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Your Personal Exams Guide

- NDA
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- SSC CGL
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SSC CHSL 2021 (Held On : 9 June 2022 Shift 1)

Total Time: 1 Hour **Total Marks:** 200

Instructions

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

1.) A total of 60 minutes is allotted for the examination.

2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.

3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

English Language

1. Select the most appropriate spelling that can substitute the underlined word in the given sentence. **(+2, -0.5)**

   Compparision with others is not always good.

   a. Comparisson

   b. Compasison

   c. Comparison

   d. Comparision

---

2. Parts of the given sentence have been given as options. One of them contains a grammatical error. Select the option that has the error. **(+2, -0.5)**

   As long as there was corruption in India, there can be no progress.

   a. there was corruption

   b. As long as

   c. in India

   d. there can be no progress

---

3. Select the option that will improve the underlined part of the given sentence. **(+2, -0.5)**

   I don't get on with the new boss, so I have asked to transferring to another branch of the company.

   a. will have ask to be transfer

b. have asked to be transferred

c. having ask to be transferred

d. have been ask to be transferring

---

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

A word that has the same or nearly the same meaning as another word in the same language

a. Synonym

b. Metonymy

c. Antonym

d. Toponym

---

5. Recognise the erroneous part in the given sentence and choose the most appropriate answer from the options given to ensure a meaningful sentence. **(+2, -0.5)**

As she kept walking to me, my heart skipped a beat.

a. As she kept walking within me, my heart skipped a beat.

b. As she kept walking from me, my heart skipped a beat

c. As she kept into me, my heart skipped a beat.

d. As she kept walking towards me, my heart skipped a beat.

---

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

Snake in the grass

a. Co-operative person

b. Treacherous person

c. Sensitive person

d. Successful person

---

7. Select the INCORRECTLY spelt word. (+2, -0.5)

a. Meritorious

b. Traumatic

c. Stigmatic

d. Exggibitionistic

---

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

Get one's dander up

a. Rush into someone

b. get into a difficult situation

c. Lose one's temper

d. To glare venomously

---

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

Usnis has not used the computer for weeks.

a. The computer did not used by Usnis for weeks.

b. The computer has not been used by Usnis for weeks.

c. The computer was not been used by Usnis for weeks.

d. The computer has not being used by Usnis for weeks.

---

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

All the young boys and girls / in the family / will try his luck / in the card games tonight.

a. All the young boys and girls

b. in the card games tonight

c. will try his luck

d. in the family

---

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

The fishermen of our village are constantly complaining of the poor <u>number of fishes getting caught</u> these days.

a. Host

b. Horde

c. Heap

d. Haul

---

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

The world is constantly living in risk, uncertainty and fear of _____.

a. life

b. body

c. nature

d. death

---

13. From among the words given in bold, select the INCORRECTLY spelt word in the following sentence. **(+2, -0.5)**

The Gadkaris were a hereditary military class which was garisioned in the Maratha forts.

a. hereditary

b. forts

c. garisioned

d. military

---

14. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph. **(+2, -0.5)**

A. Thus, children in India have the unique opportunity to receive a world-class education.

B. Since ancient times, India has been known for its great educational system.

C. Today, there are thousands of schools in India, many of which are among the best in the world.

D. The country's first university, Nalanda, was founded over 1,000 years ago.

a. ABCD

b. DCBA

c. BDCA

d. CBAD

---

15. Select the sentence which has no spelling error. **(+2, -0.5)**

a. Pneuonomia can be treated at home.

b. The chief cause of pneumonia is a microbe.

c. Aspiration pneunomia is found in French bulldogs.

d. Arctic explorers cannot catch pneunomeea in frozen north.

---

16. Which word in the given sentence is the ANTONYM of - susceptible? **(+2, -0.5)**

The president claimed he was immune from prosecution.

a. claimed

b. president

c. immune

d. prosecution

---

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

Renounce

a. Embrace

b. Ignore

c. Overlook

d. Abjure

---

18. Select the INCORRECTLY spelt word. **(+2, -0.5)**

a. Immigration

b. Administrator

c. Admission

d. Exploistation

---

19. Select the most appropriate option to substitute the underline segment in the given sentence. **(+2, -0.5)**

A dishonest employee plays fast with his boss.

a. plays stop and run

b. plays quick and slow

c. plays run and stop

d. plays fast and loose

---

20. Select the option that expresses the given sentence in active voice. **(+2, -0.5)**

A new policy for peace and tolerance was formulated by the member nations in the Universal Council meeting yesterday.

a. The member nations formulated a new policy for peace and tolerance in the Universal Council meeting yesterday.

b. The member nations in the Universal Council meeting yesterday were formulated a new policy for peace and tolerance.

c. The member nations in the Universal Council meeting yesterday were formulating a new policy for peace and tolerance.

d. A new policy formulated the member nations in the Universal Council meeting yesterday for peace and tolerance

---

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

The term 'health' refers to human beings' state of physical, psychological and (1)_____ well-being. Health and fitness are (2)_____ linked and we must concentrate on maintaining our health and (3)_____. If we need to be healthy, we must (4)_____ our wellness. We (5)_____ start taking care of ourselves because health is wealth.

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

a. political

b. cultural

c. social

d. economic

---

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

The term 'health' refers to human beings' state of physical, psychological and (1)_____ well-being. Health and fitness are (2)_____ linked and we must concentrate on maintaining our health and (3)_____. If we need to be healthy, we must (4)_____ our wellness. We (5)_____ start taking care of ourselves because health is wealth.

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

a. diametrically

b. explicitly

c. solely

d. inextricably

---

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

The term 'health' refers to human beings' state of physical, psychological and (1)_____ well-being. Health and fitness are (2)_____ linked and we must concentrate on maintaining our health and (3)_____. If we need to be healthy, we must (4)_____ our wellness. We (5)_____ start taking care of ourselves because health is wealth.

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

a. fitness

b. flatness

c. fineness

d. fatness

---

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

The term 'health' refers to human beings' state of physical, psychological and (1)_____ well-being. Health and fitness are (2)_____ linked and we must concentrate on maintaining our health and (3)_____. If we need to be healthy, we must (4)_____ our wellness. We (5)_____ start taking care of ourselves because health is wealth.

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

a. perceive

b. consider

c. prioritise

d. foresee

---

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

The term 'health' refers to human beings' state of physical, psychological and (1)_____ well-being. Health and fitness are (2)_____ linked and we must concentrate on maintaining our health and (3)_____. If we need to be healthy, we must (4)_____ our wellness. We (5)_____ start taking care of ourselves because health is wealth.

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

a. may

b. must

c. could

d. can

General Intelligence

26. In a certain code language, 'BREAK' is written as 'BSEBK' and 'FAST' is written as 'FBSU'. How will 'BREAKFAST' be written in that language? **(+2, -0.5)**

a. BSEBKGATT

b. BSEBKGAST

c. BSEBKFATT

d. BSEBKRATT

---

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

132, 133, 129, 156, 140, 265, ?

a. 282

b. 229

c. 292

d. 299

---

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

26*56*4*17*49*7*30

a. +, ÷, -, + ,÷, =

b. -, +, ×, +, =, -

c. +, −, = ,×, ÷, −

d. −, ÷, +, −, ×, =

---

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

Statements:

Some chairs are racks.

All beds are trays.

All racks are beds.

Conclusion:

I. Some chairs are beds.

II. All beds are racks.

III. All trays are chairs.

a. Only conclusion I follows

b. Only conclusions I and II follow

c. Only conclusions I and III follow

d. Only conclusion II follows

---

30. In a certain code language, "ABILITY" is written as "BDLLITY", and "CONDUCT" is written as "DQQDUCT". How will "DISPLAY" be written in that language? **(+2, -0.5)**

a. EKVPLAY

b. EKUPLAY

c. EKWPLAY

d. EJVPLAY

---

31. Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one showing '1'. **(+2, -0.5)**

a. 2

b. 4

c. 6

d. 3

---

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

a.

b. 

c. 

d. 

---

33. If M denotes '−', N denotes '÷', O denotes '×' and P denotes '+', then what will come in place of '?' in the following equation? **(+2, −0.5)**

(14 O 7) P 41 M (26 O 3) P (176 N 2) = ?

a. 151

b. 149

c. 138

d. 145

---

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

192, 408, 283, 347, 320, ?

a. 347

b. 324

c. 308

d. 328

---

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

LARGEST : ESTGLAR : : QUALITY : ITYLQUA : : QUICKLY : ?

a. KYLCUQI

b. UCLKYQI

c. KLYCQUI

d. KQICUYL

---

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

AAVR, XEQX, ?, RMGJ, OQBP

a. UIDL

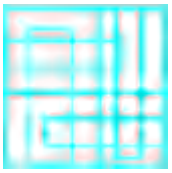
b. USRE

c. USER

d. UILD

---

37. Select the option that is embedded in the given figure as its part (rotation is NOT allowed). **(+2, -0.5)**



a.

b.

c.

d.

---

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

a. 6 : 41

b. 4 : 21

c. 8 : 70

d. 7 : 54

---

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

a. 

b. 

c. 

d. 

---

40. Which two numbers, from amongst the given options, should be interchanged to make the given equation correct? **(+2, -0.5)**

(132 ÷ 12) + (6 × 11) + 18 - (64 ÷ 16) × 8 = 70

a. 11 and 8

b. 12 and 6

c. 8 and 6

d. 12 and 11

---

41. 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. **(+2, -0.5)**

12 : 67 : : 21 : 112 : : 17 : ?

a. 92

b. 97

c. 87

d. 102

---

42. 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. **(+2, -0.5)**

17 : 78 : : 15 : 68 : : 28 : ?

a. 133

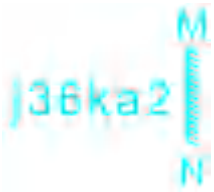
b. 111

c. 131

d. 113

---

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



a. 

b. 

c. 

d. 

---

44. Study the given pattern carefully and select the number that can replace the question mark (?) in it. **(+2, -0.5)**

First row - 14, 64, 10

Second row - 7, 18, 12

Third row - 23, 88, ?

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

a. 13

b. 33

c. 21

d. 25

---

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

XQNH, YOQD, ZMTZ, ?, BIZR

a. AWKV

b. AKVW

c. AKWV

d. WAKV

---

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

3 : 26 : : 7 : ? : : 5 : 74

a. 146

b. 234

c. 456

d. 100

---

47. In a certain code language, 'COUNTY' is written as 'YTNUOC', and 'DEFEAT' is written as 'TAEFED'. How will 'FAMILY' be written in that language? **(+2, -0.5)**

a. YLIMAF

b. YLIMBE

c. YLINAF

d. YLJMBG

---

48. If 13 January 2006 is a Friday, then what will be the day of the week on 28 March 2008? **(+2, -0.5)**

a. Sunday

b. Friday

c. Saturday

d. Monday

---

49. Pointing to a woman in the picture, Vishal said, "Her mother is the wife of my sister's father". How is the lady related to Vishal? **(+2, -0.5)**

×

something went wrong

a. Daughter in law

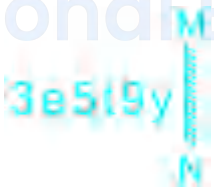
b. Mother

c. Sister

d. Daughter

---

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



a. 

b. 

c. 

d. 

