Some + No

2) All + Some not

Rules for Either or Case:-

1. Subject and Predicate of the element should be same.
2. Two of the conclusions should be can't be determined.
3. Both should form a complementary pair.

7. Answer: c

Explanation:

Statement:

- I. No X is W.
- II. Some R are X.

The least possible diagram for the given statements is as follows:



Conclusions:

- (i) Some W are not X - True (Because No X is W, it also means some W are not X ).
- (ii) No W is R - False (Because No definite relation given between W and R, so it can be possible only).

Here, Only conclusion I follows.

Hence, the correct answer is "Option 3" .

8. Answer: a

**Explanation:**

Bodmas Table:

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

Symbol	Means
-	×
+	÷
÷	-

Given:  $812 + 58 - 65 + 26 - 2 = ?$

After substitution the symbols:

$812 \div 58 \times 65 \div 26 \times 2 = ?$

$\Rightarrow 14 \times 2.5 \times 2 = ?$

$\Rightarrow 70.$

Hence, the correct answer is "70" .

**9. Answer: a**

**Explanation:**

The logic followed here is:

Sum of the 1st numbers  $\times 3 =$  2nd number.

Here,  $232 : 21$

$$\Rightarrow (2 + 3 + 2) \times 3$$

$$\Rightarrow 7 \times 3 = 21.$$

For,  $343 : 30$

$$\Rightarrow (3 + 4 + 3) \times 3$$

$$\Rightarrow 10 \times 3 = 30.$$

Similarly, for **157**:

$$\Rightarrow (1 + 5 + 7) \times 3$$

$$\Rightarrow 13 \times 3 = 39.$$

Hence, the correct answer is "39".

---

10. **Answer: b**

**Explanation:**

The logic followed here is:

Word	is Called
Mustard	Fruit
Fruit	Potato
Potato	Burger
Burger	Flower
Flower	Rice

So, the 'Rose' is a 'Flower',

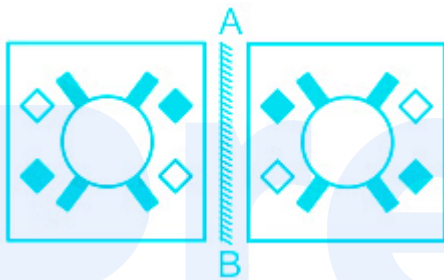
But, 'Flower' is called 'Rice'.

Hence, the correct answer is "Option (2)".

**11. Answer: b**

**Explanation:**

The correct mirror image of the given figure is:

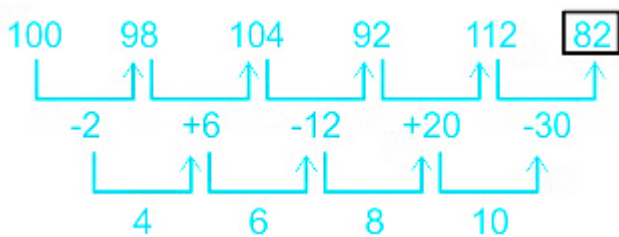


Hence, the correct answer is "Option 2".

**12. Answer: b**

**Explanation:**

The logic followed here is:



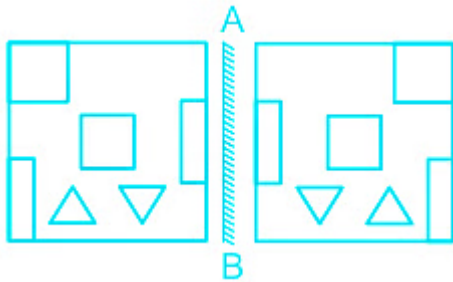
So, '82' will complete the series.

Hence, the correct answer is "82".

13. Answer: a

**Explanation:**

The correct mirror image of the given figure is:



Hence, the correct answer is "Option 1".

14. Answer: c

**Explanation:**

Given equation:  $12 + 66 \div 11 - 4 \times 91 = 159$  .

BODMAS Table:

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

Let's check each option one by one.

Option 1)  $\div$  and  $\times$

Given:  $12 + 66 \div 11 - 4 \times 91 = 159$

After interchanging the numbers we get;

$$\Rightarrow 12 + 66 \times 11 - \underline{4 \div 91} = 159$$

$$\Rightarrow 12 + \underline{66 \times 11} - 0.04 = 159$$

$$\Rightarrow \underline{12 + 726} - 0.04 = 159$$

$$\Rightarrow \underline{738 - 0.04} = 159$$

$$\Rightarrow 737.96 \neq 159$$

$$\Rightarrow \text{LHS} \neq \text{RHS}$$

Option 2) + and -

Given:  $12 + 66 \div 11 - 4 \times 91 = 159$

After interchanging the numbers we get;

$$\Rightarrow 12 - \underline{66 \div 11} + 4 \times 91 = 159$$

$$\Rightarrow 12 - 6 + \underline{4 \times 91} = 159$$

$$\Rightarrow \underline{12 - 6} + 364 = 159$$

$$\Rightarrow 376 - 6 = 159$$

$$\Rightarrow 370 \neq 159$$

$$\Rightarrow \text{LHS} \neq \text{RHS}$$

Option 3) + and  $\times$

Given:  $12 + 66 \div 11 - 4 \times 91 = 159$

After interchanging the numbers we get;

$$\Rightarrow 12 \times \underline{66 \div 11} - 4 + 91 = 159$$

$$\Rightarrow \underline{12 \times 6} - 4 + 91 = 159$$



$$\Rightarrow \underline{72} - 4 + \underline{91} = 159$$

$$\Rightarrow \underline{163} - 4 = 159$$

$$\Rightarrow 159 = 159$$

$$\Rightarrow \text{LHS} = \text{RHS}$$

Option 4) + and ÷

$$\text{Given: } 12 + 66 \div 11 - 4 \times 91 = 159$$

After interchanging the numbers we get;

$$\Rightarrow \underline{12} \div \underline{66} + 11 - 4 \times 91 = 159$$

$$\Rightarrow 0.18 + 11 - \underline{4 \times 91} = 159$$

$$\Rightarrow \underline{0.18} + \underline{11} - 364 = 159$$

$$\Rightarrow \underline{11.18} - \underline{364} = 159$$

$$\Rightarrow 352.82 \neq 159$$

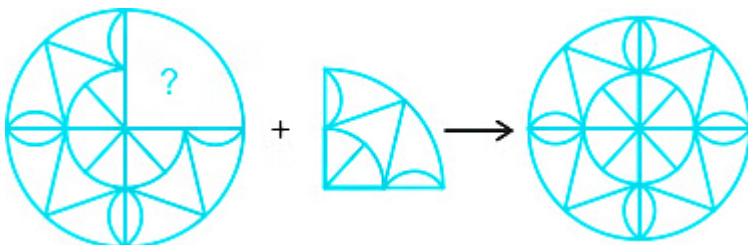
$$\Rightarrow \text{LHS} \neq \text{RHS}$$

Hence, the correct answer is "Option 3".

15. Answer: b

Explanation:

The image that completes the pattern is:



Hence, the correct answer is "Option 2" .

16. Answer: b

Explanation:

The logic followed here is:



So, '195' will complete the series.

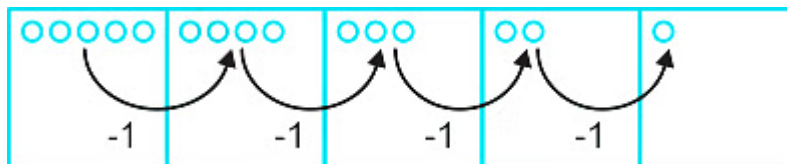
Hence, the correct answer is "195" .

17. Answer: b

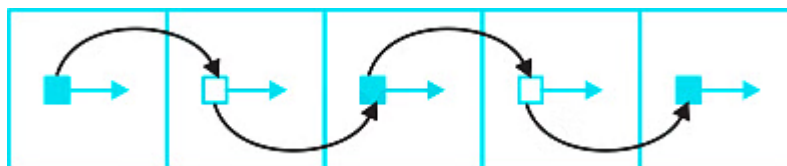
Explanation:

The logic followed here is:

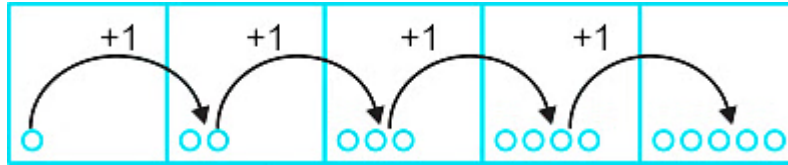
Step I:- The top circles are getting - 1 in the following boxes.



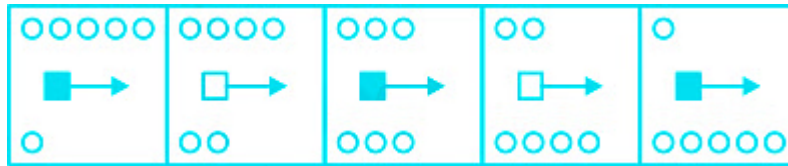
Step II:- The middle square boxes are getting shaded in alternate boxes.



Step III: The bottom circles are getting - 1 in the following boxes.



So, the series will be:

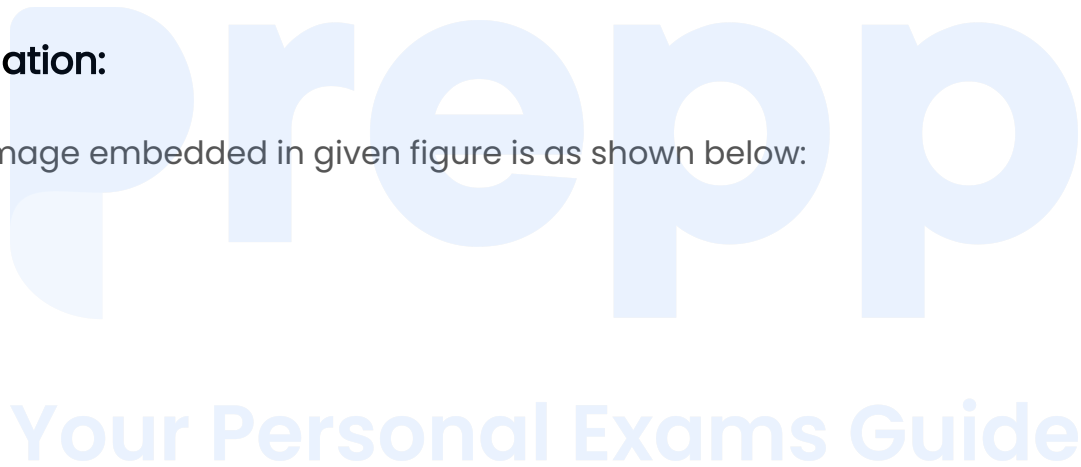










Hence, the correct answer is "Option 2".