Quantitative Aptitude

51. If 2z = x + y, then the value of $\frac{x}{x-z} + \frac{y}{y-z}$ is: **(+2, -0.5)**

a. 0

b. 1

c. 2

d. 5

---

52. A shopkeeper marks his articles at 30% above the cost price and allows the purchaser a discount of 20% for cash buying. What profit per cent does he make? **(+2, -0.5)**

a. 4%

b. 9%

c. 6%

d. 5%

---

53. In a trip, Ram covers a distance of 200 km in 10 hours. First he started his journey by bike at a speed of 15 km/h, after that his bike broke down and he traveled the rest of the journey with his friend's car at 25 km/h. The ratio of distances covered by bike and car is _____. **(+2, -0.5)**

a. 3 : 5

b. 2 : 3

c. 1 : 1

d. 5 : 3

---

54. If P varies directly as Q, and P = 227 when Q = 232, find P when Q = 116. **(+2, -0.5)**

a. 120.5

b. 113.5

c. 132

d. 118

---

55. If x - y = 25 and xy = 78, then what is the value of $x^2 + y^2$? **(+2, -0.5)**

a. 625

b. 781

c. 103

d. 756

---

56. A solid metallic cube of side 6 $\sqrt[3]{4}$ cm, is melted and recast into a cuboid of length 12 cm and breadth 9 cm. What is the length (in cm) of the longest diagonal of the cuboid? **(+2, -0.5)**

a. 19

b. 18

c. 15

d. 17

---

57. In a 1200 m race, the ratio of the speeds of two contestants Meenal and Nitu is 5 : 7. If Meenal has a start of 500 m, then Meenal wins by: **(+2, -0.5)**

a. 220 m

b. 240 m

c. 250 m

d. 225 m

---

58. The tax on a commodity diminishes by 14% and its consumption increases by 10%. Find the effect on revenue. **(+2, -0.5)**

a. Decreases by 9.5%

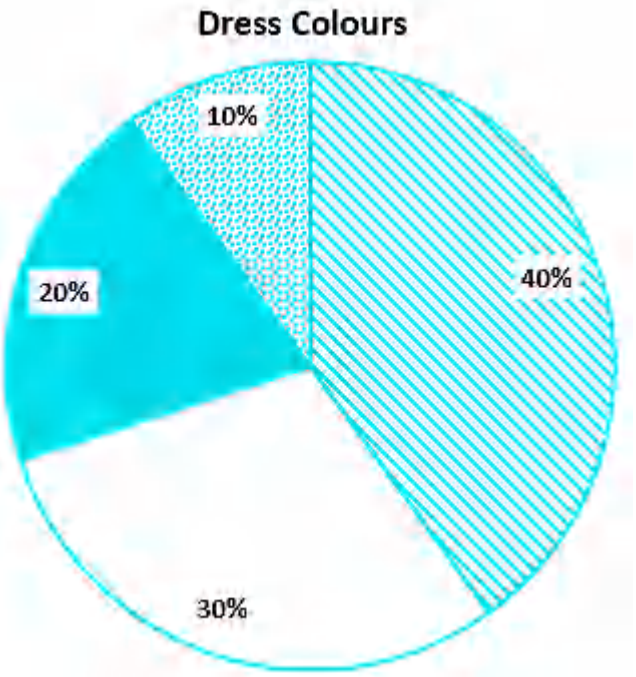
b. Decreases by 6.5%

c. Decreases by 5.5%

d. Decreases by 7.4%

---

59. The following pie chart shows the different coloured dresses worn by 60 students in a college party. Study the pie chart and answer the question that follows. **(+2, -0.5)**



The number of students who wore a cement-colored dresses (a sector which represents 20%) is:

a. 20

b. 10

c. 6

d. 12

---

60. If $\text{cosec}^2\theta + \cot^2\theta = \frac{1}{3}$, where $0 \le \theta \le \frac{\pi}{2}$, then the value of $\text{cosec}^4\theta - \cot^4\theta$ is: **(+2, -0.5)**

a. $\frac{2}{3}$

b. $-\frac{1}{3}$

c. $\frac{1}{3}$

d. $-\frac{2}{3}$

61. Find the total surface area of a solid hemisphere whose radius is 4.2 cm. (Take π = $\frac{22}{7}$) **(+2, -0.5)**

a. 266.32 cm^2

b. 366.32 cm^2

c. 166.32 cm^2

d. 466.32 cm^2

---

62. 40% of Ranita's income is equal to 56% of Bhaskar's income. If Ranita's income was ₹800 more than what it is and Bhaskar's income was ₹2,000 more than what it is, then the ratio of the incomes of Ranita and Bhaskar would have been 4 : 3. What is the actual combined income of Ranita and Bhaskar? **(+2, -0.5)**

a. ₹67,200

b. ₹68,200

c. ₹66,800

d. ₹67,800

---

63. Two grandparents, two parents, and three grandchildren make up a family. The average present age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. What is the present average age of the family (in years)? **(+2, -0.5)**

a. $33\frac{4}{9}$

b. $31\frac{5}{7}$

c. $27\frac{3}{7}$

d. $34\frac{2}{5}$

---

64. The average weight of 18 persons increases by 2.5 kg when a new person comes in place of one of them weighing 72 kg. The weight of the new person is: **(+2, -0.5)**

a. 107 kg

b. 127 kg

c. 117 kg

d. 77 kg

---

65. If 15 people take 5 days to complete a job, in how many days can 25 people finish that work? **(+2, -0.5)**

a. 2

b. 4

c. 3

d. 1

---

66. If the curved surface area of a closed cylinder is 225 cm^2 and the area of its base is 169 cm^2, then find the total surface area of the cylinder. **(+2, -0.5)**

a. 394 cm^2

b. 343 cm^2

c. 563 cm^2

d. 195 cm^2

---

67. Simplify the following expression. **(+2, -0.5)**

$4 \div [2 + 2 \div \{2 + 2 \div (2 + \frac{2}{3})\}]$

a. $\frac{11}{15}$

b. $-\frac{11}{15}$

c. $\frac{22}{15}$

d. $-\frac{22}{15}$

---

68. If (ab + bc + ca) = 0, then what is the value of $(\frac{1}{a^2-bc} + \frac{1}{b^2-ca} + \frac{1}{c^2-ab})$? **(+2, -0.5)**

a. 2

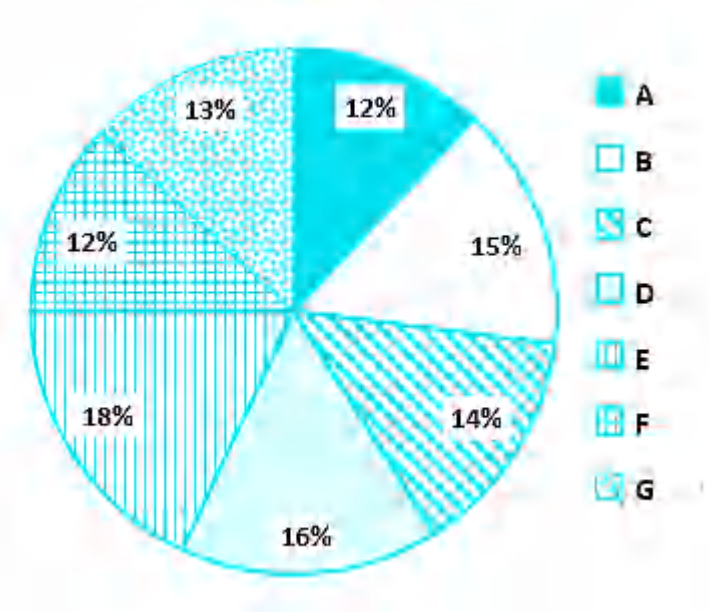
b. 0

c. 1

d. a + b + c

---

69. The following pie chart shows the spending of a country on tourism in various districts during a particular year. Total spending of the country = ₹15,62,000. Study the pie chart and answer the following question. **(+2, -0.5)**



The amount spent on districts D and E exceeds that on district A and F by (in ₹):

a. 1,44,700

b. 1,56,200

c. 1,34,600

d. 1,45,600

---

70. The table below gives information regarding the number of attempts made and number of successful attempts by six candidates in the gate examination. **(+2, -0.5)**

Candidates	Number of GATE exams attempted	Number of exams cleared
Suresh	15	-
Rajesh	-	5
Dinesh	20	-
Mahesh	18	7
Shivaji	12	8
Thaman	17	9

The number of times Rajesh took the exam was 30% less than the number of times dinesh took it.

What is the approximately percentage of times that Rajesh cleared the exam out the times that he attempted it?

a. 34.01%

b. 31.23%

c. 35.71%

d. 32.71%

---

71. A sells a car to B at a gain of 10% and B again sells it to C at a profit of 5%. If C pays ₹4,06,000 to B, what is the cost price of the car for A? (Consider integral part only) **(+2, -0.5)**

a. ₹3,50,000

b. ₹3,68,950

c. ₹3,51,515

d. ₹4,51,515

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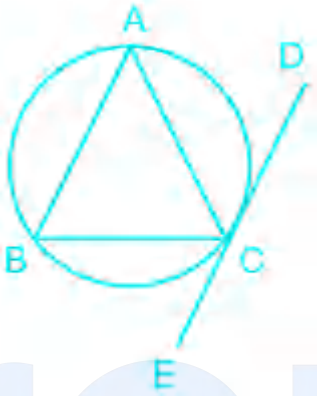
72. In the following figure, ΔABC is an inscribed triangle as shown and DE is a tangent to the circle at C. If m∠ACD = 65° and m∠ACB = 35°, find the measure of m∠BAC. **(+2, -0.5)**



a. 80°

b. 75°

c. 60°

d. 65°

---

73. One dozen books quoted at ₹120 are available at 15% discount. How many books can be bought for ₹51? **(+2, -0.5)**

a. 8

b. 5

c. 6

d. 7

---

74. Find the compound interest on ₹35,000 in 2 years at 6% per annum, the interest being compounded half-yearly (nearest to a ₹): **(+2, -0.5)**

a. ₹4,000

b. ₹4,193

c. ₹4,393

d. ₹4,388

---

75. Which of the following options is NOT divisible by 18? **(+2, -0.5)**

a. 571032

b. 732546

c. 245798

d. 459018

General Awareness

76. In November 2021, who became the chairman of ICC Men's Cricket Committee? **(+2, -0.5)**

a. Anil Kumble

b. Sachin Tendulkar

c. Rahul Dravid

d. Sourav Ganguly

---

77. How many organisations are part of 'One Health' Consortium, launched in October 2021? **(+2, -0.5)**

a. 15

b. 32

c. 13

d. 27

---

78. Which of the following is NOT a correct pair? **(+2, -0.5)**

a. Ace Against Odds - Sania Mirza

b. Unbreakable - Abhinav Bindra

c. How I Became a Hindu - Sita Ram Goel

d. Living Shadows - Aribam Syam Sharma

---

79. Which of the following is **NOT** included in the value added method of calculating national income? **(+2, -0.5)**

a. Value of final goods and services produced in economy

b. Net factor income from abroad

c. All value of producing enterprises in primary sector

d. Value of second-hand goods

---

80. Which period in India is referred to as a steady population growth period? **(+2, -0.5)**

a. 1921-1951

b. 1921-1941

c. 1921-1961

d. 1921-1931

---

81. Who among the following Padma Bhushan Awardee dance legends has created a new dance form by the name of Bharat Nrityam? **(+2, -0.5)**

a. Alarmel Valli

b. Rukmini Arundale

c. Sonal Mansingh

d. Padma Subramaniam

---

82. Who among the following is the author of the book 'The Room on the Roof'? (+2, -0.5)

a. Mulk Raj Anand

b. RK Narayan

c. Khushwant Singh

d. Ruskin Bond

---

83. What is the width of the tennis court for Doubles? (+2, -0.5)

a. 13.57 m

b. 9 m

c. 12 m

d. 10.97 m

---

84. Which Part of the Indian Constitution deals with the State Legislature? (+2, -0.5)

a. Part VII

b. Part VI

c. Part IV

d. Part V

---

85. Which of the following are non-vascular flowerless plants in the taxonomic division of Bryophyta? (+2, -0.5)

a. Mosses

b. Pines

c. Pea plant

d. Ferns

---

86. Who was awarded the Society's Royal Medal for his atomic theory in 1826? **(+2, -0.5)**

a. Albert Einstein

b. Antoine-Laurent de Lavoisier

c. Roger Boscovich

d. John Dalton

---

87. Lata Mangeshkar was awarded with the Bharat Ratna in _____. **(+2, -0.5)**

a. 2003

b. 2001

c. 1997

d. 1999

---

88. Which protein acts like a binder, holding food together and adding a 'stretch' property, and is found naturally in some grains, including wheat, barley, and rye? **(+2, -0.5)**

a. Prolamin

b. Albumin

c. Gluten

d. Glycinin

---

89. Asad Ali Khan is a maestro of playing _____. **(+2, -0.5)**

a. rudra veena

b. sitar

c. tabla

d. shehnai

---

90. Who among the following has authored the famous novel 'To kill a mockingbird'? **(+2, -0.5)**

a. Mary Shelley

b. George Orwell

c. Harper Lee

d. Charles Dickens

---

91. Which of the following is a white, crystalline organic acid often used as an acidulant in grape and lime-flavoured drinks, gelatine desserts, jams, jellies, and hard sour confectionery? **(+2, -0.5)**