18. Answer: a

Explanation:

The image embedded in given figure is as shown below:



No.	Option	Question	Answer
1.			Embedded
2.			Not Embedded
3.			Not Embedded
4.			Not Embedded

Hence, "Option 1" is the correct answer.

19. Answer: c

Explanation:

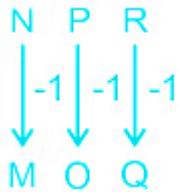
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:

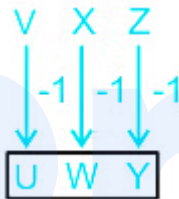
For, BDF : ACE



For, NPR : MOQ



Similarly, for VXZ :



Hence, the correct answer is "Option 3".

20. 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:

Sum of the place value is code of that word.

Now,

'TIK' is coded as '40'

$$\Rightarrow T(20) + I(9) + K(11) = 40.$$

For, 'PDM' is coded as '33'

$$\Rightarrow P(16) + D(4) + M(13) = 33.$$

Similarly, for 'RUG'

$$\Rightarrow R(18) + U(21) + G(7) = 46;$$

So, 'RUG' will be coded as '46'.

Hence, the correct answer is "46".

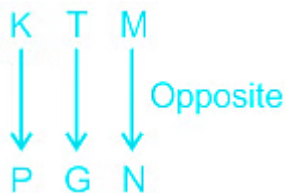
21. Answer: c

Explanation:

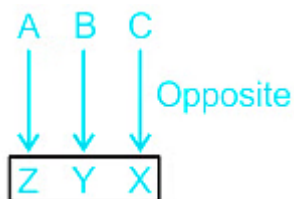
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:

For, KTM : PGN



Similarly, for ABC :



Hence, the correct answer is "Option 3".

**22. Answer: b**

**Explanation:**

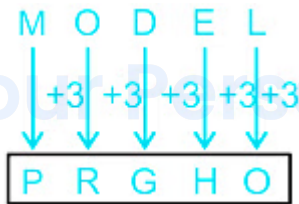
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:

'SHAPE' is coded as 'VKDSH'



Similarly, for MODEL,



So, 'MODEL' will be coded as 'PRGHO'.

Hence, the correct answer is "Option 2".

**23. Answer: d**

**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:

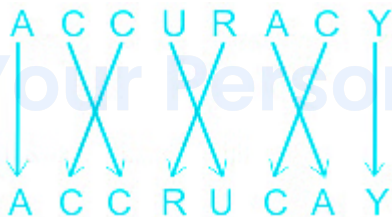
For, 'ACADEMIC' is written as 'AACEDIMC'



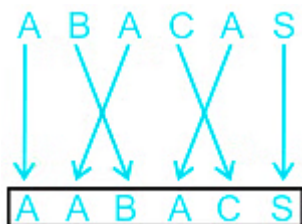
For, 'ABSTRACT' is written as 'ASBRTCAT'



For, 'ACCURACY' is written as 'ACCRUCAY'



Similarly, for ABACAS :



So, 'ABACAS' will be written as 'AABACS'.

Hence, the correct answer is "Option 4".



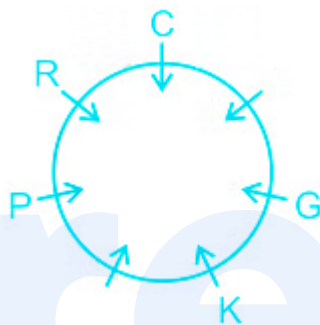
24. Answer: c

Explanation:

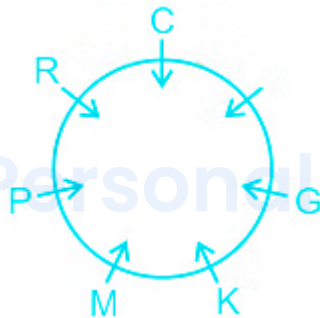
Given: Seven persons – G, M, R, K, L, P and C.

1) G is to the immediate right of K, who is third to the left of C.

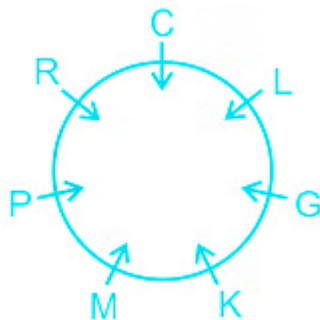
2) R is adjacent to both C and P.



3) M is not adjacent to G.



And, L will sit on the remaining place.



So, 'C' is the third to the left of M.

Hence, the correct answer is "C".

---

**25. Answer: b**

**Explanation:**

The logic followed here is:

Given: 248 : 428

$$\begin{array}{r} 248 \\ \times 18 \\ \hline 428 \end{array}$$

Similarly, in option 2,

for 268 : 628

$$\begin{array}{r} 268 \\ \times 23 \\ \hline 628 \end{array}$$

Hence, the correct answer is "Option 2".

---

**26. Answer: d**

**Explanation:**

Given:

Difference = 200

R = 10%

Formula used:

$$\text{Sum} = \text{Difference} \times (100/r)^2$$

Calculation:

$$\text{Sum} = \text{Difference} \times (100/r)^2$$

$$\Rightarrow \text{Sum} = 200 \times (100/10)^2$$

$$\Rightarrow \text{Sum} = 20,000$$

$\therefore$  Option 3 is the correct answer.

---

## 27. Answer: c

**Explanation:**

**Given:**

$$P = 2^5 \times 3^8 \text{ and } Q = 2^3 \times 3^K$$

Highest common factor of P and Q is  $2^3 \times 3^3$

**Concept Used:**

Highest Common Factor is the greatest digit which divides all the given numbers.

**Calculation:**

$$P = 2^5 \times 3^8$$

$$Q = 2^3 \times 3^K$$

HCF of P and Q is the highest common factor between two.

$$\Rightarrow \text{HCF} (2^5 \times 3^8, 2^3 \times 3^K) = 2^3 \times 3^3$$

On comparing value of  $K = 3$ .

∴ Option 3 is the correct answer.

---

**28. Answer: c**

**Explanation:**

**Given:**

25 students are selected from college P.

The ratio of the number of students in colleges P, Q, R, S and T is 2 : 4 : 3 : 1 : 3.

**Calculation:**

25 students are selected from college P.

Number of students selected from college P = 5% = 25

⇒ 1% = 5

⇒ 100% = 500

Total number of students in college P = 500.

The ratio of the number of students in colleges P, Q, R, S and T is 2 : 4 : 3 : 1 : 3.

Total number of students in college Q =  $500/2 \times 4 = 1000$

Total number of students in college P =  $500/2 \times 3 = 750$

Total number of students in college P =  $500/2 \times 1 = 250$

Total number of students in college P =  $500/2 \times 3 = 750$

Total number of students selected for quiz = 5% of 500 + 6% of 1000 + 10% of 750 + 8% of 250 + 8% of 750

⇒ 25 + 60 + 75 + 20 + 60

⇒ 240 students

∴ Option 3 is the correct answer.

---

**29. Answer: d**

**Explanation:**

Given:

Speed of bus = 120% of the speed of the scooter

Formula used:

Speed = Distance/Time

Calculation:

Let the speed of the scooter be  $x$  km/h

So the speed of the bus will be  $1.2x$  km/h

According to the question

$$\Rightarrow 60/x - 60/1.2x = 10/60$$

$$\Rightarrow (7.2 - 6)/1.2x = 1/60$$

$$\Rightarrow 1.2/1.2x = 1/60$$

$$\Rightarrow x = 60$$

Speed of Bus =  $1.2 \times 60 = 72$  km/h

∴ The speed of the car is 72 km/h

∴ Option 4 is the correct answer.

---

**30. Answer: d**

### Explanation:

#### Given:

15% of the marked price of an item is equal to 25% of its cost price.

Discount = 25%

#### Concept Used:

Cost Price/ Marked Price =  $(100 - \text{Discount\%}) / (100 + \text{Profit\%})$

#### Calculation:

15% of the marked price of an item is equal to 25% of its cost price.

$$\Rightarrow .15 \text{ MP} = .25 \text{ CP}$$

$$\Rightarrow \text{MP/CP} = 25/15$$

$$\Rightarrow \text{MP/CP} = 5/3$$

Cost Price/ Marked Price =  $(100 - \text{Discount\%}) / (100 + \text{Profit\%})$

$$\Rightarrow 3/5 = (100 - 25) / (100 + \text{Profit\%})$$

$$\Rightarrow 3/5 = 75 / (100 + \text{Profit\%})$$

$$\Rightarrow (100 + \text{Profit\%}) = 25 \times 5$$

$$\Rightarrow (100 + \text{Profit\%}) = 125$$

$$\Rightarrow \text{Profit\%} = 25\%$$

$\therefore$  Option 4 is the correct answer.

31. Answer: b

### Explanation:

**Given:**

The winning candidate gets 2940 valid votes.

The losing candidate gets 40% of the valid votes.

2% of the votes polled were declared invalid.

**Calculation:**

Let the total number of votes be  $100x$ .

2% of the votes polled were declared invalid =  $2x$

Valid votes =  $100x - 2x = 98x$

The losing candidate gets 40% of the valid votes.

Winning candidate gets 60% of the valid votes.

$$\Rightarrow (60/100) \times 98x = 2940$$

$$\Rightarrow 3/5 \times 98x = 2940$$

$$\Rightarrow 98x = 980 \times 5$$

$$\Rightarrow x = 50$$

The total number of votes be  $100x = 100 \times 50 = 5000$  votes

$\therefore$  Option 2 is the correct answer.

---

**32. Answer: d**

**Explanation:**

Given:

A cylinder has 12 cm radius and its volume is  $19008 \text{ cm}^3$

Formula used:

$$\text{Volume of a cylinder} = \pi r^2 h$$

Here,

$r$  = radius

$h$  = height

Calculation:

Let the height of the cylinder be  $h$

Now,

$$(22/7) \times 12^2 \times h = 19008$$

$$\Rightarrow (22/7) \times 144 \times h = 19008$$

$$\Rightarrow (3168/7) \times h = 19008$$

$$\Rightarrow h = 19008 \times (7/3168)$$

$$\Rightarrow h = 42$$

$\therefore$  The height of the cylinder (in cm) is 42.

$\therefore$  Option 4 is the correct answer.

---

**33. Answer: b**

**Explanation:**

Concept used:

Fraction = Numerator/Denominator

Calculations:



Let the numerator and denominator be  $x$  and  $y$  respectively

When 8 is added to the numerator of a fraction and 12 is added to its denominator,

$$\Rightarrow (x + 8)/(y + 12) = 1/2$$

$$\Rightarrow 2x + 16 = y + 12$$

$$\Rightarrow 2x + 4 = y \dots\dots\dots(i)$$

When 2 is subtracted from its numerator and denominator

$$\Rightarrow (x - 2)/(y - 2) = 1/8$$

$$\Rightarrow 8x - 16 = y - 2$$

$$\Rightarrow y = 8x - 14 \dots\dots\dots(ii)$$

After solving (i) and (ii),

$$\Rightarrow 2x + 4 = 8x - 14$$

$$\Rightarrow 6x = 18$$

$$\Rightarrow x = 3$$

Put the value of  $x$  in (i)

$$\Rightarrow 2 \times 3 + 4 = y$$

$$\Rightarrow y = 10$$

Original fraction =  $3/10$

$\therefore$  Option 2 is the correct answer.

**34. Answer: b**

**Explanation:**

**Given:**

The simple interest for 4 years is ₹ 2,000.

**Calculation:**

The simple interest for 4 years is ₹ 2,000.

Simple Interest for 1 year =  $2000/4 = \text{Rs. } 500$

Simple Interest for 6 years =  $500 \times 6 = \text{Rs. } 3000$

**∴ Option 2 is the correct answer.**

---

**35. Answer: c**

**Explanation:**

**Given:**

P is increased successively by 15% and 20% to get Q.

$P = 200$

**Calculation:**

P is increased successively by 15% and 20% to get Q.

$\Rightarrow Q = P \times 115/100 \times 120/100$

$\Rightarrow Q = 200 \times 115/100 \times 120/100$

$\Rightarrow Q = 276$

**∴ Option 3 is the correct answer.**

---

**36. Answer: b**

### Explanation:

Given:

Vinay purchased two bottles of a total of ₹100.

he sells these two bottles at the rate of ₹100 per bottle.

**Concept Used:**

Profit = Selling Price - Cost Price

Profit% = Profit/CP × 100

**Calculation:**

CP of two bottles = Rs. 100

SP of each bottle = Rs. 100

SP of two bottles = Rs. 200

Profit = SP - CP

⇒ Profit = 200 - 100 = Rs. 100

Profit% = Profit/CP × 100

⇒ 100/100 × 100 = 100%

∴ Option 2 is the correct answer.

---

**37. Answer: c**

**Explanation:**

Given:

The average of a set of 15 numbers is 41.

Five numbers 21, 24, 39, 47 and 97 are removed.

**Concept Used:**

Average = Sum of numbers/Total numbers

**Calculation:**

The average of a set of 15 numbers is 41

Sum of numbers =  $41 \times 15 = 615$

Five numbers 21, 24, 39, 47 and 97 are removed.

Sum of removed numbers =  $21 + 24 + 39 + 47 + 97 = 228$

Sum of remaining numbers =  $615 - 228 = 387$

Average of remaining 10 numbers =  $387/10 = 38.7$

$\therefore$  Option 3 is the correct answer.

---

**38. Answer: b**

**Explanation:**

Given:

$$\frac{17-8 \times 5+4 \times 3}{5 \times 3 \div 6+2 \times 4}$$

**Concept used:**

Follow the BODMAS rule according to the table given below:

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

**Calculation:**

$$\frac{17-8 \times 5+4 \times 3}{5 \times 3 \div 6+2 \times 4}$$

$$\Rightarrow \frac{17-40+12}{2.5+8}$$

$$\Rightarrow \frac{-11}{10.5}$$

$$\Rightarrow -22/21$$

∴ Option 2 is the correct answer.

39. Answer: b

**Explanation:**

**Given:**

The selling price of a desktop is 9 times of the profit earned on selling this desktop.

**Concept Used:**

Profit = Selling Price - Cost Price

Profit% = Profit/CP × 100

**Calculation:**

Let the profit be Rs. P.

$$\Rightarrow SP = \text{Rs. } 9P$$

$$\Rightarrow CP = SP - \text{Profit}$$

$$\Rightarrow CP = 9P - P = \text{Rs. } 8P$$

$$\text{Profit\%} = \text{Profit}/CP \times 100$$

$$\Rightarrow P/8P \times 100$$

$$\Rightarrow 12.5\%$$

$\therefore$  Option 2 is the correct answer.

40. Answer: a

Explanation:

Given:

A, B and C together can do a piece of work in 6 days.

A and B together can do the same work in 12 days.

B alone can do the same work in 18 days.

Concept Used:

$$\text{Work} = \text{Efficiency} \times \text{Time}$$

Calculation:

$$\text{Total Work} = \text{LCM}(6, 12, 18) = 36 \text{ units}$$

$$\text{Efficiency of A, B and C working together} = 36/6 = 6$$

$$\text{Efficiency of A and B working together} = 36/12 = 3$$

$$\text{Efficiency of B} = 36/18 = 2$$

$$\text{Efficiency of A and C working together} = 6 - 2 = 4$$

$$\text{Days taken by A and C working together} = 36/4 = 9 \text{ days}$$

∴ Option 1 is the correct answer.

**41. Answer: c**

**Explanation:**

Given:

A can do a piece of work alone in 40 days

A and B together can do the same work in 10 days.

C is 50% less efficient than B.

Concept Used:

$$\text{Work} = \text{Efficiency} \times \text{Time}$$

Calculation:

$$\text{Total Work} = \text{LCM}(40, 10) = 40 \text{ units}$$

$$\text{Efficiency of A} = 40/40 = 1$$

$$\text{Efficiency of A and B working together} = 40/10 = 4$$

$$\text{Efficiency of B} = 4 - 1 = 3$$

C is 50% less efficient than B.

$$\text{Efficiency of C} = 50\% \text{ of B} = 50\% \text{ of } 3 = 1.5$$

$$\text{Total efficiency of A and C} = 1 + 1.5 = 2.5$$

Days taken by A and C together to complete the same work =  $40/2.5 = 16$  days

∴ Option 3 is the correct answer.

---

**42. Answer: b**

**Explanation:**

Concept used

Concept of Average.

Prime numbers are the number which is divided by themselves and 1.

Calculation:

Prime numbers between 9 and 22 are 11, 13, 17, and 19.

⇒ Average =  $(11 + 13 + 17 + 19)/4 = 15$

∴ Option 2 is the correct answer.

---

**43. Answer: a**

**Explanation:**

sGiven:

5 times of the perimeter of a square is 600 cm

Concept Used:

Perimeter =  $4 \times \text{side}$

The area of the square =  $(\text{Side of the square})^2$

Calculation:

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Let us assume the side of the square is  $a$ .

According to the question:

$$600 = 5 \times 4a$$

$$600 = 20a$$

$$a = 30$$

The area of the square = (Side of the square)<sup>2</sup>

$$\Rightarrow 30^2 = 900$$

$\therefore$  Option 1 is the correct answer.

---

#### 44. Answer: b

##### Explanation:

Concept used:

A number greater than one is divisible by itself and 1 is called a prime number.

Formula used:

Average = Sum of observations / Number of observations

Calculation:

The first 10 prime numbers are (2, 3, 5, 7, 11, 13, 17, 19, 23, 29)

$$\text{Average} = (2 + 3 + 5 + 7 + 11 + 13 + 17 + 19 + 23 + 29) / 10$$

$$\Rightarrow \text{Average} = 129 / 10$$

$$\Rightarrow \text{Average} = 12.9$$

$\therefore$  The average of the first 10 prime numbers is 12.9.

45. Answer: a

Explanation:

Given:

$$(256)^{\frac{1}{2}} - (1331)^{\frac{1}{3}} + 23 \times 13$$

Concept used:

Follow the BODMAS rule according to the table given below:

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

Calculation:

$$(256)^{\frac{1}{2}} - (1331)^{\frac{1}{3}} + 23 \times 13$$

$$16 - 11 + 299$$

$$\Rightarrow 5 + 299$$

$$\Rightarrow 304$$

∴ Option 1 is the correct answer.

46. Answer: c

### Explanation:

Calculation:

According to the question:

$$\Rightarrow 2300 \times 17\%$$

$$\Rightarrow ₹391$$

∴ Option 3 is the correct answer.

---

### 47. Answer: c

#### Explanation:

Given:

A leaves station P at 8:00 a.m. and reaches station Q at 11:00 a.m.

B leaves station Q at 9:00 a.m. and reaches station P at 11:00 a.m.

Concept Used:

$$\text{Time} = \text{Distance} / \text{Speed}$$

$$\text{Relative Speed when the train runs in opposite direction} = S_1 + S_2$$

Calculation:

A leaves station P at 8:00 a.m. and reaches station Q at 11:00 a.m.