a. Malic acid

b. Tartaric acid

c. Oxalic acid

d. Ascorbic acid

---

92. The 2023 Asia Cup Cricket tournament (ODI Edition) will be organised by which of the following countries? **(+2, -0.5)**

a. India

b. Pakistan

c. Harper Lee

d. Bangladesh

---

93. Karnataka transgender dancer Manjamma Jogathi was conferred with the Padma Shri award for her contribution to _____ in 2021. **(+2, -0.5)**

a. hip hop dance

b. tap dance

c. ballet dance

d. folk dance

---

94. The bacterium flagellum is composed of three major structural elements. Which of the following is NOT one of these elements? **(+2, -0.5)**

a. Torso

b. Hook

c. Filament

d. Basal

---

95. Who is the first classical dancer of foreign origin who was conferred the Padma Shri in 2006 for her contributions to Odissi? (+2, -0.5)

a. Marianela Núñez

b. Eiko Shinohara

c. Ileana Citaristi

d. Maria Kochetkova

---

96. Who is the Chief Economic Advisor of India appointed in January 2022? (+2, -0.5)

a. V Anantha Nageswaran

b. Krishnamurthy Subramanium

c. Raghuram Rajan

d. Arvind Virmani

---

97. Fotu La, the Great Mountain Pass, at an altitude of 4108 m above sea level, is the highest point of which Indian state/UT? (+2, -0.5)

a. Ladakh

b. Arunachal Pradesh

c. Himachal Pradesh

d. Sikkim

---

98. 'Born in India Made in England' is an autobiography of Balraj Khanna. For which of the following art forms is he known? (+2, -0.5)

a. Theatre

b. Music

c. Sculpture

d. Painting

---

99. Who among the following Musicians was awarded the Bharat Ratna in 2019? (+2, -0.5)

a. Asha Bhosle

b. Bhupen Hazarika

c. Begum Akhtar

d. Ravi Shankar

---

100. In which of the following cities was Lata Mangeshkar born? (+2, -0.5)

a. Bombay

b. Satara

c. Ujjain

d. Indore

Answers

1. **Answer: c**

Explanation:

The correct answer is **"Comparison"** Let's see the correct spelling and understand what it means:

⭐ Key Points

- **Comparison** -an act of comparing; a statement in which people or things are compared
  - ***Eg.*** Put the new one and the old one side by side, for *comparison.*

⭐ Additional Information

Let's here understand the meaning of the whole sentence:

- **Comparison with others is not always good:**
  - Comparing yourself to others is a recipe for unhappiness.
  - You can be anything but you can't be everything.
  - There is one thing that you're better at than other people: being you. This is the only game you can really win.

---

2. **Answer: a**

Explanation:

The correct answer is **"there was corruption"** We will here see the grammatical error with the help of the whole sentence:

⭐ Key Points

- As long as ***there was corruption*** in India, there can be no progress.

⭐ Additional Information

Now let's understand the correct sentence formation:

- It should be **there is corruption** instead of **there was corruption.**
- We use **"is"** in the present tense whereas we use **"was"** in the past tense.
- More specifically, we use **"is"** in present continuous tense
  - Eg. He *is* eating food.
- On the other hand, the verb **"was"** is used in past continuous tense
  - Eg. The bird *was* flying to its nest.

---

3. **Answer: b**

Explanation:

The correct answer is **"have asked to be transferred"**

⭐ Key Points

Let's see the correct sentence formation:

- I don't get on with the new boss, so I ***have asked to be transferred*** to another branch of the company.

⭐ Additional Information

Let's how the correct sentence formation happens:

- It should be**have asked to be transferred** instead of **have asked to transferring**
- Grammatically speaking, **"be"** is an auxiliary verb, and **"to be"** is its infinitive format.
- Regarding the meaning, both kind of mean the same.
- They can both convey the existence or occurrence of something, possessing a quality, or just simply show a particular tense without having an independent meaning.
- Talking about **"ed"** and **"ing"** in the words **"transferred"** and **transferring"**
- Adjectives ending in **-ed** show what has happened to a person or thing.

- Adjectives ending in **-ing** show the effect which something has on a person or thing.

---

4. Answer: a

Explanation:

The correct answer is "**Synonym**" Let's understand the given statement with the help of an example:

⭐ Key Points

- A word that has the same or nearly the same meaning as another word in the same language - **Synonym**
  - ***Eg.*** Ideal - best possible; without fault

⭐ Additional Information

Let's understand the other words with their meanings:

- **Metonymy -**one word or phrase is substituted for another with which it's closely associated
  - ***Eg.*** "crown" for "royalty"
- **Antonym -** a word that means the opposite of another word
  - ***Eg.***Hot - Cold
- **Toponym -**a place name, especially one derived from a topographical feature
  - ***Eg.*** United States, North America, Atlanta, and California are all *toponyms* . Even names of made-up places like Narnia and Atlantis are *toponyms*

---

5. Answer: d

Explanation:

The correct answer is **"As she kept walking towards me, my heart skipped a beat"** Let's see the correct sentence:

⭐ Key Points

- As she kept walking **to** me, my heart skipped a beat - As she kept walking **towards** me, my heart skipped a beat

⭐ Additional Information

Let's see how both the words are used:

- **"Towards"** is used for a particular direction
  - Eg. you go towards your school (not sure whether or you arrived at school)
- **"To"** is a bit different term than *towards,* it shows surety that you've made it to school or you will make it to school.
- So technically you may not use them interchangeably.

---

6. **Answer: b**

Explanation:

The correct answer is **"Treacherous person"**

⭐ Key Points

Here we will learn about the given idiom:

- **Snake in the grass -**One who feigns friendship with the intent to deceive.
  - ***Eg.***Did you hear that Daria's best friend stole money from her bank account? What a *snake in the grass.*

⭐ Additional Information

Let's learn some other idioms:

- **Snake a drain -** To clear a clogged drain using a long, flexible auger (commonly called a "drain snake" or "plumber's snake").
  - ***Eg.***It made me sick paying so much for a plumber to come clear the blockage. I'm just going to buy an auger so I can snake the drain myself next time!

7. **Answer: d**

Explanation:

The correct answer is **"Exggibitionistic"** Here let's look at the correct word:

⭐ Key Points

- **Exhibitionist** which meansa person who behaves in ways intended to attract attention or display their powers, personality, etc.
  - ***Eg.*** I have an *exhibitionist* streak that comes out on the dance floor.

⭐ Additional Information

Let's look at the meaning of the other words:

- **Meritorious -** deserving great praise
  - ***Eg.***An award for *meritorious* service
- **Traumatic -**severe and lasting emotional shock and pain caused by an extremely upsetting experience, or a case of such shock happening
  - ***Eg.*** He had psychotherapy to help him deal with his childhood *traumas* .
- **Stigmatic -**relating to a stigma or stigmas, in particular constituting or conveying a mark of disgrace
  - ***Eg.***The less *stigmatic* offence of manslaughter.

8. **Answer: c**

Explanation:

The correct answer is **"Lose one's temper"**

⭐ Key Points

Let's look at the given idiom:

- **Get one's dander up** ***(idiom)*** **-**To become angry, hostile, defensive, or irritable.
  - ***Eg.*** John *got his back up* when his parents brought up the subject of college.

⭐ Additional Information

Let's see some other related idioms:

- **Get on one's case** ***(idiom)*** **-** To start bothering someone about something.
  - ***Eg.***Oh, don't worry— *I'll get on Pat's case* until he agrees to go to the interview. It's too good an opportunity to pass up.
- **Get on one's feet (idiom) -** To stand up or rise.
  - ***Eg.***After the gym teacher made a few announcements, we all *got on our feet* and began running laps.

---

9. **Answer: b**

Explanation:

The correct answer is **"The computer has not been used by Usnis for weeks"**Let's see the passive formation:

⭐ Key Points

- **Usnis has not used the computer for weeks** ***(passive voice)***
  - The computer has not been used by Usnis for weeks

⭐ Additional Information

Let's learn about passive voice:

- **Passive voice -** The passive voice, the subject is acted upon by some other performer of the verb
- In a **passive voice construction** , the grammatical subject of the clause receives the action of the verb.
- ***The formula:***

- **[subject]+[some form of the verb to be]+[past participle of a transitive verb]+[optional prepositional phrase]**
  - ***Eg.*** The ball was kicked by Chester.
- That last little bit—"by Chester"—is a prepositional phrase that tells you who the performer of the action is. But even though Chester is the one doing the kicking, he's no longer the grammatical subject. A passive voice construction can even drop him from the sentence entirely
  - ***Eg.***The ball was kicked.

---

10. Answer: c

Explanation:

The correct answer is **"will try his luck"**

⭐ Key Points

Here let's see the whole sentence:

- All the young boys and girls in the family **will try his luck** in the card games tonight.

⭐ Additional Information

Let's learn the sentence formation:

- All the young boys and girls in the family will try **their** luck in the card games tonight.
- It should be **"their"** instead of **"his"**
- **Their** is used instead of his or her, 'his'

---

11. Answer: d

Explanation:

The correct answer is **"Haul"**

⭐ **Key Points**

Let's learn about the idiom:

- **Haul -** a large amount of something that has been stolen, caught, collected,
  - For eg - he thieves escaped with a haul of antiques worth over £3 million.
- Therefore, based on the above given points, **Option 4** is the correct answer.

⭐ **Additional Information**

Let's learn some other one word substitution:

- **Host -**a plant or animal that another plant or animal lives on as a parasite
- **Horde -** a large group of people
- **Heap -** an untidy pile or mass of things

---

12. Answer: d

Explanation:

The correct answer is **"death"** Let's see the whole sentence:

⭐ **Key Points**

- The world is constantly living in risk, uncertainty and fear of **"death"**

⭐ **Additional Information**

Let's learn a new word for this definition:

- **Thanatophobia** is an extreme fear of death or the dying process. You might be scared of your own death or the death of a loved one. Psychotherapy can help most people overcome this disorder.

---

13. **Answer: c**

Explanation:

The correct answer is **"garisioned"**

⭐ Key Points

Here let's see the correct spelling:

- It should be **Garrisoned** instead of **Garisioned**

⭐ Additional Information

Let's learn the meaning of the given word:

- **Garrisoned -** provide (a place) with a group of troops.
  - ***Eg.***Air reconnaissance showed the Germans had not garrisoned the island

---

14. **Answer: c**

Explanation:

The correct answer is **"BDCA"**

⭐ Key Points

Let's see the correct order of given sentences:

- Since ancient times, India has been known for its great educational system.
- The country's first university, Nalanda, was founded over 1,000 years ago.
- Today, there are thousands of schools in India, many of which are among the best in the world.
- Thus, children in India have the unique opportunity to receive a world-class education.

---

15. **Answer: b**

Explanation:

The correct answer is **"The chief cause of pneumonia is a microbe."**

⭐ Key Points

Here let's see the meaning of the given word:

- Here the sentence is talking about **pneuonomia**
- **Pneumonia** is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid or pus (purulent material), causing cough with phlegm or pus, fever, chills, and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause pneumonia.

⭐ Additional Information

- Pneumonia can range in seriousness from mild to life-threatening. It is most serious for infants and young children, people older than age 65, and people with health problems or weakened immune systems.
- Common causes of bacterial pneumonia are Streptococcus pneumoniae (pneumococcus) and, especially in kids, Mycoplasma pneumoniae.

---

16. **Answer: c**

Explanation:

The correct answer is **"immune"**

⭐ Key Points

Here let's learn about the given antonym:

- **Susceptible** -easily influenced or harmed by something:
  - *Eg.*She isn't very susceptible to flattery.

- **Immune -** protected against a particular disease by particular substances in the blood:
  - ***Eg.***Most people who've had chickenpox once are immune to it for the rest of their lives

⭐ Additional Information

Let's learn the sentence meaning:

- What is the **President immune** from?
- **Presidential immunity -** In 1982, the Supreme Court held in Nixon v. Fitzgerald that the president enjoys absolute immunity from civil litigation for official acts undertaken while he or she is president.

---

17. **Answer: d**

Explanation:

The correct answer is **"Abjure"** Here let's see the meaning of the gievn word:

⭐ Key Points

- **Renounce -**to say formally or publicly that you no longer own, support, believe in, or have a connection with something:
  - ***Eg.*** Her ex-husband *renounced* his claim to the family house.
- **Abjure -**to say formally or publicly that you no longer agree with a belief or way of behaving
  - ***Eg.***He *abjured* his religion/his life of dissipation.

⭐ Additional Information

Let's learn some other word meanings:

- **Embrace -**to accept something enthusiastically
  - ***Eg.***This was an opportunity that he would *embrace.*
- **Ignore -**to intentionally not listen or give attention to
  - ***Eg.***She can be really irritating but I try to *ignore* her.

- **Overlook -** to provide a view of, especially from above
  - ***Eg.*** Our hotel room *overlooked* the harbour.

---

18. Answer: d

Explanation:

The correct answer is **"Exploistation"** Here let's see the correct spelling:

⭐ Key Points

- **Exploitation** - the use of something in order to get an advantage from it
  - ***Eg.*** Britain's *exploitation* of its natural gas reserves began after the Second World War.

⭐ Additional Information

Let's learn some other word meanings:

- **Immigration -**the act of someone coming to live in a different country
  - ***Eg.***There are strict limits on *immigration* (into the country).
- **Administrator -**the arrangements and tasks needed to control the operation of a plan or organization
  - ***Eg.*** Teachers complain that more of their time is taken up with *administration* than with teaching.
- **Admission** - the act of agreeing that something is true, especially unwillingly
  - ***Eg.***Her silence was taken as an *admission* of guilt/defeat.

---

19. Answer: d

Explanation:

The correct answer is **"plays fast and loose"**

⭐ Key Points

Let's see the correct substitution:

- A dishonest employee **plays fast and loose** with his boss.

⭐ Additional Information

Let's see how the sentence formed:

- **Plays fast and loose -** behave irresponsibly or immorally.
- Here this sentence means that if the employee is dishonest or mean he/she will behave rude and irresponsible with his boss

---

20. Answer: a

Explanation:

The correct answer is **"The member nations formulated a new policy for peace and tolerance in the Universal Council meeting yesterday."**

⭐ Key Points

Let's see the correct sentence with active voice:

A new policy for peace and tolerance was formulated by the member nations in the Universal Council meeting yesterday ***(active voice)*** - The member nations formulated a new policy for peace and tolerance in the Universal Council meeting yesterday.

⭐ Additional Information

Let's see the rules of active voice:

- In the **active voice** , the subject is performing an action:
  - ***Eg.***The dog chases the ball.
- Notice how the subject, dog, is performing the action, chase, on the target of the action, ball. This is a simple, direct example of the active voice.

---

21. **Answer: c**

Explanation:

The correct answer is, ' **social** '

⭐ Key Points

- **Social** means **related to society or relationships with other people** .
  - Example - *Knowing one's colleagues is a social thing.*
- The correct sentence would be, **The term 'health' refers to human beings' state of physical, psychological, and social well-being**

⭐ Additional Information

- **Political** means **related to politics or government** .
  - Example - *David Murphy is a political figure.*
- **Cultural** means **related to traditions and beliefs** .
  - Example - *This is a part of their cultural heritage.*
- **Economic** means **related to economics or profit-making** .
  - Example - *The country is in an economic meltdown.*

---

22. **Answer: d**

Explanation:

The correct answer is, **'inextricably'**

⭐ Key Points

- **Inextricably** means **cannot be separated** .
  - Example - *Humans and Technology are inextricably linked together.*
- The correct sentence would be, **Health and fitness are inextricably linked** .

⭐ Additional Information

- **Diametrically** means **completely or directly** .
  - Example - ***These two girls diametrically don't follow the school rules.***
- **Explicitly** means **plain or clear, leaving no doubt** .
  - Example - ***The rules were stated explicitly.***
- **Solely** means **simple or exclusively.**
  - Example - ***This is solely my fault.***

---

23. Answer: a

Explanation:

The correct answer is, **'fitness** '

⭐ Key Points

- **Fitness** means **being healthy and in good shape** .
  - Example - ***Jogging every day is good for fitness.***
- The correct sentence would be, **Health and fitness are inextricably linked and we must concentrate on maintaining our health and fitness** .

⭐ Additional Information

- **Flatness** means **a surface without raised areas** .
  - Example - ***The flatness of this desert amazes me.***
- **Fineness** means **the state of something staying real or pure.**
  - Example - ***The fineness of these swords made them valuable even during the old era.***
- **Fatness** means **having excessive weight** .
  - Example - ***The fatness of this toe raises doubts.***

---

24. Answer: c

Explanation:

The correct answer is, '**prioritise** '

⭐ Key Points

- **Prioritise** means **giving more attention and importance** .
  - Example - ***Sam prioritises his work over his health.***
- The correct sentence would be, **If we need to be healthy, we must prioritise our wellness** .

⭐ Additional Information

- **Perceive** means **to understand or view** .
  - Example - ***Each of these people will perceive this message differently.***
- **Consider** means **to examine or think about** .
  - Example - ***The boss is considering Emma for the new role.***
- **Foresee** means **to predict or to anticipate** .
  - Example - ***I can foresee wondering things in your way, waiting for you.***

---

25. **Answer: b**

Explanation:

The correct answer is, ' **must** '

⭐ Key Points

- **Must** is used for **obligations and necessities.**
  - Example - ***I must have a proper job before moving to Canada.***
- The correct sentence would be, **We must start taking care of ourselves because health is wealth.**

⭐ Additional Information

- **May** is used **to express higher possibilities and for permissions** .
  - Example - ***It is sunny now, it may stay this way.***
- **Could** is used as **a past form of can and also, for the polite version of can** .
  - Example - ***When I was little, I could do the handstand.***

- **Can** is used for **abilities and permissions** .
    - Example - ***I can run 100 meters in 12 seconds.***

---

26. Answer: a

Explanation:

Here, the alphabets and their positions are shown below:

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

Logic: The even position letters are increased by 1 and odd letters are as it is.

'BREAK' is written as 'BSEBK'

And,

'FAST' is written as 'FBSU'

Similarly,

'BREAKFAST' is written as '?'

Hence, the code language is '**BSEBKGATT** 'for the given word.

---

27. Answer: b

Explanation:

Here the pattern is:

Hence, the next number is '229 '.

---

28. Answer: a

Explanation:

Here, we need to apply the combination of signs to get the correct equation.

Given: 26*56*4*17*49*7*30

First we will check options one by one as below:

1) +, ÷, -, + ,÷, =

⇒ 26 +**56 ÷ 4**- 17 +**49 ÷ 7**= 30

Applying BODMAS rule, we will get,

⇒**26 + 14** - 17**+ 7**= 30

⇒**30 = 30** , this is possible

2) −, +, ×, +, =, −

⇒ 26 − 56 +**4 × 17**+ 49 = 7 − 30

Applying BODMAS rule, we will get,

⇒**26**− 56**+ 68 + 49**= 7 − 30

⇒ 87 ≠ −23, this is not possible

3) +, −, = ,×, ÷, −

⇒ 26 + 56 − 4 = 17 ×**49 ÷ 7**− 30 3

Applying BODMAS rule, we will get,

⇒**26 + 56**− 4 = **17 × 7**− 30 3

⇒**26 + 56 − 4**= **119 − 303**

⇒ 78 ≠ −184, this is not possible

4) −, ÷, +, −, ×, =

⇒ 26 −**56 ÷ 4**+ 17 − 49 × 7 = 30

Applying BODMAS rule, we will get,

⇒26 − 1 4 + 17 − **49 × 7**= 30

⇒**26**− 1 4**+ 17**− 343 = 30

⇒ −314 ≠ 30, this is not possible

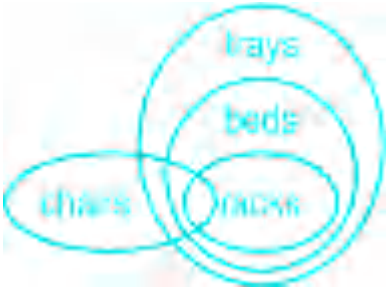
Hence, the combination of signs ' **+, ÷, −, + ,÷, =**' is used to get correct balanced equation.

---

29. Answer: a

Explanation:

The least possible Venn diagram is given below:



Conclusion:

I. Some chairs are beds → Follow → (As some chairs are racks and all racks are beds. So some chairs will be definitely beds)

II. All beds are racks → Does not follow → (As all racks are beds and so some beds are racks. So this is not possible)

III. All trays are chairs → Does not follow → (As some chairs are racks and all racks are beds and all beds are trays. So some trays are racks. And so, some trays are chairs is possible but not all. This is not possible)

Hence, the 'conclusion I' is true.

---

30. Answer: a

Explanation:

Here, the alphabets and their positions are shown below:

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

"ABILITY" is written as "BDLLITY"

And,

"CONDUCT" is written as "DQQDUCT"

Similarly,

"DISPLAY" be written

Hence, the code language is '**EKVPLAY**' for the given word.

---

31. Answer: d

Explanation:

The pattern followed here is:

Here, we have two dices given with a common face 1.

2 → 4

5 → 6

3 → 1

As we can see, all the faces are seen except the number 3.

Thus, number 3 will be the opposite of number 1.

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

---

32. Answer: d

Explanation:

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

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

The mirror image of the given word will be:

Detailed Explanation:-

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

" ends with "

". So, the mirror image will start with "

" → Option 1 is eliminated.

- In the letters is "

" are used and so the letters should not interchange their positions and so mirror image will be '

'. → Option 2 eliminated.

- In the letters is " UA " are used and so the letters should not interchange their positions and so mirror image will be 'AU'. → Option 3 eliminated.

Hence, 'Option 4' is the correct answer.

⭐ Additional Information

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

33. **Answer: b**

Explanation:

BODMAS rule is:

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

We have the equation given as (14 O 7) P 41 M (26 O 3) P (176 N 2) = ?

Alphabet	Sign
N	÷
O	×
M	-
P	+

Using this above, decode it, we will get,

= (14 × 7) + 41 - (26 × 3) + (176 ÷ 2)

Applying BODMAS rule, we will get,

= (14 × 7)+ 41 -(26 × 3)+ 88

=98 + 41- 78 + 88

= 149

Hence, the answer is '149' for the given equation. .

---

34. Answer: d

Explanation:

The pattern followed here is:

The 1st number is added by cube of 6 to get the next consecutive number and the 2nd number is subtracted by cube of 5 to get the next consecutive number and this process is repeated.

Hence, the missing number is328.

---

35. Answer: c

Explanation:

The pattern followed here is:

Logic: The middle letter remains at it place and the 1st three letters and last three letters interchange their positions.

LARGEST : ESTGLAR

and

QUALITY : ITYLQUA

Similarly,

QUICKLY : ?

Hence, the code will be '**KLYCQUI**' for the given word.

---

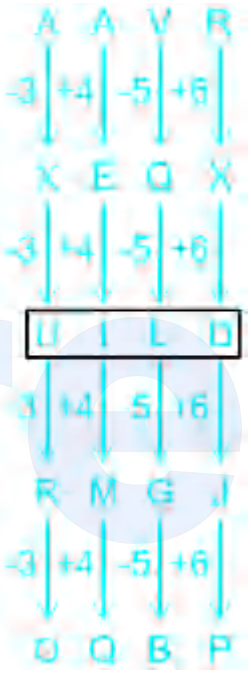
36. Answer: d

Explanation:

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

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

The logic here is:



Hence, the code language is 'UILD' for the missing place.

---

37. Answer: b

Explanation:

The figure is given below:

The shaded portion is the embedded figure.

Hence, '**option 2**' is the correct answer.

---

38. Answer: c

Explanation:

The logic here is:

Logic: (First number) ^{2} **+ 5 = Second number.**

So, we will check the options one by one:

1) 6 : 41 ⇒ $(6)^2 + 5 = 36 + 5 = 41$

2) 4 : 21 ⇒ $(4)^2 + 5 = 16 + 5 = 21$

3) 8 : 70 ⇒ $(8)^2 + 5 =$ **69 ≠ 70**

4) 7 : 54 ⇒ $(7)^2 + 5 = 49 + 5 = 54$

Hence, the number pair '**8 : 70**' is the odd one out.