Time taken by A = 3 hrs

B leaves station Q at 9:00 a.m. and reaches station P at 11:00 a.m.

Time taken by B = 2 hrs

$$\text{Distance between P and Q} = \text{LCM}(2, 3) = 6 \text{ km}$$

Speed of A =  $6/3 = 2$  km/h

Speed of B =  $6/2 = 3$  km/h

Relative Speed =  $2 + 3 = 5$  km/h

Distance covered by A in 1 hr =  $2 \times 1 = 2$  km

Remaining distance = 4 km

Time they will cross each other =  $4/5$  hr =  $4/5 \times 60 = 48$  minutes.

They will cross each other at 9 : 48 am.

∴ Option 3 is the correct answer.

---

48. Answer: d

Explanation:

Calculation:

The total number of students in class 9 and class 10, taken together, in school B

⇒  $45 + 20 = 65$

∴ Option 4 is the correct answer.

---

49. Answer: d

Explanation:

Calculation:

Let the third number be  $100x$ .

The first number is 25% less than the third number.

Then, the first numbers =  $100x - 25x = 75x$

The second number is 30% less than the third number.

Then, the Second numbers =  $100x - 30x = 70x$

Second number =  $x - 25x/100 = 75x/100$

So the ratio of the two number is:

$\Rightarrow 75x : 70x$

$\Rightarrow 15 : 14$

$\therefore$  Option 4 is the correct answer.

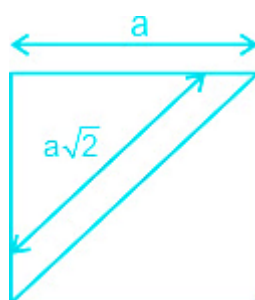
50. Answer: c

Explanation:

Given:

Area of the square piece of cloth =  $144 \text{ cm}^2$

Concept used:



Area of a square =  $a^2$

The diagonal of a square =  $a\sqrt{2}$ , where  $a \rightarrow$  side of the square

Calculation:

Area of square piece cloth =  $144 \text{ cm}^2$

$$\Rightarrow a^2 = 144$$

$$\Rightarrow a = \sqrt{144}$$

$$\Rightarrow a = 12 \text{ cm}$$

So, the diagonal of the cloth =  $a\sqrt{2} = 12\sqrt{2} \text{ cm}$

$\therefore$  The length of each of its diagonal is  $12\sqrt{2} \text{ cm}$ .

## 51. Answer: b

### Explanation:

The correct answer is **Yet**.

#### ★ Key Points

- "Yet" is used to link two opposite ideas together.
- The complete sentence will be, "He has a high paying job, yet he never seems to have any money."
- Other examples of "yet" include, *He is a hard hard-working student, yet he cannot do well in the exam.*

#### ★ Additional Information

- "By" is generally used to **denote how a thing is done**. It is generally used before a noun.
  - **Example** : I will go there by bus.
- "By" is also used to **refer to a particular point in time**.
  - **Example**: *He will be there by 3 p.m.*
- "From" is used to **signify a place or time from where or when something has begun**.
  - **Example** - *He is from Germany.*
- "So" is used to **introduce a result of something**.

- **Example** - *He missed the train. So he couldn't come to the office in time .*
  - " So " is also used to **signify the amount of something** .
    - **Example** - *He is so weak that he cannot walk a single step.*
- 

52. Answer: c

**Explanation:**

The correct answer is **Too late to do something**.

★ Key Points

- **Idiom** refers to a **phrase or group of words signifying a meaning different from its normal syntactical meaning** .
- **That ship has sailed** means **something has already gone out of hand or has been done already, and it is so late that nothing can be done anymore**.
- In simple words, it refers to **the miss of an opportunity** .
- **Example** - *I thought to meet him before he left the country, but it is too late as that ship has sailed .*

★ Additional Information

- Some **examples** of similar kinds of idiom include, " **Miss the bus** ", " **Miss the boat** ", " **The train has left the station** ", etc.
- 

53. Answer: a

**Explanation:**

The correct answer is **Veteran**.

★ Key Points

- A **veteran** refers to **someone skilled or has long-term experience in something** .
  - **Example** - *He is a veteran teacher and knows how to control a noisy class.*

★ Additional Information

- A "practitioner" refers to someone who practices something regularly .
  - **Example** – *Mr Sarma is a well-known law practitioner.*
- "Staunch" means an ardent or firm follower of something or someone .
  - **Example**– *He is a staunch follower of Buddhism.*
- "Reverent" refers to someone or something that is respected .
  - **Example**– *The entire hall got immersed in a deep, reverent silence during the Pastor's Christmas Sermon.*

---

54. Answer: d

**Explanation:**

The correct answer is **Entirely**.

★ Key Points

- The correctly spelt word is " **Entirely** ".

---

55. Answer: b

**Explanation:**

The correct answer is **Truce**.

★ Key Points

- **Truce** refers to mutual agreement between two opposite parties regarding fighting or argument .
- **Armistice** and **ceasefire** are two popular synonyms for "truce".
  - **Example**– *At last, Russia and Ukraine signed a peace truce.*

★ Additional Information



- “ **Unanimous** ” means **when a group of people agree on something** .
- It refers to **complete agreement** .
  - **Example** - *The teachers were unanimous in their evaluation of the students.*
- “ **Graft** ” refers to the **transplantation of something** , especially tissue, from something to something.
  - **Example** - *The doctors could graft the cardiac tissue at the proper time .*
- “ **Surplus** ” refers to the **excess of something after the requirement has been met** .
  - **Example**- *The hotel owner of Bill’s Cabin always distributes the surplus food among the street dwellers at the end of the day.*

---

56. Answer: b

**Explanation:**

The correct answer is **It feels greatly**.

★ Key Points

- The correct sentence will be, “**It feels great to be with you at this ceremony**”.

★ Additional Information

- According to the rules of English grammar, **an adverb can be used after a sense verb** (verb related to five senses- hear, look, feel, taste, smell) only when **the verb signifies an action** .
- But such verb is often used in **an inactive way**.
- Therefore, **the adjective** is generally used **to modify the subject** . It has **no relation with the verb**.
- Here “great” **talks about the person’s feeling** not about feel as a verb.
- Similarly, when someone says *The food smells delicious* , the word “**delicious**” **modify the subject food, not the verb smell**.

## 57. Answer: b

### Explanation:

The correct answer is **Omniscient**.

#### ★ Key Points

- The word **omniscient** means **who knows everything**.
  - **Example** - *God is omniscient* .

#### ★ Additional Information

- **"Bully"** refers to a person **who humiliates, intimidates other people as that person considers himself/herself as the most powerful** .
  - **Example** - *He was a constant bully in the class* .
- **"Topper"** refers to **someone who tops over everyone in a particular subject matter** .
  - **Example**- *He was a topper in the class* .
- **"Anarchist"** refers to **someone or something that promotes anarchism or anarchy** .
  - **Anarchy** refers to **a state of lawlessness ,the absence of a governing system** .
    - **Example**- *The police arrested him for voicing out anarchist opinion on social media* .

---

## 58. Answer: b

### Explanation:

The correct answer is **Decided**.

#### ★ Key Points

- **"Yesterday"** signifies that the sentence is in the **past tense**.

- Therefore, “ **Decided** ” is the suitable word to fill in the blank.
- The complete sentence will be, “ **Yesterday, after a nice walk, we decided to sit on the bench, watch the birds, and rest for a while.** ”

★ Additional Information

- “ **Decides** ” and “ **Decide** ” are used in the simple present tense .
- “ **Deciding** ” is used to denote the continuous tense .

---

59. Answer: c

**Explanation:**

The correct answer is **Board** .

★ Key Points

- The “ **board** ” refers to a group of people who take important decisions on behalf of a particular organisation or thing.
- The complete sentence will be “ **The board of directors will decide the penalty** .
- One other **example** is: *The hospital formed a board of doctors to discuss the patient's condition.*

★ Additional Information

- “ **Bowed** ” means to bend one's head in front of a respected person .
  - **Example**– *The soldiers bowed down in front of the king.*
- “ **Braid** ” refers to the thread of hair or wool or any other thread woven decoratively.
  - **Example**– *The coat looks gorgeous with the silk braid.*
- “ **Bored** ” refers to the feeling of annoyance or impatience due to some uninteresting event .
  - **Example**– *His lecture did nothing but bore me to death.*

---

60. Answer: d

## Explanation:

The correct answer is particularly.

### ★ Key Points

- “ **Particularly**” is used when the **context is fixed or definite** .
- As the context **is fixed here** , “ **Particularly**” is the suitable word to fill in the blanks.
- The complete sentence, therefore, would be, “ **Accuracy rates of facial recognition algorithms are particularly low in the case of minorities, women and children, as demonstrated in multiple studies across the world.**”

### ★ Additional Information

- “ **Carelessly** ” means when something is done without care .
  - **Example**–*He finished the homework carelessly.*
- “**Smoothly** ” means when **something happens or is done without any obstacle** .
  - **Example** –*The programme went smoothly.*
- “**Beautifully**” means when **something is done pleasantly or decoratively** .
  - **Example** –*He sings beautifully.*

---

61. Answer: b

## Explanation:

The correct answer is **Soothing**.

### ★ Key Points

- “**Soothing** ” refers to **something pleasant and nice** .
- Therefore, the complete sentence is , “ **I prefer to listen to relaxing and soothing music when meditating.**”

### ★ Additional Information

- “Abrading” means to rub away something or to scrape something.
  - “Fret” has a similar meaning to that of abraising.
  - “Tormenting” refers to something which is not very pleasant.
- 

62. Answer: a

**Explanation:**

The correct answer is **Blundering**.

★ Key Points

- **Synonym** refers to words of similar meaning.
- **Erring** refers to an error or mistake or something done wrong.
- Therefore, the correct synonym will be blundering.