---

39. Answer: a

Explanation:

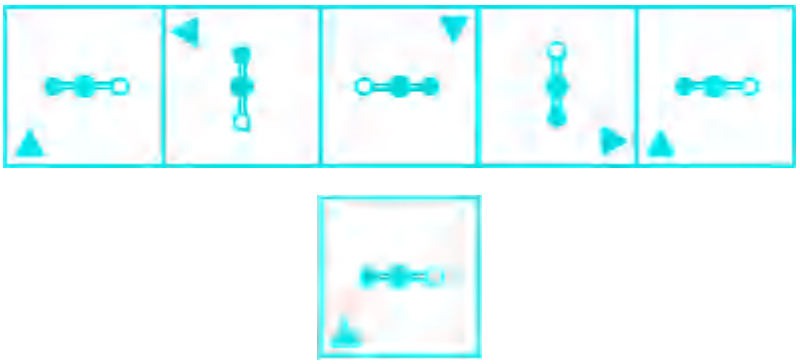
The pattern here is:

1) The triangle is moving from one corner to another and the point is moving in an anticlockwise direction. Also, the middle image is moving in a clockwise direction.

2) we can say that the missing image will look the same as that in figure 1.

Thus, options 2 and 3 are eliminated because the triangle is in the wrong place and facing in the wrong direction too.

And, option 4 is eliminated because the middle image is placed wrong.



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

---

40. Answer: d

Explanation:

BODMAS Rule is:

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

Given : (132 ÷ 12) + (6 × 11) + 18 − (64 ÷ 16) × 8 = 70

First, we will check all the options as below:

1) 11 and 8

$\Rightarrow (132 \div 12) + (6 \times 8) + 18 - (64 \div 16) \times 11 = 70$

Applying BODMAS rule we will get,

$\Rightarrow 11 + (6 \times 8) + 18 - 4 \times 11 = 70$

$\Rightarrow 11 + 48 + 18 - 44 = 70$

$\Rightarrow 33 \neq 70$, this is not possible

2) 12 and 6

$\Rightarrow (132 \div 6) + (12 \times 11) + 18 - (64 \div 16) \times 8 = 70$

Applying BODMAS rule we will get,

$\Rightarrow 22 + (12 \times 11) + 18 - 4 \times 8 = 70$

$\Rightarrow 12 + 132 + 18 - 32 = 70$

$\Rightarrow 130 \neq 70$, this is not possible

3) 8 and 6

$\Rightarrow (132 \div 12) + (6 \times 11) + 18 - (64 \div 16) \times 8 = 70$

Applying BODMAS rule we will get,

$\Rightarrow 11 + (6 \times 11) + 18 - 4 \times 8 = 70$

$\Rightarrow 11 + 66 + 18 - 32 = 70$

$\Rightarrow 63 \neq 70$, this is not possible

4) 12 and 11

$\Rightarrow (132 \div 11) + (6 \times 12) + 18 - (64 \div 16) \times 8 = 70$

Applying BODMAS rule we will get,

$\Rightarrow 12 + (6 \times 12) + 18 - 4 \times 8 = 70$

⇒12 + 72 + 18- 32 = 70

⇒ 70 = 70, this is possible

Hence, the two numbers '12 and 11' are interchanged to get the correct equation.

---

41. Answer: a

Explanation:

Here, the pattern is:

Logic: first number × 5 + 7 = Second number

1) 12 : 67

⇒ 12 × 5 + 7 = 60 + 7 = 67

And,

2) 21 : 112

⇒ 21 × 5 + 7 = 105 + 7 = 112,

Similarly,

3) 17 : ?

⇒ 17 × 5 + 7 = 85 + 7 = **92**

Hence, the missing term is92.

---

42. Answer: a

Explanation:

The logic here is:

Logic: first number × 4 + (first number - 7) = Second number

17 : 78 $\Rightarrow 17 \times 4 + (17 - 7)$ = 68 + 10 = 78

15 : 68 $\Rightarrow 15 \times 4 + (15 - 7)$ = 60 + 8 = 68

Thus, we will have for

28: ? $\Rightarrow 28 \times 4 + (28 - 7)$ = 112 + 21 = 133

Hence, the missing number is**133**.

---

43. Answer: b

Explanation:

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

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

2) As we can see the given word ends with 2, so the mirror image will have 2 as the first number.

3) Number 2 is the water image in option 4, so option 4 is eliminated.

4) Letter a is the water image in options 1 and 3, so both the options are eliminated.

Thus, we have only one option left i.e. option 2.

Hence, the mirror image of the given word is '**option 2**'.

---

44. **Answer: d**

Explanation:

Logic : [(First number × 6) - Second number] ÷ 2 = Third number

• First row - 14, 64, 10

⇒ [(14 × 6) - 64] ÷ 2

⇒ [84 - 64] ÷ 2

⇒ 20 ÷ 2 = 10

• Second row - 7, 18, 12

⇒ [(7 × 6) - 18] ÷ 2

⇒ [42 - 18] ÷ 2

⇒ 24 ÷ 2 = 12

Similarly, third row - 23, 88, ?

⇒ [(23 × 6) - 88] ÷ 2

⇒ [138 - 88] ÷ 2

⇒ 50 ÷ 2 = **25**

Hence, '**option 4**' is the correct answer.

---

45. **Answer: c**

Explanation:

Here, the alphabets and their positions are shown below:

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

The logic here is:

Hence, the code language is '**AKWV**' for the missing place.

---

46. Answer: a

Explanation:

The logic here is:

Logic: (first number) ^{2} **× 3 - 1 = Second number**

3 : 26 $\Rightarrow 3^2 \times 3 - 1$ = 26

5 : 74 $\Rightarrow 5^2 \times 3 - 1$ = 74

Thus, for the missing term, we have:

$7 : ? \Rightarrow 7^2 \times 3 - 1 = 146$

Hence, the number **146** is the missing term.

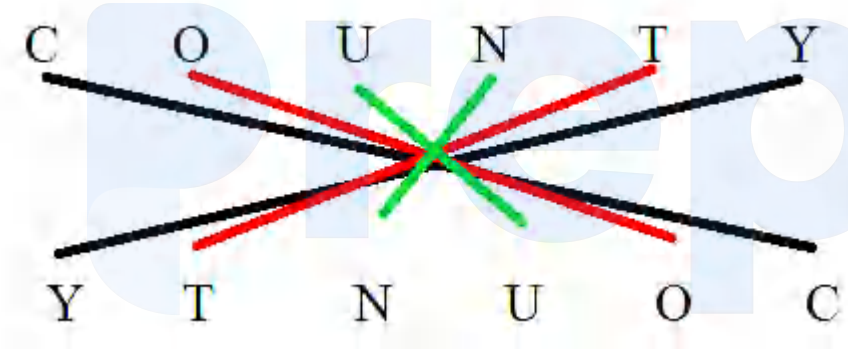
---

47. Answer: a

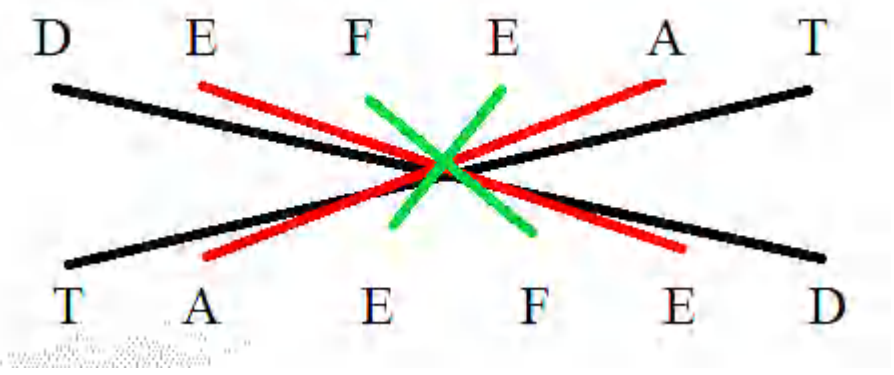
Explanation:

The logic here is:

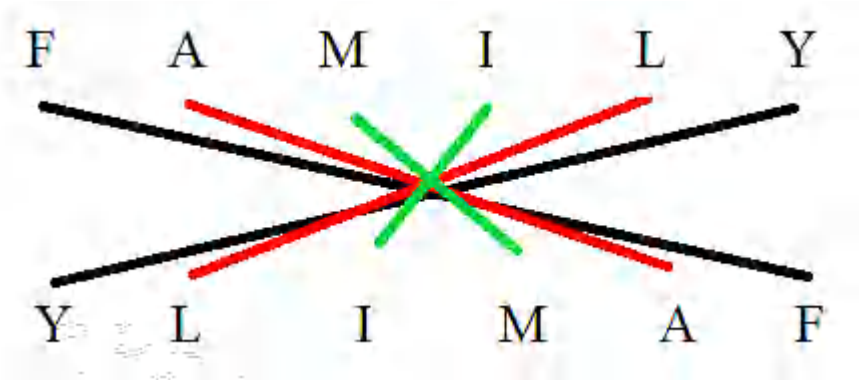
For the word 'COUNTY' is written as 'YTNUOC' :



And, for the word 'DEFEAT' is written as 'TAEFED' :



So, we have for FAMILY is written as YLIMAF :



Thus, the code language is '**YLIMAF**' for the given word.

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

---

48. Answer: b

Explanation:

Here, we have given that:

13 Jan 2006 is Friday.

Since 2007 is an ordinary year = 1 odd day and 2008 is a leap year = 2 odd days

So, 13 Jan 2008 is Friday + 1 + 1 = Sunday (As February is not count)

Next, we will count the remaining days of the month of the year 2008 as:

= 18 (Jan) + 29 (Feb) + 28 (Mar) = 75 = 75/7= 10 weeks and 5 are remaining.

Thus, 28 March 2008 = Sunday + 5 = Friday

Hence, the day will be**Friday** 28 March 2008.

---

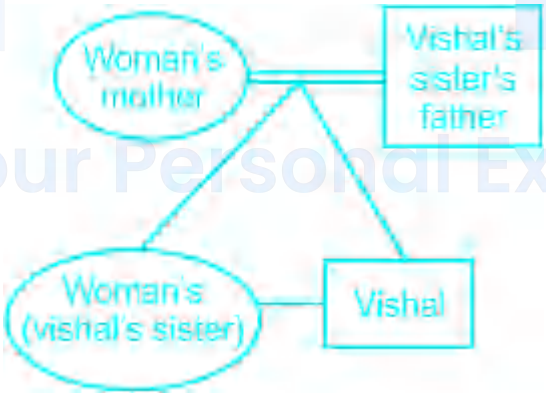
49. Answer: c

Explanation:

According to the table we have:

Symbol in Diagram	Meaning
○	Female
□	Male
=	Married Couple
—	Siblings
|	Difference of A Generation

According to the statements, we have the family tree as:



Hence, the lady is**sister**of Vishal.

---

50. Answer: a

Explanation:

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

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

2) As we can see the given word ends with y, so the mirror image will have y as the first letter. But we see that, there is no change in option 2 and in option 4 it is the water image. So, both are eliminated.

3) Letter t is water image in option 3, so option 3 is also eliminated.

Thus, we have only one option left i.e. option 1.

Hence, the mirror image of the given word is '**option 1**'.

---

51. Answer: c

Explanation:

Given:

2z = x + y

Calculation:

⇒ $\frac{x}{x-z} + \frac{y}{y-z}$

⇒ $\frac{xy-xz+xy-zy}{xy-xz-zy+z^2}$ (Taking LCM of denominators)

⇒ $\frac{2xy-z(x+y)}{xy-z(x+y)+z^2}$

⇒ $\frac{2xy-2z^2}{xy-2z^2+z^2}$ ($x+y=2z$)

⇒ $\frac{2(xy-z^2)}{xy-z^2}$

⇒ 2

Hence, the value of $\frac{x}{x-z}+\frac{y}{y-z}$ is 2

---

52. Answer: a

Explanation:

Given:

Marked price = C.P + 30 % of C.P

Discount = 20 %

Concept Used:

Selling Price = Marked Price – Discount

Profit = S.P – C.P

Calculation:

⇒ Let the cost price be 100

⇒ Marked price = 100 + ($\frac{30}{100}$ × 100) = Rs. 130

⇒ Discount percent = 20 %

⇒ Discount = 20 % of marked price = $\frac{20}{100} \times 130$ = Rs. 26

⇒ Selling Price = Marked Price – Discount = 130 – 26 = Rs. 104

⇒ Profit = S.P – C,P = 104 – 100 = Rs. 4

⇒ Profit Percent = $\frac{Profit}{CP}$ × 100 = $\frac{4}{100}$ ×100 = 4%

Hence, the profit percent shopkeeper make is 4 %

---

53. **Answer: a**

Explanation:

Given:

Ram covered 200 km in 10 hours,

Firstly he started with bike of speed 15 km/h and then with a car if speed 25 km/h

Calculations:

let the distance covered by bike is x km, then distance covered by car is (200 - x)km.