★ Additional Information

- The word “tidy” means **neat or in order** .
    - **Example** - *He wrote down the answers skilfully with a tidy hand.*
  - “Sloppy” means **careless or casual** .
    - **Example** - *He made some sloppy mistakes in the exam due to a lack of concentration.*
  - “Flawless ” means **without flaws or any defects**.
    - **Example** - *His handwriting is flawless.*
- 

63. Answer: a

**Explanation:**

The correct answer is **No improvement required**.

★ Key Points

- The sentence is grammatically correct.

64. Answer: d

**Explanation:**

The correct answer is **After a first rain.**

★ Key Point

- The correct sentence will be, " **The earthy fragrance of soil after the first rain is always refreshing.**"
- "A" should be replaced by "the".

★ Additional Information

- The " first " is a **specific number or a position**; therefore, we should **use the definite article " the"** to refer to the specificity of the thing.
  - **Example**– *The first sentence of a story should always be catchy .*

---

65. Answer: b

**Explanation:**

The correct answer is **Equilibrium.**

★ Key Points

- The correct spelling is **equilibrium.**
- The correct spelling for "unrravel" is **unravel.**
- The correct spelling for "compeling" is **compelling .**
- The correct spelling for "esctasy" is **ecstasy.**

---

66. Answer: c

## Explanation:

The correct answer is **extremely delighted** .

### ★ Key Point

- A idiom refers to a **group of words containing a meaning different from its syntactical meaning** .
- The phrase "**in raptures**" means **happy or delighted over something** .
  - One other **example** is *Dhoni's winning six runs drove the entire crowd in raptures* .

### ★ Additional Information

- Some of the other idioms that have a similar meaning to that of "**in raptures**" are as follows:
- **On cloud nine** - *He has been on cloud nine since his brother returned from abroad* .
- **On top of the world** - *I have been feeling on top of the world since the exam result came out* .
- **In seventh heaven** - *He was in seventh heaven after he got selected for the internship* .

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## 67. Answer: c

## Explanation:

The correct answer is **Constraint**.

### ★ Key Points

- "**Constraint**" means **without restriction or limitation** .
- Therefore, in the context of the above sentence, "**constraint**" would be the perfect fit.
- The complete sentence will be, "**The reality of the effects of rising aviation industry emissions on climate change has been known for decades, yet the**

industry and its emissions has continued to grow without constraint”.

★ Additional Information

- “Easiness” means “ lack of obstacles” .
- “Neglect” means “ to ignore” or “ not to consider something or someone .”
- “Comfort” means “ relaxing” or “ something that poses a sense of pleasantness .”

68. Answer: a

**Explanation:**

The correct answer is **Scarce**.

★ Key Points

- **Antonym** refers to **words opposite in meaning**.
- “**Abundant**” means **plenty in number** .
- Therefore, “ **scarce**” would be the **perfect antonym** for it **as it stands for lack**.

★ Additional Information

- “**Surplus**” refers to “ **excess of something that is not needed** .”
- “**Brilliant**” means “ **intelligent** ”.
- “**Rich**” means “ **wealthy**” .

69. Answer: d

**Explanation:**

The correct answer is **No error** .

★ Key Points

- The sentence is grammatically correct.



70. Answer: a

**Explanation:**

The correct answer is **Broke**.

★ Key Points

- **Synonym** refers to words of similar meaning .
- "Penniless" means having no money .
- Therefore, **Broke** is a suitable synonym as it refers to a situation when one has almost no money.

★ Additional Information

- "Reckless" means " who doesn't care for risk or danger" .
  - "Cranky" means " eccentric" or "irritated" .
  - "Wealthy" means " rich".
- 

71. Answer: d

**Explanation:**

The correct answer is **Barely**.

★ Key Points

- " Barely" means "almost not".
- The complete sentence will be, " Anthony Abraham, a 34-year-old crane driver, (1) barely managed to get out of the way of falling steel ."

★ Additional Information

- " Substantially " means to a significant extent .

- **Example**- *The rate of women's education in India has grown substantially over the years .*
  - **"Simultaneously"** means " **at the same time** " .
    - **Example** -*He was cooking and talking over his phone simultaneously.*
  - **"Rarely"** means " **seldom** ." .
    - **Example** -*He rarely misses class.*
- 

72. Answer: b

**Explanation:**

The correct answer is **Horrible**.

★ Key Points

- **"Horrible"** means "terrifying" or something that generates shock and fear .
- Here, in the context of the above sentence, **"horrible"** is the perfect fit as it describes an accident's terrifying and shocking aftermath .
- Therefore, the complete sentence will be, " **Turning around, he could hardly believe the *horrible* scene that lay before him** "

★ Additional Information

- **"Criminal"** refers to someone who has broken some law or is guilty of some crime .
  - **" Crooked "** means " **twisted** ", or something bent or out of shape .
  - **" Pleasant "** means something nice or enjoyable .
- 

73. Answer: c

**Explanation:**

The correct answer is **Piled**.

★ Key Points

- “Piled” refers to the **accumulation of something**.
- In the context of the above sentence, “**piled**” is the perfect fit as it refers to the **accumulated debris after the accident** .
- Therefore, the complete sentence would be, “ **Girders were *piled* on top of the crane in a haphazard fashion, like gigantic pick up sticks** ”

★ Additional Information

- “Dived ” means **to jump or plunge into something** .
- “ Riled ” means **to disturb someone or something or to annoy someone** .
- “ Duped ” means **“to trick”** .

---

74. Answer: a

**Explanation:**

The correct answer is Raced.

★ Key Points

- **Race** means **to run in a particular direction for something**.
- In the context of the above sentence, “ **race** ” would be a perfect fit as it refers **to running towards something** .
- Therefore, the complete sentence will be, “ **Abraham *raced* to the cab, shouting his friend George Burns' name**” .

★ Additional Information

- “Shoved” means “ **pushing something or someone forcefully inside something or someone** ”.
- “ Halted ” means “ **to stop** ”.
- “ Assisted ” means “ **to help** ”.

75. Answer: d

**Explanation:**

The correct answer is **Scene**.

★ Key Points

- “Scene” refers to a place where an incident has taken place or takes place.
- Here, in the context of the above sentence, “ scene ” is the perfect fit as it refers to the place of the accident .
- Therefore, the complete sentence will be, “ By then, three other iron workers had reached the *scene* of the carnage. ”

★ Additional Information

- “Sign” and “trace” both refer to marks of something .
- “Sign” also means “symbol”.
- “Trace” also means to find something or someone .
- “ Sight ” refers to anything that is seen . It refers to the act of viewing something .

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76. Answer: d

**Explanation:**

The correct answer is **Spider**.

★ Key Points

- Invertebrate animals
  - An invertebrate is a cold-blooded animal with no backbone.
  - Invertebrates can live on land-like insects, spiders, and worms or in water.
  - Marine invertebrates include crustaceans, molluscs, and coral.
  - More than 90 percent of all living animal species are invertebrates.

- Worldwide in distribution, they include animals as diverse as sea stars, sea urchins, earthworms, sponges, lobsters, crabs, insects, **spiders**, snails, clams, and squid.
- Invertebrates are especially important as agricultural pests, parasites or agents for the transmission of parasitic infections to humans and other vertebrates.
- Invertebrates serve as food for humans are key elements in food chains that support birds, fish, and many other vertebrate species, and play important roles in plant pollination.

### ★ Additional Information

- Invertebrates and vertebrates are the two groups into which the animal kingdom is further classified.
- The 5 groups of vertebrates (animals that have a backbone) are fish, **amphibians**, reptiles, **birds**, and **mammals**.
- Vertebrate:
  - Vertebrates have fully developed vertebral columns.
  - They have a proper skeletal structure.
  - Example-**humans, birds**, snakes, rabbits, squirrels, Frog etc.

77. Answer: b

### Explanation:

The correct answer is unity and integrity.

### ★ Key Points

- Fundamental duties come under Part IVA and Article 51A.
- These duties are statutory and are not enforceable by law but are taken into account by the courts while adjudicating any matter.
- Fundamental Duties in the Constitution are inspired by USSR.
- Japan is the only democratic country, other than India, to have Fundamental duties in its Constitution.

- These duties were incorporated through the 42nd Constitutional Amendment Act, 1976 in the Constitution on the recommendations of the Swaran Singh Committee.
- Only 8 Fundamental duties were based on the Swaran Singh Committee recommendation while the 42nd Constitutional Amendment Act added 10 Fundamental duties in the Constitution.
- Later, the 86th Amendment Act, 2002 was passed that introduced one more fundamental duty in the Constitution. Now there are Eleven Fundamental duties in the Constitution.
- Rights and duties are correlative and inseparable.
- List of Fundamental Duties of India
- It shall be the duty of every citizen of India —
  1. To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
  2. To cherish and follow the noble ideals which inspired our national struggle for freedom;
  3. To uphold and protect the sovereignty, unity, and integrity of India. Hence option 2 is the correct answer.
  4. To defend the country and render national service when called upon to do so;
  5. To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
  6. To value and preserve the rich heritage of our composite culture;
  7. To protect and improve the natural environment including forests, lakes, rivers, wildlife and to have compassion for living creatures;
  8. To develop the scientific temper, humanism, and the spirit of inquiry and reform;
  9. To safeguard public property and to abjure violence;
  10. To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement;
  11. Who is a parent or guardian, to provide opportunities for education to his child, or as the case may be, ward between the age of six to fourteen years.

78. Answer: a

**Explanation:**

The correct answer is Assam.

★ Key Points

- Assam government has launched a four-year mentorship programme called Project Arohan to provide guidance to students and hone their skills.
- For this, Assam Chief Minister Himanta Biswa Sarma met Anita Rajan, CEO of Tata STRIVE, a skill development initiative of Tata Trusts in February 2022, and sought their cooperation for the project.
- "Aarohan," a website portal has already been launched.

★ Additional Information

States	Schemes
Uttar Pradesh	One District One Sport
Karnataka	Swami Vivekananda Yuva Shakti Yojana
Himachal Pradesh	Single-Use Plastic Buy-Back Scheme

79. Answer: c

**Explanation:**

The correct answer is fossils.

★ Key Points

- The remains of dead plants and animals trapped in the layers of rocks are called fossils.
- Fossils are mostly found in sedimentary rocks.

- Palaeontology is the study of Fossils.
  - It helps in determining organisms' evolution and interactions with each other and their environments.

### ★ Additional Information

- In organic production, manure is applied to the field as raw manure or composted manure.
  - **Manures are slow in decomposing, hence, they release plant nutrients gradually, which can be used as organic fertilisers in agriculture.**
- The Deuteromycetes commonly called moulds are “second-class” fungi that have no known sexual state in their life cycle, and thus reproduce only by producing spores via mitosis.
  - Deuteromycetes are also known as imperfect fungi.
  - They show only the asexual phase and do not show sexual reproduction.
  - They reproduce asexually by forming conidia.
  - Deuteromycetes are commonly known as imperfect fungi because only their vegetative and asexual phases are known.

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80. Answer: a

### Explanation:

The correct answer is Rafael Nadal.

### ★ Key Points

- Spain's Rafael Nadal won the Australian Open Men's Singles final on 30 January 2022.
  - With this victory, Rafael has become the first man to win 21 Grand Slam titles.
  - He overtook Roger Federer and Novak Djokovic by winning this title.
- Australian tennis player Ashleigh Barty defeated American Danielle Collins to win the Australian Open women's title on 29 January 2022.
  - Barty is the first Australian player to win the Australian Open singles championship since 1978.



★ Additional Information

- List of Grand Slam Winners 2021-22

Year	Tournament	Men Winner	Women Winner
2022	U.S. Open	Carlos Alcaraz	Iga Swiatek
2022	Wimbledon	Novak Djokovic	Elena Rybakina
2022	French Open	Rafael Nadal	Iga Swiatek
2022	Australian Open	Rafael Nadal	Ashleigh Barty
2021	U.S. Open	Daniil Medvedev	Emma Raducanu
2021	Wimbledon	Novak Djokovic	Ashleigh Barty
2021	French Open	Novak Djokovic	Barbora Krejckikova
2021	Australian Open	Novak Djokovic	Naomi Osaka

81. Answer: a

**Explanation:**

The correct answer is It is the distance covered by an object in a unit time.

★ Key Points

- Speed -
  - The rate at which an object covers a certain distance is known as speed.
  - It is a Scalar quantity.
  - Speed can never be negative or zero.
  - Speed is measured in m/s

82. Answer: d

## Explanation:

The correct answer is the population.

### ★ Key Points

- Census is the total process of collecting, compiling, analyzing and disseminating demographic, economic and social data pertaining to all persons in a country.
- It provides the trends in **population characteristics**.
- The Indian Census is one of the largest administrative exercises undertaken in the world.
- Census is conducted under the provisions of the Census Act, 1948.
- The bill for this Act was piloted by Sardar Vallabhbhai Patel, the then Home Minister of India.
- Census is undertaken after every 10 years.
- The last census was undertaken in 2011.

### ★ Additional Information

- 2011 Census
  - The population of India as per the 2011 census was 1,210,854,977.
  - India added 181.5 million to its population since 2001.
  - India, with 2.4% of the world's surface area, accounts for 17.5% of its population.
  - Uttar Pradesh is the most populous state with roughly 200 million people.
  - Over half the population resided in the six most populous states.
  - They are Uttar Pradesh, Maharashtra, Bihar, West Bengal, Andhra Pradesh and Madhya Pradesh.

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## 83. Answer: a

## Explanation:

The correct answer is Securities and Exchange Board of India (SEBI).

★ Key Points

- The securities and Exchange Board of India (SEBI) is a statutory body and a market regulator, that controls the **securities market in India**.
- The basic functions of SEBI are to protect the interests of investors in securities and to promote and regulate the securities market.
- SEBI is run by its board of members. The board consists of a Chairman and several other whole time and part-time members. The chairman is nominated by the union government.
- Before SEBI came into existence, the Controller of Capital Issues was the regulatory authority; it derived authority from the Capital Issues (Control) Act, 1947.
- In 1988, SEBI was constituted as the regulator of capital markets in India.
- Initially, SEBI was a non-statutory body without any statutory power. Following the passage of the SEBI Act by Parliament in 1992, it was given autonomous and statutory powers.

★ Additional Information

- **Small Industries Development Bank of India (SIDBI):**
  - SIDBI is the principal development financial institution for the promotion, financing, and development of the Micro, Small, and Medium Enterprises (MSME) sector in India.
  - It was established on April 2, 1990, under an Act of Parliament.
  - The headquarters of the SIDBI is located in Lucknow, Uttar Pradesh.
  - It aims to facilitate and strengthen credit flow to MSMEs and address both financial and developmental gaps in the MSME ecosystem across the country.
  - It coordinates the functions of institutions engaged in similar activities.
- **National Housing Bank (NHB):**
  - It was established as an apex-level institution for housing finance.
  - NHB was set up on July 9, 1988, under the National Housing Bank Act, 1987.
  - The Head office is in New Delhi.

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84. Answer: a

## Explanation:

The correct answer is Outlaw: India's Bandit Queen and Me.

### ★ Key Points

- "Outlaw: India's Bandit Queen and Me" is a non-fiction book by Roy Moxham.
- It was published in 2002 and explores the life of Phoolan Devi, also known as the "Bandit Queen".
- Phoolan Devi was a prominent figure in Indian politics in the 1990s.
- The author, Roy Moxham, recounts his experiences while living in India and how he became fascinated with Phoolan Devi's story.
- Moxham delves into Phoolan Devi's life, from her childhood in a small village to become a bandit and eventually a politician.
- The book also explores the social and political context in which Phoolan Devi operated, shedding light on the caste system and issues of poverty and discrimination in India.
- Moxham attempts to understand Phoolan Devi's motivations and actions, while also questioning his own biases and prejudices.
- The book examines the complexities of Phoolan Devi's life and the controversies that surrounded her, including her imprisonment and eventual release.

### ★ Additional Information

- **Lilavati's Daughters** is a book that highlights the contributions of women mathematicians throughout history.
  - The book explores the lives and achievements of women mathematicians from ancient times to the present day, including notable figures such as Hypatia, Ada Lovelace, and Emmy Noether.
  - Through their stories, the book challenges the stereotype that mathematics is a male-dominated field and inspires more girls and women to pursue careers in STEM.
- **Spy Princess** is a biography of Noor Inayat Khan, a World War II heroine who served as a wireless operator in the French Resistance.

- The book explores **Noor's life and career**, from her upbringing in a **Sufi family to her training as a spy and eventual capture by the Germans**.
- Through **Noor's story**, the book sheds light on the experiences of **Muslim women during wartime** and the sacrifices made by those who fought for **freedom and justice**.
- **The Man Who Knew Infinity** is a biography of the **Indian mathematician Srinivasa Ramanujan** and his friendship with the **Cambridge mathematician G.H. Hardy**.
  - The book also explores the challenges faced by **Ramanujan** as a **self-taught mathematician from a poor background** in colonial society.
  - Through Ramanujan's story, the book **highlights the power of perseverance and the potential for genius to emerge from unexpected places**.

85. Answer: b

Explanation:

The correct answer is Tabla.

★ Key Points

- Ustad Allarakha Qureshi was an Indian tabla player hailing from Jammu and Kashmir.
- He was a frequent accompanist of Sitar Player, Pt. Ravi Shankar.
- He was awarded the Padma Shree Award in 1977.

★ Additional Information

Instrument	Musicians
Tabla	Zakir Hussain, Anindo Chatterjee, Alla Rakha, Bikram Ghosh, Kishan Maharaj, Shankar Ghosh, etc.
Flute	Hariprasad Chaurasia, Pravin Godkhindi, Pannalal Ghosh, Shashank Subramanyam, etc.
Shehnai	Bismillah Khan, Krishna Ram Choudhary, Ali Ahmad Hussain, etc.
Sarod	Allauddin Khan, Ali Akbar Khan, Amjad Ali Khan, Buddhadev Dasgupta, Bahadur Khan, Sharan Rani, etc.
Piano	Surojeet Chatterji, Kaikhosh Shapurji, Sorabjee.

86. Answer: b

**Explanation:**

The correct answer is **Between the Eastern Ghats and the Bay of Bengal.**

★ **Key Points**

Eastern Coastal Plains of India:

- **Eastern Coastal Plain is in between the Bay of Bengal in the East and the Eastern Ghats to the West.**
- Extending from the Subarnarekha river along the West Bengal-Odisha border to Kanniyakumari.
- A major part of the plains is formed as a result of the alluvial fillings of the littoral zone (relating to or on the shore of the sea or a lake) by the rivers Mahanadi, Godavari, Krishna and Cauvery comprising some of the largest deltas.
- In contrast to the West Coastal Plains, these are extensive plains with an average width of 120 km.
- This plain is known as the Northern Circars between the Mahanadi and the Krishna rivers and Carnatic between the Krishna and the Cauvery rivers. The

Eastern coast is divided into three categories

- Utkal coast
- Andhra coast
- Coromandel coast



87. Answer: b

Explanation:

The correct answer is Rakesh Asthana.

★ Key Points

- In July 2021, Director-General of Border Security Force Rakesh Asthana has been appointed as Commissioner of Delhi Police.

★ Important Points

- Sanjay Arora, director general of the ITBP and a 1988-batch IPS officer, has been appointed as the next Delhi Police Commissioner.
- Arora has succeeded Rakesh Asthana, whose term ended on 31 July 2022.
- Earlier, Arora was appointed the Indo-Tibetan Border Police (ITBP) DG in August 2021.
- He has also been awarded the 'Police Medal for Meritorious Service' in 2004.

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88. Answer: a

**Explanation:**

The correct answer is Indian Independence Act.