Now, according to the Question,

$\frac{x}{15} + \frac{200-x}{25} = 10$

$\Rightarrow \frac{5x+600-3x}{75} = 10$

$\Rightarrow 2x + 600 = 750$

$\Rightarrow 2x = 150$

$\Rightarrow x = 75$ km

and distance covered by car is 200 - 75 = 125 km

So, the ratio if distance covered by bike and car is 75 : 125 = 3 : 5

Hence, the required ratio is 3 : 5.

---

54. **Answer: b**

Explanation:

Given:

P = 227

Q = 232

P varies directly as Q

Concept Used:

p = k × q, where k is the constant of variation

Calculation:

⇒ As given in the question, P varies directly to Q, therefore

⇒ P = K × Q

⇒ 227 = K × 232

⇒ K =

⇒ Putting the value in the formula,

⇒ P = $\frac{227}{232}$ × Q

Since, Q = 116, therefore

⇒ P = $\frac{227}{232}$ × 116

⇒ P = $\frac{227}{2}$ = 113.5

Hence, the value of P is 113.5

---

55. Answer: b

Explanation:

Given:

x − y = 25

xy = 78

Concept Used:

$(x-y)^2 = x^2 + y^2 - 2xy$

Calculation:

⇒ x – y = 25

⇒ On squaring both sides, we get

⇒ $x^2 + y^2 - 2xy = 625$

⇒ Putting the given values,

⇒ $x^2 + y^2 - 2 \times 78 = 625$

⇒ $x^2 + y^2 = 625 + 156$

⇒ $x^2 + y^2 = 781$

Hence, the value of $x^2 + y^2$ is 781

---

56. Answer: d

Explanation:

Given:

Side of cube = $6\sqrt[3]{4}$ cm

Length of cuboid = 12 cm

Breadth of cuboid = 9 cm

Concept Used:

Volume of cube = $(side)^3$

Volume of cuboid = length × breadth × height

Length of diagonal of cuboid = $\sqrt{l^2 + b^2 + h^2}$

Calculation:

⇒ Let the length of diagonal be d cm

⇒ When you convert one solid shape to another, its volume remains the same, no matter how different the new shape is.

⇒ Therefore, Volume of cube = Volume of cuboid

⇒ $(6\sqrt[3]{4})^3$ = 12 × 9 × Height

⇒ Height = $\frac{6\times6\times6\times4}{12\times9}$ = 8 cm

⇒ d = $\sqrt{12^2 + 9^2 + 8^2}$

⇒ d = $\sqrt{144 + 81 + 64}$ = $\sqrt{289}$

⇒ d = 17 cm

Hence, the length of the diagonal is 17 cm

---

57. Answer: a

Explanation:

Given:

Ratio of Meenal and Nitu's speed = 5 : 7

Distance of race = 1200 m

Start distance of Meenal = 500 m

Concept Used:

$Speed = \frac{Distance}{Time}$

Calculation:

⇒ Let the speed of Meenal and Nitu be 5 and 7 units respectively

⇒ Distance to be covered by Meenal = 1200 – 500 = 700 m

⇒ Time taken by Meenal to cover 700 metres = 700 ÷ 5 = 140 time units

⇒ Distance covered by Nitu in 140 time units = Speed × Time = 7 × 140 = 980 m

⇒ Meenal won by = 1200 – 980 = 220 m

Hence, Meenal wins by 220 metre.

---

58. Answer: c

Explanation:

Given:

The tax on a commodity is diminished by = 14 %

Consumption increase = 10 %

Concept Used:

Revenue is directly proportional to consumption and tax, i.e. Revenue = C × T

Calculation:

⇒ Initial Revenue = C × T

⇒ New Tax = ($T - \frac{14}{100}T$)

⇒ New Consumption = ($C + \frac{10}{100}C$)

⇒ New Revenue = ($\frac{86}{100}T \times \frac{110}{100}C$)

⇒ New Revenue = 0.946C × T

⇒ Revenue decreases,

⇒ % decrease in revenue = $\frac{c\times t-0.946\times c\times t}{ct}$ × 100 = 5.54 %

Hence, the revenue is decreased by 5.54 %

---

59. Answer: d

Explanation:

Calculation:

As given in the figure,

the students who wore cement-colored dresses are = 20 %

Number of students who wore cement-colored dresses are

⇒ 20 % of 60 = $\frac{20}{100}\times 60$ = 12

Hence, there are 12 students who are wearing a cement-colored dresses.

---

60. Answer: c

Explanation:

Given:

cosec 2 θ + cot 2 θ = $\frac{1}{3}$

Formula used:

cosec 2 θ - cot 2 θ = 1

Calculations:

cosec 2 θ + cot 2 θ = $\frac{1}{3}$

On multiplying by (cosec 2 θ - cot 2 θ) both side , we get:

⇒(cosec 2 θ - cot 2 θ)(cosec 2 θ + cot 2 θ) = (cosec 2 θ - cot 2 θ) $\frac{1}{3}$

⇒ cosec 4 θ - cot 4 θ = 1 × $\frac{1}{3}$

⇒ cosec 4 θ - cot 4 θ = $\frac{1}{3}$

Hence, the required value is $\frac{1}{3}$.

---

61. Answer: c

Explanation:

Given:

Radius = 4.2 cm

Concept Used:

Tota surface area of a hemisphere = $3\pi r^2$

Calculation:

⇒ Total surface area of hemisphere = $3\pi r^2$

⇒ Total surface area = 3 × $\frac{22}{7}$ × 4.2 × 4.2 = 166.32 cm^2

Hence, Total surface area of the hemisphere is 166.32 cm^2

---

62. Answer: a

Explanation:

Given:

40% of Ranita's income = 56% of Bhaskar's income

Increase in Ranita's income = Rs 800

Increase in Bhaskar's income = Rs 2000

Ratio of the incomes of Ranita and Bhaskar after increase = 4 : 3

Calculation:

⇒ Let the Ranita's income be Rs x and Bhaskar's income be Rs y.

⇒ According to the question,

⇒ 40% of x = 56% of y

⇒ $\frac{40}{100} \times x = \frac{56}{100} \times y$

⇒ $\frac{2x}{5} = \frac{14y}{25}$

⇒ x = $\frac{14y}{5} \times \frac{1}{2} = \frac{14y}{10}$ → (1)

⇒ Now, after increase in the income,

⇒ Ranita's income = x + 800

⇒ Bhaskar's income = y + 2000

⇒ $\frac{x+800}{y+2000} = \frac{4}{3}$

⇒ x = $\frac{4y+8000}{3} - 800 = \frac{4y+8000-2400}{3} = \frac{4y+5600}{3}$ → (2)

⇒ Equation both the equations, we get

⇒ $\frac{14y}{10} = \frac{4y+5600}{3}$

⇒ $42y = 40y + 5600 \times 10$

⇒ $y = \frac{56000}{2} = 28,000$

⇒ Now, $x = \frac{14 \times 28000}{10} = 14 \times 2800 = 39200$ Rs

⇒ Combined income of Ranita and Bhaskar = 28000 + 39200 = Rs 67,200

Hence, the combined income of Ranita and Bhaskar is Rs 67,200

63. **Answer: b**

Explanation:

Given:

Number of family members = 7

Average age of grandparents = 67 years

Average age of parents = 35 years

Average age of grandchildren = 6 years

Concept Used:

Average = Sum of terms ÷ Number of terms

Calculation:

⇒ The sum of grandparents' age = 67 × 2 = 134 years

⇒ The sum of parents' age = 35 × 2 = 70 years

⇒ The sum of children's age = 6 × 3 = 18 years

⇒ The present average age of family = $\frac{134+70+18}{7}$ = $\frac{222}{7}$ = $31\frac{5}{7}$ years

Hence, the present age of family is $31\frac{5}{7}$ years.

64. **Answer: c**

Explanation:

Given:

Total number of persons = 18

Increase in average weight = 2.5 kg

Weight of replaced person = 72 kg

Concept Applied:

Sum of n terms = Average × Number of terms

Calculation:

⇒ Total weight increased = 18 × 2.5 = 45 kg

⇒ Weight of replaced person = 72 kg

⇒ Weight of new person = 72 + 45 = 117 kg

Hence, the weight of the new person is 117 kg.

---

65. **Answer: c**

Explanation:

Given:

Time taken by 15 people to complete a job = 5 days

Concept Used:

Total work = Number of people × Time taken

Calculation:

⇒ Total work = 15 × 5 = 75 units

⇒ Time taken by 25 people to complete the work = 75 ÷ 25 = 3 days

Hence, 25 people can finish the work in 3 days.

---

66. **Answer: c**

Explanation:

Given:

Curved surface Area = 225 cm^2

Area of base = 169 cm^2

Concept Used:

Curved surface area of cylinder = $2\pi rh$

Area of the base = πr^2

Total surface area of cylinder = $2\pi r(r+h)$

Calculation:

⇒ Total surface area = $2 \times \pi r^2 + 2\pi rh$

⇒ Putting the given values in the formula,

⇒ Total surface area = 2 × 169 + 225

⇒ Total surface area = 338 + 225 = 563 cm^2

Hence, the total surface area is 563 cm^2 .

---

67. **Answer: c**

Explanation:

Given:

4 ÷ [2 + 2 ÷ {2 + 2 ÷ (2 + $\frac{2}{3}$)}]

Concept Used:

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

Calculation:

$\Rightarrow 4 \div [2 + 2 \div \{2 + 2 \div (2 + \frac{2}{3})\}]$

$\Rightarrow 4 \div [2 + 2 \div \{2 + 2 \div \frac{8}{3}\}]$

$\Rightarrow 4 \div [2 + 2 \div \{2 + 2 \times \frac{3}{8}\}]$

$\Rightarrow 4 \div [2 + 2 \div \{2 + \frac{6}{8}\}]$

$\Rightarrow 4 \div [2 + 2 \div \frac{22}{8}]$

$\Rightarrow 4 \div [2 + \frac{16}{22}]$

$\Rightarrow 4 \div \frac{60}{22}$

$\Rightarrow 4 \times \frac{22}{60} = \frac{22}{15}$

Hence, the simplified value of the expression is $\frac{22}{15}$

---

68. Answer: b

Explanation:

Given:

$(ab + bc + ca) = 0$

Calculation:

⇒ ab + bc + ca = 0

⇒ bc + ca = − ab (equation 1)

⇒ ab + ca = − bc (equation 2)

⇒ ab + bc = − ca (equation 3)

⇒ $(\frac{1}{a^2-bc}+\frac{1}{b^2-ca}+\frac{1}{c^2-ab})$

⇒ Putting the value of − bc, − ab & −ca from equations 1, 2 & 3 in above equations we get,

⇒ $(\frac{1}{a^2+ab+ca}+\frac{1}{b^2+ab+bc}+\frac{1}{c^2+bc+ca})$

⇒ ($\frac{1}{a(a+b+c)}+\frac{1}{b(a+b+c)}+\frac{1}{c(a+b+c)}$

⇒ By taking LCM we get,

⇒ $\frac{(ab+bc+ca)}{(abc)(a+b+c)}$

⇒ Putting (ab + bc +ca) =0

⇒ $\frac{0}{(abc)(a+b+c)}$ = 0

Hence, the value of $(\frac{1}{a^2-bc}+\frac{1}{b^2-ca}+\frac{1}{c^2-ab})$ is 0

---

69. Answer: b

Explanation:

Concept Used:

Percentage of money spent = Percentage of district × Total spend of the country

Calculation:

⇒ Percentage of money spent on districts D & E = 16 + 18 = 34 %

⇒ Percentage of money spent on districts A & F = 12 + 12 = 24 %

⇒ Thus, money spent on districts D & E exceeds that on E & F by 34 – 24 = 10%

⇒ 10 % of Total Spend = $\frac{10}{100} \times 1562000$ = Rs. 1,56,200

Hence, the money spent on districts D & E exceeds that on E & F by Rs. 1,56,200

---

70. Answer: c

Explanation:

Given:

Candidates	Number of GATE exams attempted	Number of exams cleared
Suresh	15	-
Rajesh	-	5
Dinesh	20	-
Mahesh	18	7
Shivaji	12	8
Thaman	17	9

Number of times Rajesh took the exam = 30% less than the number of times Dinesh took

Calculation:

⇒ Number of attempts by Dinesh = 20

⇒ So, Number of times Rajesh took the exam = 20 – 30% of 20

⇒ Number of times Rajesh took the exam = $20 - \frac{30}{100} \times 20 = 20 - 6 = 14$

⇒ Approximate percentage of times that Rajesh cleared the exam = $\frac{5}{14} \times 100 = 0.3571 \times 100 = 35.71\%$

Hence, the approximate percentage of times that Rajesh cleared the exam out of the times he attempted is 35.71%

---

71. Answer: c

Explanation:

Given:

Profit % for A = 10 %

Profit % for B = 5 %

Selling Price for B = Rs. 4,06,000

Concept Used:

Calculation:

⇒ Let the cost price for A be Rs 100

⇒ Cost price for B = 100 + 10% of 100 = Rs. 110

⇒ Selling price of the car by B on a profit of 5 % = 110 + 5 % of 110 = $110 + \frac{5}{100} \times 110 = 110 + 5.5 = 115.5$ Rs

⇒ Cost of article to A when C pays Rs. 115.5 = Rs. 100

⇒ Cost of Article to A when C pays Rs. 4,06,000 = $\frac{100}{115.5} \times 406000$ = Rs. 351,515.12 ≈ Rs. 3,51,515

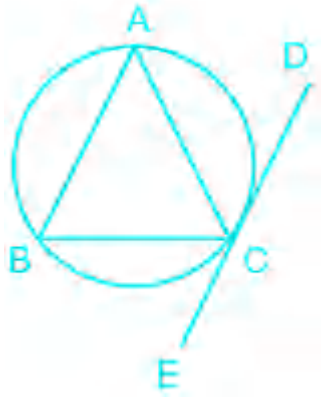
Hence, The cost price of the car for A is Rs. 3,51,515

---

72. Answer: a

Explanation:

Given:



DE is a tangent to the circle at C.

∠ACD = 65° and ∠ACB = 35°.

Concept used:

According to the alternate segment theorem, the angle between a tangent and a chord is equal to the angle made by the chord in the alternate segment of the circle.

Calculations:

According to alternate segment theorem, we have:

∠BAC = ∠BCE ----------(1)

Now, according to question,

∠BCE + ∠ACB + ∠ACD = 180° (As, Sum of angles of triangle is 180°)

⇒ ∠BCE + 35° + 65° = 180°

⇒∠BCE + 100° = 180°

⇒∠BAC = 80° ---- From equation (1)

Hence, The value of ∠BAC = 80°.

73. **Answer: c**

Explanation:

Given:

Marked price of a dozen books = Rs. 120

Discount = 15 %

Concept Used:

Selling Price = Marked Price – Discount

Calculation:

⇒ Marked Price of 12 books = Rs. 120

⇒ Marked Price of 1 book = 120 ÷ 12 = Rs. 10

⇒ Discount = 15 % of MP = $\frac{15}{100}$ × 10 = Rs. 1.5

⇒ Selling Price of 1 book = 10 – 1.5 = Rs. 8.5

⇒ Number of books that can be bought for Rs. 51 = 51 ÷ 8.5 = 6

Hence, 6 books can be bought for Rs. 51

74. **Answer: c**

Explanation:

Given:

Principal Amount, P = Rs 35,000

Rate, r = 6% p.a.

Time, n = 2 years

Concept Used:

Amount = Principal $\left(1+\frac{r}{100}\right)^{n}$

Calculation:

⇒ According to the question, interest is being compounded half-yearly,

⇒ So, Time = 2 years = 4 half-years

⇒ Rate = 6% per annum = 3% per half-year

⇒ Amount = 35000 × $\left(1+\frac{3}{100}\right)^{4}$

⇒ Amount = $35000 \times \frac{103}{100} \times \frac{103}{100} \times \frac{103}{100} \times \frac{103}{100}$

⇒ Amount = Rs 39,393

⇒ C.I. = Amount – Principal = Rs 39393 – 35000 = Rs 4,393

Hence, the compound interest for the given principal, rate and time is Rs 4393

---

75. Answer: c

Explanation:

Given:

Divisor = 18

Concept Used:

Divisibility Rule of 18 = Number should be even and sum of its digits should be divisible by 9

Calculation:

⇒ For the number 571032,

⇒ 571032 = 5 + 7 + 1 + 3 + 2 = 18, is divisible by 9

⇒ So, it is divisible by 18 also.

⇒ For the number 732546,

⇒ 7 + 3 + 2 + 5 + 4 + 6 = 27, is divisible by 9

⇒ So, it is divisible by 18 also.

⇒ For the number 245798,

⇒ 2 + 4 + 5 + 7 + 9 + 8 = 35, is not divisible by 9

⇒ So, it will not be divisible by 18 also.

⇒ For the number 459018,

⇒ 4 + 5 + 9 + 1 + 8 = 27, is divisible by 9

⇒ So, it is divisible by 18 also.

Hence, the number which is not divisible by 18 is 245798

---

76. **Answer: d**

Explanation:

The correct answer is **Sourav Ganguly**.

⭐ **Key Points**

- **Sourav Ganguly**
  - **Sourav Chandidas Ganguly** (born 8 July 1972), also known as **Dada, is a former captain of the Indian national cricket team and a cricket administrator** .
  - In **2019** , he was elected as the **BCCI's (Board of Control for Cricket in India) 39th president** .
  - He is recognized as the **Indian cricket Maharaja** .

- In addition to becoming one of the **best batsmen** in the world throughout his playing career, **Ganguly also became one of the most effective captains of the Indian national cricket team** .
- He was a l **eft-handed opening batsman** in the cricket.
- On **November 17, 2021** , Sourav Ganguly became **the chairman of the ICC men's cricket committee** .
- In **2008** , Ganguly became the **captain of the Kolkata Knight Riders** side for the Indian Premier League Twenty20 cricket competition.
- After a home Test series against Australia in the same year, he announced **his retirement from international cricket** .

⭐ Additional Information

- **Other Achievements**
- In **2004** , Ganguly received **the Padma Shri** , one of India's highest civilian honours.
- On **May 20, 2013** , the West Bengali government presented Ganguly with the **Banga Bibhushan Award** .
- **International Cricket Council (ICC)**
  - The **organisation that oversees cricket internationally** is called the **International Cricket Council (ICC)** .
  - Representatives from **Australia, England, and South Africa** founded it as the **Imperial Cricket Conference in 1909** .
  - The **International Cricket Conference became its new name in 1965, and it adopted its current name in 1987** .
  - ICC's headquarters is in **Dubai, United Arab Emirates** .
  - Currently, there are **108 countries that make up the ICC, including 96 Associate Members and 12 Full Members** that participate in Test matches.
  - The **Cricket World Cup and the T20 World Cup** are the two most important international competitions in cricket, and both are organised and governed by the ICC.

---

77. **Answer: d**

Explanation:

The correct answer is **27**.

⭐ Key Points

- **One Health Consortium**
  - A **"One Health" consortium** has been launched by the **Department of Biotechnology (DBT)** . This is the **DBT's first "One Health"** project.
  - In **October2021** , the DBT's first "One Health" project was **introduced by Dr. Renu Swarup, Secretary of the Department of Biotechnology** .
  - A total of **27 organisations constitutes the "One Health Consortium,"** which is supervised by the **DBT-National Institute of Animal Biotechnology, Hyderabad** .
  - The consortium consists of**AIIMS-Jodhpur, AIIMS-Delhi, MAFSU-Nagpur, Assam agricultural and veterinary university, IVRI-Bareilly, GADVASU-Ludhiana, TANUVAS- Chennai and many more ICMR, ICAR, centres and wildlife agencies** .
  - **Objective of the project:**
    - It **envisages for conducting surveillance** of significant bacterial, viral, and parasitic diseases caused by zoonotic and transboundary pathogens throughout the country.
    - The project also considers the **utilisation of existing diagnostic tests as well as the creation of new approaches** for surveillance and understanding the spread of developing diseases.
  - The One Health Consortium has been given a **budget of Rs. 31.110884 crores for three years** .

⭐ Additional Information

- **One Health Concept**
  - One Health is a concept that acknowledges the **interrelationship between human health, animal health, and the health of the ecosystem** we all share.
  - The **one health model encourages an interdisciplinary approach to disease management** in order to manage both existing and emerging zoonotic threats.

- Its goal is to promote **research partnerships and sharing of knowledge at many levels across diverse disciplines, such as human health, animal health, plant health, soil health, environmental health, and ecosystem health** , in order to enhance, defend, and protect the health of all species.

- **Significance of One Health Consortium**
  - The **Covid-19 pandemic** highlighted the importance of "One Health" principles in **managing infectious diseases, particularly global efforts to avoid and limit zoonotic infections** .
  - To **minimize the harm caused by future pandemics** , it will provide a holistic approach to understand the health of human, animals, and wildlife.

---

78. Answer: b

Explanation:

The correct answer is Unbreakable - Abhinav Bindra.

⭐ Key Points

- **Unbreakable**
  - **Unbreakable** is a biography and **autobiography of Mary Kom** which was co-authored by **Dino Serto and Mary Kom** .
  - It was published by **Harper Collins** in late **2013** .
  - The unbreakable Mary Kom, who never let anything to stand in the **way of her quest or victory, is the subject of the book** .
  - She put in a **lot of effort to become the world's leading woman boxer** , and proved to the world that anyone can succeed in their chosen field, even a farmer's daughter with **mere hard work and the highest dedication** .
  - Mary Kom is also mentioned in **The Good Night Stories for Rebel Girls** , a book for kids that contains brief stories about female role models.
  - Additionally, Kom is a part of the **2016 documentary With this Ring** , which covers the achievements of India's women's boxing team over the span of six years, from 2006 to 2012.

⭐ Additional Information

- M.C. Mary Kom
  - **Mangte Chungneijang Mary Kom, an Indian amateur boxer** and politician who is currently serving in the Rajya Sabha, was born on **November 24, 1982** .
  - She is the **only female boxer to win the World Amateur Boxing Championship six times, the only female boxer to have been in the top three of each of the first seven World Championships, and the only boxer (male or female) to have earned eight medals in World Championship competition** .
  - She was the **first female boxer from India to win a gold medal at the Asian Games in Incheon** , South Korea, in 2014, and she also became the first **Indian woman to win a gold medal at the Commonwealth Games** in 2018.
  - The **International Boxing Association (amateur) (AIBA)** had also ranked her as the best female light-flyweight in the world.
- Achievements
  - Padma Vibhushan (Sports), 2020
  - Padma Shri (Sports), 2006
  - Arjuna Award (Boxing), 2003
  - Padma Bhushan (Sports), 2013
  - Major Dhyan Chand Khel Ratna award, 2009

---

79. **Answer: d**

Explanation:

The correct answer is Value of second-hand goods.

⭐ Key Points

- Value Added Method
  - In a circular flow, **national income** is calculated using the **value-added method** at various phases of the production process. In the production process, it indicates the **value added for each unit produced** .