★ Key Points

- In 1947, the Indian Independence Act was passed. India and Pakistan became separate nations as a result of the act.
- The provinces of Bengal and Punjab were divided between the two new countries. These dominions divided the Muslim, Hindu, and Sikh populations, resulting in the largest forced migration in history that was not driven by conflict or hunger.
- The Act abolished the usage of the title "Emperor of India" for the British Crown, as well as any previous treaties with princely nations.
- Lord Mountbatten remained Governor-General, and Jawaharlal Nehru was named India's first Prime Minister.
- Muhammad Ali Jinnah was named Governor-General of Pakistan, and Liaquat Ali Khan was named Prime Minister.



- The Indian National Congress, the Muslim League, and the Sikh community reached an agreement with Lord Mountbatten on the 3 June Plan, also known as the Mountbatten Plan, in the Indian assembly. The last plan for independence was this one.
- The Indian Independence Act was later abolished by Article 395 of the Indian Constitution and Article 221 of the Pakistan Constitution of 1956, both of which aimed to give the new republics more independence.

### ★ Additional Information

#### Government of India Act of 1919

- The Government of India Act 1919 was the codified version of the Montagu-Chelmsford reforms – named after Edwin Charles Montague and Lord Chelmsford, who held positions of the Secretary of State and Viceroy of British India respectively.
- This Act was based on what is popularly known as the Montague-Chelmsford Reforms. In August 1917, the British government for the first time declared that its objective was to introduce responsible government in India gradually, but as an integral part of the British Empire.
- The Act of 1919, clarified that there would be only a gradual development of self-governing institutions in India and that the British Parliament—and not the self-determination of the people of India—would determine the time and manner of each step along the path of constitutional progress.
- Under the 1919 Act, the Indian Legislative Council at the Centre was replaced by a bicameral system consisting of a Council of State (Upper House) and a Legislative Assembly (Lower House). Indian Councils were enlarged.
- Each house was to have a majority of members who were directly elected. So, a direct election was introduced, though the franchise was much restricted based on property, tax, or educational qualifications.
- The principle of communal representation was extended with separate electorates for Sikhs, Christians, and Anglo-Indians, besides Muslims.
- The Act introduced dyarchy in the provinces, which was a substantial step toward the transfer of power to the Indian people.
- The provincial legislature was to consist of one house only (legislative council).

- The Act separated for the first time the provincial and central budgets, with provincial legislatures being authorized to make their budgets.
- A High Commissioner for India was appointed, who was to hold his office in London for six years and whose duty was to look after Indian trade in Europe. Some of the functions hitherto performed by the Secretary of State for India were transferred to the high commissioner.
- The Secretary of State for India who used to get his pay from the Indian revenue was now to be paid by the British Exchequer, thus undoing an injustice in the Charter Act of 1793.

#### Government of India Act of 1935

- The Government of Indian Act was passed by the British parliament in 1935 and came into effect in 1937.
- It was based on a report by a Joint Select Committee, led by Lord Linlithgow, set up the two houses of the British parliament.
- This act of 1935 was extremely important for a no. of reasons.
  - It governed India as this was the last major legislation that the British passed before Independence was granted.
  - One of the reason was for which it was important was that some provincial autonomy was granted.
  - Another reason was that it granted more voting rights to the people of India i-e 25% of the population of India was now having the right to vote which was 5 times larger than that in 1909.
  - The act also recommended a federal form of govt. for India which enables the princes to participate in the political affairs of India.
  - The act was an important point in the move towards independence.
  - It proved the basis for the negotiations which finally resulted in the British leaving India.
  - Parliamentary systems had been set up in which the Indians people were to gain increasing representation.

89. Answer: b

Explanation:

The correct answer is 1527.

In 1527, Babur defeated Rana Sanga at Khanuwa.

★ Key Points

- The battle was fought on 16 March 1527.
- The Battle of Khanwa was a decisive battle that helps the establishment of Mughal rule in India.
- Babur assumed the title of Ghazi after the victory of this battle.
- Khanwa is located 60km west of Agra.

★ Additional Information

- Babur was the founder of the Mughal Empire.
  - He was the first Emperor of the Mughal dynasty who ruled between 1526 to 1530.
  - He defeated Ibrahim Lodhi in the first battle of Panipat in 1526.
  - He defeated Mahmud Lodi in the battle of Ghaghra in 1529. Babur died in 1530 in Agra.
  - He was first buried in Agra, later his mortal remains were moved to Kabul and reburied in Bagh-e Babur in Kabul.
  - Autobiography of Babur: Baburnama.

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90. Answer: a

**Explanation:**

The correct answer is Gujarat.

★ Key Points

- Lothal is a coastal site in the state of Gujarat and was an important trading center during the Harappan period.
- The artificial dockyard (the most striking feature) in Lothal signifies its importance as a trading center.
- The site was discovered by SR Rao in 1964.

- It is situated on the banks of the Bhogava river, a tributary of the Sabarmati River.
- It is the only site belonging to Harappan culture where evidence of rice has been found.
- From here a doubtful terracotta figurine representing a horse has been found.
- Other striking excavations made from here are:
  - Terracotta ship
  - Ship on a seal
  - double burial (male and female)
  - chess-like game
  - instruments for measuring angles

★ Additional Information

State	Harappan sites present there
Uttar Pradesh	Alamgirpur, Sothi, Sanauli and Mandi
Punjab	Ropar and Sanghol
Gujarat	Babarkot, Bet Dwarka, Desalpur, Lothal, Desalpur, Dholavira, Rangpur, Rojdi, Shikarpur
Rajasthan	Kalibangan and Baror

91. Answer: c

**Explanation:**

The correct answer is Bharatanatyam.

★ Key Points

- Tanjore Balasaraswati also known as Balasaraswati was an Indian dancer, and her rendering of Bharatanatyam, a classical dance style that originated in the

South Indian state of Tamil Nadu, made this style of dancing well known in different parts of India and many parts of the world.

- She was awarded the Padma Bhushan in 1957 and the Padma Vibhushan in 1977, the third and the second highest civilian honors given by the Government of India.
- She received numerous awards in India, including the President's Award from the Sangeet Natak Akademi and Sangita Kalanidhi from the Madras Music Academy, South India's highest award for musicians.
- India Today based on a survey, classified her as one of the 100 prominent Indians who have shaped the destiny of India.

### ★ Additional Information

- Bharatanatyam is a major form of Indian classical dance that originated in Tamil Nadu.
- Kuchipudi is one of the eight major Indian classical dances. It originates from a village named Kuchipudi in the Indian state of Andhra Pradesh.
- Kathakali or 'story play' took shape in Kerala in southern India in the seventeenth century under the patronage of the prince of Karnataka.
- The Manipuri Dance, also referred to as the Manipuri Raas Leela, is one of the eight major Indian classical dance forms, originating from the state of Manipur.

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92. **Answer: c**

### Explanation:

The correct answer is 1919.

### ★ Key Points

- Mahatma Gandhi in 1919 decided to launch a nationwide satyagraha against the proposed Rowlatt Act (1919).
- This Act had been hurriedly passed through the Imperial Legislative Council despite the united opposition of the Indian members.
- It gave the government enormous powers to repress political activities and allowed the detention of political prisoners without trial for two years.

- The act was passed as per recommendations of the Rowlatt Committee chaired by a judge, Sir Sidney Rowlatt, after whom the act is named.
- It empowered the police to search for a place without a warrant.
- Mahatma Gandhi wanted non-violent civil disobedience against such unjust laws, which would start with a hartal on 6 April.
- Rallies were organized in various cities, workers went on strike in railway workshops, and shops closed down.
- On 10 April, the police in Amritsar fired upon a peaceful procession, provoking widespread attacks on banks, post offices and railway stations. Martial law was imposed and General Dyer took command.
- On 13 April, the infamous Jallianwalla Bagh incident took place.

★ Additional Information

Major Satyagraha movements by Gandhi:

Year	Place	Motive
1917	Champaran	To remove the hardships of indigo workers in Champaran exploited by the European planters.
1918	Ahmedabad	To end the deadlock between the mill owners and laborers who were overworked and underpaid.
1918	Kheda	To demand relief for famine-stricken peasants of Kheda regarding the revenue dues to be paid to the Government.
1919	All over India	The first mass Satyagraha against the unjust Rowlatt Bill curbing the freedom of the Press.

93. Answer: b

**Explanation:**

The correct answer is Requirements + Margin of safety.

★ Key Points

- RDAs are **nutrient intake recommendations** developed by the Food and Nutrition Board of the National Academy of Sciences.
- They are **based on scientific research and designed to provide guidance on the number of nutrients needed** to meet the nutritional needs of healthy individuals in the United States.
- **The RDAs vary based on age, sex, and other factors.**
- They are **periodically updated to reflect advances in nutritional science.**
- RDAs provide guidance on the number of **essential nutrients that individuals should consume each day to maintain good health and prevent nutrient deficiencies.**
- They should be used as a general guideline and not a **one-size-fits-all approach to nutrition.**
- Individual nutrient needs may **vary based on factors such as physical activity level, health status, and other dietary considerations.**

★ Additional Information

- **Balance Diet:**
  - A **balanced diet** should include **carbohydrates, protein, fat, vitamins, minerals, and fibre.**
  - **Each nutrient has its own important role to play in the body.**
  - Carbohydrates provide energy to the body and should make up around **45-65% of your daily calorie intake.**
  - Protein is essential for the growth and repair of body tissues, as well as for maintaining a healthy immune system.
  - It should make up around **10-35% of your daily calorie intake.**
  - Fat is important for providing energy, protecting organs, and helping the body absorb vitamins.

- It should make up around **20–35% of your daily calorie intake.**
- **Vitamins and minerals** are important for a wide range of functions in the **body, such as keeping bones strong, maintaining healthy skin, and supporting the immune system.**
- Fibre is essential for good digestive health and can be found in **fruits, vegetables, and whole grains.**
- A balanced diet should also include a variety of different foods to ensure you are getting all the necessary nutrients.
- It's important to watch portion sizes and limit foods that are high in **sugar, salt, and saturated fats.**
- **Drinking enough water is also important for maintaining good health.**
- A balanced diet can help prevent chronic diseases such as **diabetes, heart disease, and certain types of cancer.**

94. Answer: a

Explanation:

The correct answer is Cricket.

★ Key Points

- The Olympic Games are held every four years, alternating between the Summer and Winter Games every two years in the four-year period.
- The 2020 Summer Olympics commonly known as Tokyo 2020, is to be held in Tokyo, Japan.
- Hockey, Badminton, and Archery are the summer Olympic sports.
- Karate, roller sport, climbing, surfing, baseball, and softball are the recent sports added for 2020.
- Beijing was the host of the 2022 Winter Olympics, which made it the first city to host both the Summer and Winter Games.
- Cricket is not played at the 2020 Summer Olympic Games (played in 2021).

★ Additional Information

Tokyo Olympics 2020 India Medals List



Athlete	Achievements
Neeraj Chopra	Gold medal in Men's Javelin throw
Mirabai Chanu	Silver medal in women's 49kg weightlifting
Ravi Kumar Dahiya	Silver medal in men's 57kg freestyle wrestling
PV Sindhu	Bronze medal in women's singles badminton
Lovlina Borgohain	Bronze medal in women's welterweight boxing
Bajrang Punia	Bronze medal in men's 65kg freestyle wrestling
Men's Hockey team	Bronze medal

95. Answer: b

**Explanation:**

The correct answer is Uttar Pradesh, Bihar, and Maharashtra.

★ Key Points

- India has a bicameral system of legislature.
- Article 169 of the Indian Constitution provides provisions for the creation and abolition of the Legislative council in states.
- The Legislative Council of a state shall not have more than one-third of the total strength of the State Assembly, and not less than 40 members, as per Article 171 of the Indian Constitution.
- Uttar Pradesh, Bihar, and Maharashtra have Legislative Councils.
- Manner of election of members of Legislative Council-
  - One-third of the MLCs are elected by the state's MLAs.
  - One-third by a special electorate comprising sitting members of local governments such as municipalities and district boards.
  - One-Twelfth by an electorate of teachers and another 1/12th by registered graduates.

- The remaining members are appointed by the Governor for distinguished services in various fields namely, literature, science, art, cooperative movement and social service.

★ Additional Information

- Six States have a Legislative Council :
  - Andhra Pradesh
  - Telangana
  - Uttar Pradesh
  - Bihar
  - Maharashtra
  - Karnataka.
- Recently, the Jammu & Kashmir Legislative Council has been abolished through the J&K Reorganisation Bill, 2019, which reduced the State of J&K to the Union Territories of J&K and Ladakh

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96. Answer: d

**Explanation:**

The correct answer is Pushyamitra.

★ Key Points

**Shunga Dynasty**

- It was founded by Pushyamitra. There were ten Shunga rulers.
- Their capital was Patliputra.
- Pushyamitra was the commander of the last Mauryan emperor Vrihadratha.
- Pushyamitra killed the last emperor Vrihadrata and occupied the whole of Magadha.
- The name of the first ruler of the Mauryan dynasty of Magadha was also Brihadratha and the name of the last ruler was also Vrihadratha.

★ Additional Information

- Agnimitra
  - Agnimitra was the son of Pushyamitra Sunga.
  - He ruled the Sunga Empire from 149 BC to 141 BC.
  - By the time Agnimitra succeeded to the throne, the Vidarbha region broke away from the Sunga empire and became independent.
  - He is mentioned in Kalidasa's most acclaimed poem Malavikagnimitram.
  - After Agnimitra, his son Sujyesta and his son Vasumitra succeeded to the throne.

97. Answer: d

### Explanation:

The correct answer is Pandit Birju Maharaj.

#### ★ Key Points

- Pandit Birju Maharaj was an Indian dancer, composer, singer, and exponent of the Lucknow "Kalka-Bindadin" Gharana of Kathak dance in India.
- He was a descendant of the Maharaj family of Kathak dancers, which includes his two uncles, Shambhu Maharaj and Lachhu Maharaj, and his father and guru, Acchan Maharaj.
- He was born on 4 February 1938 in Handia and died on 17 January 2022 in Delhi.
- He was awarded Padma Vibhushan and Filmfare Award for Best Choreography and more.
- Kathak is one of the eight major forms of Indian classical dance. It is the classical dance form of Uttar Pradesh. The origin of Kathak is traditionally attributed to the traveling bards of ancient northern India known as Kathakars or storytellers.
- He received the 'Padma Vibhushan' in 1986.

#### ★ Additional Information

Rukmini Devi Arundale

- **She** was a reputed dancer and choreographer of Bharatnatyam

- In 1956, Rukmini Devi was awarded the Padma Bhushan.
- in 1967 she received the "Sangeet Natak Akademi Fellowship".
- Rukmini Devi was the first woman to be nominated as a member of the Rajya Sabha.
- She was featured in India Today's list of 100 people who shaped India.

### Mallika Sarabhai

- She is an Indian classical dancer, choreographer, actress, writer, and social activist known for her promotion of the arts as a vehicle for social change.
- Mallika is an accomplished Kuchipudi and Bharatanatyam dancer and performer who has specialized in using the arts for social change and transformation.
- She started to learn dancing when she was young and started her film career in the parallel cinema when she was 15.
- Mallika played the role of Draupadi in Peter Brook's play The Mahabharata.

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98. Answer: d

### Explanation:

The correct answer is Bihar.

### ★ Key Points

- **Salhesh** is the chief deity of the socially marginalised and downtrodden **Dusadh Dalit** community.
- The **festival of Salhesh** provides identity, social cohesion and self-respect to the community.
- It is celebrated in the **Mithila region of Bihar** every year during the auspicious month of **Shravan (Rainy season)**, the chief components of the festival are **folklore, rituals, craftsmanship and performing arts**.
- The knowledge and skills involved in the **entire festival are transferred from one generation to another through oral tradition**.
- The rituals are performed by a priest (**Bhagat**).

- In the rituals, the artists (Manarias) enact the legend of Salhesh through music and dance in which the Bhagat takes the lead role.
- The performance includes instrumental music, a recital of songs in the local dialect, dancing, acrobatics and symbolic gestures.
- The festival culminates with votive offerings of terracotta horse riders to the deity.
- This cultural heritage is in danger of being lost as the younger generations prefer more lucrative and respectable careers.
- Some measures for the preservation of this practice have been taken by the State, art connoisseurs and the community itself, to create awareness about this rich cultural heritage.

★ Additional Information

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State	Festival	Date	Description
Tamil Nadu	Pongal	January 14-17	A harvest festival dedicated to the Sun God.
Tamil Nadu	Tamil New Year	Mid-April	Marks the beginning of the Tamil calendar year.
Tamil Nadu	Mahamaham	Once every 12 years	The Hindu festival is believed to be when all Indian rivers converge at the Mahamaham tank.
Punjab	Baisakhi	April 13-15	Sikh and Hindu festivals mark the harvest season.
Punjab	Guru Nanak Jayanti	October-November	Sikh festival celebrating the birth of Guru Nanak Dev.
Punjab	Lohri	January 13-14	Winter solstice celebration with bonfires and feasting.
Gujarat	Navratri	October	Nine-day Hindu festival celebrating the Goddess Durga.
Gujarat	Diwali	October-November	The Hindu festival of lights celebrates the victory of good over evil.
Gujarat	Uttarayan	January 14	Kite festival celebrating the arrival of spring.
Bihar	Chhath Puja	October-November	Hindu festival celebrating the Sun God.
Bihar	Sonepur Mela	November-December	Livestock and cultural fair.
Bihar	Makar Sankranti	January 14-15	Hindu festival celebrating the arrival of spring.

99. Answer: c

**Explanation:**

The correct answer is 2011.

★ Key Points

- The Census is the collecting, compiling, analyzing, and disseminating of demographic, economic, and social data on basis of population.
- It is conducted by the Office of the Registrar General and Census Commissioner, Ministry of Home Affairs.
- Its significance is in providing administration, planning, demarcation of the constituency, and policy-making to the government.
- In 2011 was the latest census conducted in India.

★ Additional Information

- As per the 2011 census
  - Arunachal Pradesh has the lowest population density in India.
  - Uttar Pradesh is the highest populous state.
  - Sikkim is the less populous state.
  - Kerala has the highest sex ratio and Haryana with lowest sex ratio.

100. Answer: a

**Explanation:**

The correct answer is Bangladesh.

★ Key Points

- Among the following neighbours of India, **Bangladesh has the highest population density**.

- The country has a **population density of 1,115.62 people per square kilometre, (2,889.45/per square mile), which ranks 10th in the world.**
- **Bangladesh:**
  - A country in **South Asia, located to the east of India**
  - Became **independent from Pakistan in 1971.**
  - Has a population of over 160 million people
  - **The official language is Bengali.**
  - Has a predominantly Muslim population.
  - Has a mixed economy, with textiles and agriculture being important industries.
  - Has a close relationship with India, with many cultural and economic ties.

### ★ Additional Information

- **Pakistan:**
  - A country in South Asia, located to the west of India.
  - **Became independent from British rule in 1947, along with India.**
  - Has a population of over 220 million people.
  - **Official languages are Urdu and English.**
  - Has a predominantly Muslim population, with Islam being the state religion.
  - Has a mixed economy, with agriculture and textiles being important industries.
  - **Has had a fraught relationship with India, with multiple conflicts and disputes over the years.**
- **China:**
  - **The world's most populous country, with over 1.4 billion people.**
  - A communist country with a one-party system of government.
  - Has a rapidly growing economy, with a focus on industries such as manufacturing and technology.
  - Has a rich cultural history, with many ancient monuments and landmarks.
  - **Has a complex relationship with India, with border territories and economic competition.**
- **Sri Lanka:**
  - An **island country in South Asia, located to the south of India.**



- Has a population of around **22 million people**.
- **Official languages are Sinhala and Tamil**.
- Has a predominantly **Buddhist population**, with **Hinduism, Islam, and Christianity** also being practised.
- Has a **mixed economy**, with **textiles, tourism, and agriculture** being **important industries**.
- Has had a complex history, including a long civil war that ended in 2009.

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