- Every business **adds value to the goods** it purchases as an intermediary good from other firms.
- The value of **national income** is the **sum total of value added by all organisations** .
- The **following steps are used to calculate national income** using the value-added method:
  - **Step 1**
  - The first step is to **identify and classify** all value of producing enterprises in **primary, secondary, and tertiary sectors** .
  - **Step 2**
  - Next, the **Gross Domestic Product at Market Prices (GDP $_{MP}$)** is calculated.
  - Determine the Gross Value Added at Market Price (GVA $_{MP}$) of each sector for the purpose of calculating the GDP $_{MP}$;**i.e. ∑GVA $_{MP}$ = GDP $_{MP}$**
  - **Step 3**
  - Next, determine domestic income (NDP $_{FC}$).
  - **Value of depreciation and net indirect tax** are deducted from the gross domestic product at market price (GDP $_{MP}$) to calculate domestic income; **NDP $_{FC}$ = GDP $_{MP}$ – Depreciation – Net Indirect Taxes**
  - **Step 4**
  - To determine national income **(NNP $_{FC}$)**, the final step is to calculate **Net Factor Income from Abroad (NFIA)** .
  - The NFIA is added along with the country's domestic income; **National Income or NNP $_{FC}$ = Domestic Income or NDP $_{FC}$ + NFIA**

⭐ <u>Additional Information</u>

- **Value Added**
  - Value-added describes the **value that a company adds to a raw material or intermediate good** during the production process.
  - The difference between the **value of output and the value of intermediate products** is used to calculate the national income using the value-added method.

Value Added = Value of Output – Intermediate Consumption

- The value-added method, prevents double counting, which is a major mistake while calculating national income , and therefore this method is most frequently used to estimate national income.
- **Value of second-hand goods should not be considered in national income because they are already valued in the year they were manufactured** . The current flow of goods and services will be disrupted if the value of these goods is added again.

---

80. Answer: a

Explanation:

The correct answer is **1921-1951**.

⭐ **Key Points**

- **The decades 1921-1951**
  - In India it is referred to as a **steady population growth period** .
  - The **mortality rate decreased** as a result of **widespread improvements** in the nation's health and sanitization.
  - **Distribution networks were also improved** by better transportation and communication systems.
  - This phase saw a **stronger growth rate** than the previous one due to the continued high crude birth rate.
  - Considering the **Great Economic Depression, the 1920s, and World War II** as a backdrop, this was impressive.

⭐ **Additional Information**

- **The period from 1901-1921**
  - India's population growth is referred to as a period of **the stagnant or stationary phase between 1901 and 1921** .
  - **Growth during this time period was incredibly slow** , even registering a negative growth rate between 1911 and 1921.

    - The high birth and death rates during this time period were primarily caused by **poor health and medical services, widespread illiteracy, and an ineffective distribution system for food and other essentials** .
- **The decades 1951-1981**
    - It is known as the **population explosion period in India** because the country's population experienced a **sharp decline in mortality rates while experiencing high fertility rates** .
    - The **annual average growth** rate reached **2.2** percent.
- **Post-1981 till present**
    - Despite continuing to increase at a rapid rate, the **population of the nation has begun to progressively slow down** .
    - Such population growth is attributed to a **decline in the crude birth rate** .

---

81. Answer: d

Explanation:

The correct answer is Padma Subramaniam.

⭐ Key Points

- **Padma Subramaniam**
    - **Indian classical Bharata Natyam** dancer **Padma Subrahmanyam** was born in Madras on **February 4, 1943** .
    - She is also an **Indologist, choreographer, teacher, researcher, and author** .
    - She is well-known both in India and abroad; **Russia, Australia, Japan, and other nations have produced films** and documentaries in her honour.
    - She is highly renowned for creating and founding the dance style known as **Bharat Nrityam** .
    - She accepted a contract from the Kanchi Paramacharya to design the **108 sculptures of Lord Nataraja and goddess Parvathi in black granite** for the Nataraja temple in Satara.
    - She has won more than **100 awards** for her dancing, including;
        - **the Sangeet Natak Akademi Award (1983)**
        - **Padma Shri (1981)**

        - Padma Bhushan (2003)

⭐ Additional Information

- Alarmel Valli
    - In th **e Indian classical dance genre of Bharatanatyam, Alarmel Valli is a well-known dancer and choreographer** who specialises in the **Pandanallur style** .
    - Achievements
        - the Sangeet Natak Akademi Award (2001)
        - Padma Shri (1991)
        - Padma Bhushan (2004)
- Rukmini Arundale
    - **Indian theosophist Rukmini Devi Arundale** (29 February 1904) was also a **Bharatanatyam dancer and choreographer** as well as a promoter of animal welfare.
    - She was the **first Indian woman to be nominated for election to the Rajya Sabha** , the upper house of Parliament of India.
    - In **1956, she received the Padma Bhushan** , and in **1967, the Sangeet Natak Akademi Fellowship** .
- Sonal Mansingh
    - Sonal Mansingh, a **Bharatanatyam and Odissi dancing expert** , is an Indian classical dancer.
    - She received many honours, including **the Sangeet Natak Akademi Award in 1987, the Padma Bhushan (1992), and the Padma Vibhushan, India's second-highest civilian award, in 2003** , making her the country's second woman dancer to receive such awards after Balasaraswati.

---

82. Answer: d

Explanation:

The correct answer is **Ruskin Bond**.

⭐ Key Points

- The Room on the Roof
  - **Ruskin Bond** wrote the book 'The Room on the Roof'.
  - It was Bond's **first writing** venture.
  - When Bond finished the book at the age of **17** , it was awarded the **1957 John Llewellyn Rhys Prize** .
  - It tells the story of an **orphaned Anglo-Indian boy who flees his oppressive guardian to live with his Indian friends** .
  - Bond's experiences of living in a rented terrace flat in Dehradun **served as the basis for the book** .
  - **Partha Pratim Das** has translated 'The Room on the Roof' into the first **authorised Bengali edition** , which will be released by Book Farm in 2022 under the title **"Chilekothar Ghar."**

⭐ Additional Information

- Ruskin Bond
  - **Author Ruskin Bond is an Anglo Indian** and was born on **May 19, 1934** .
  - More than **500 short stories, articles, and novels, including 64 books for children** , have been written by Bond.
  - The **Sahitya Akademi Award** was given to him in **1992 for" Our Trees Still Grow in Dehra."**
  - In **1999 and 2014** , he received the **Padma Shri and Padma Bhushan** , respectively.
  - **'A Flight of Pigeons'** , a Bond novel, served as the inspiration for the **1978 Bollywood film Junoon** .
  - It was directed by **Shyam Benegal** and produced by **Shashi Kapoor** .

---

83. Answer: d

Explanation:

The correct answer is **10.97m**.

⭐ Key Points

- Tennis Court

    - Tennis courts' **official measurements and dimensions** are set by the **International Tennis Federation (ITF)** .
    - The size of a tennis court depends on whether singles or doubles is being played.
    - When looking at a tennis court from above, the baselines are two parallel lines drawn along the width of the court, and the sidelines are two parallel lines running along the length of the court.
- **Double Match Court Size**
    - The **full court width is available to players during doubles matches** , all the way to the outer doubles sidelines. The sidelines of the singles court are 4.5 feet apart from the doubles court on each side.
    - The length of the court is **78 feet (23.77 metres)** .
    - The width of the court is **36 feet (10.97 metres)** .
    - There are **9 extra feet** to cover than on the singles court because the court is 36 feet wide.

⭐ Additional Information

- **Single Match Court Size**
    - Tennis courts have a **narrower width for singles play** , which is used by singles players (designated by the inside singles sidelines).
    - The **sidelines of the singles court are 4.5 feet apart from the doubles court** on each side.
    - For both singles and doubles matches, the **court length is the same** .
    - The length of the court is **78 feet (23.77 metres)** . The width, however, varies.
    - The width of the court is **27 feet (8.23 metres)** .

---

84. Answer: b

Explanation:

The correct answer is Part VI.

⭐ Key Points

- **Part VI of the Indian Constitution**
  - The **State Legislature is addressed in Chapter III of Part VI** of the Indian Constitution.
  - It includes the **state legislature and executive branch** .
  - The **organisation, makeup, duration, officials, processes, privileges, and other responsibilities** of the state legislature are covered under **Articles 168 to 212 in Part VI** of the Constitution.
- **Few Articles of Part VI of the Indian Constitution includes;**
  - Article 168 deals with the **"Constitution of Legislatures in States."**
  - Article 169 deals with the **"Abolition or creation of Legislative Councils in States."**
  - Article 170 deals with the **"Composition of the Legislative Assemblies."**
  - Article 171 deals with the **"Composition of the Legislative Councils."**
  - Article 172 deals with the **"Duration of State Legislatures."**

⭐ Additional Information

- **Part VII**
  - **The States in Part B of the First Schedule are included in part VII of the Indian Constitution.**
  - It only contains one article, **Article 238** .
  - The Constitution (Seventh Amendment) Act of **1956 repealed** it.
- **Part IV**
  - The **Directive Principles of Our State Policy (DPSP)** are covered in Part IV of the Indian Constitution
  - It contains **Articles 36-51** .
- **Part V**
  - **The Union** is covered under **Articles 52 to 151** of Part V of the Constitution.

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85. **Answer: a**

Explanation:

The correct answer is **Mosses**.

⭐ Key Points

- **Mosses**
  - In the taxonomic group of Bryophyta, **mosses are tiny, non-vascular plants without flowers** .
  - **Bryophyta** is another name for the parent group of **mosses, liverworts, and hornworts known as bryophytes** .
  - Mosses generally form **dense, green mats or clumps in moist or shaded areas** .
  - The **simple leaves of individual plants** are often only **one cell thick** and attached to a stem that may or may not have branches.
  - The stem's function in **transporting water** and nutrients is generally **very limited** .
  - While **certain species of these plants have conducting tissues** , these are typically underdeveloped and physically distinct from the same tissue seen in vascular plants.
  - Mosses do **not produce seeds; instead, they produce sporophytes** , which have unbranched stalks and a single capsule bearing spores at the top.
  - Although other species are significantly larger, they are typically **0.2–10 cm (0.1–3.9 in) tall** .
  - The world's tallest moss, **Dawsonia, may reach a** height of 50 cm (20 in).

⭐ Additional Information

- **Bryophyta**
  - The word **"Bryophyta" derives from the Greek words "Bryon" (moss) and "python" (plants)** , respectively.
  - Embryophytes like **mosses, hornworts, and liverworts** are members of the Bryophyta class.
  - These are the little plants that flourish **in moist, shaded environments** .
  - They **don't include vascular tissues** .
  - Rather than making flowers and seeds, they **reproduce by spores** .
  - Bryophytes have a **diverse spectrum of morphologies and ecologie** s despite the fact that most do not have complicated tissue organisation.
  - Although bryophytes are terrestrial plants they need water to complete their life cycle when they reproduce sexually, which is why they are

referred to as **"amphibians of the plant kingdom."**

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86. Answer: d

Explanation:

The correct answer is **John Dalton**.

⭐ **Key Points**

- **John Dalton**
  - **In 1766** , a modest Lake District Quaker family from Cumbria gave birth to **John Dalton** .
  - Dalton was an **English scientist, physicist, and meteorologist** .
  - He is best known for introducing the **atomic theory to chemistry** and for his research on human optics.
  - He conducted the **first-ever study on colour blindness** , which later came to be known as Daltonism, motivated by his own unusual colour perception.
  - Dalton was one of the first two recipients of the **Royal Medal, a prestigious honour given yearly by the Royal Society for "the most significant contributions to the progress of natural knowledge," in 1826 for his work on the atomic theory** .

⭐ **Additional Information**

- **Dalton's Atomic Theory**
  - The **law of conservation of mass and the law of constant composition** served as the foundation for Dalton's theory.
  - **Atoms are the tiny, indivisible** building blocks of all matter.
  - The **mass, size, and other characteristics of every atom in a given element are the same** . However, atoms of various elements display various characteristics and differ in mass and size.
  - **Atoms can neither created nor destroyed** . Atoms can't be separated into smaller particles

- In order to create compounds, atoms of various elements can join in **fixed whole-number ratios** .
- Chemical reactions allow for the **reorganisation, combination, or division of atoms** .

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87. Answer: b

Explanation:

The correct answer is **2001**.

⭐ **Key Points**

- **Lata Mangeshkar**
  - Hema Mangeshkar, better known as **Lata Mangeshkar** was born on **28 September, 1929** .
  - She is one of the **most versatile singers** in the Indian film industry and an occassional composer of music.
  - She is **regarded as one of India's greatest** and most influential vocalists.
  - She earned prestigious names like **"Queen of Melody," "Nightingale of India," and "Voice of the Millennium"** for her contributions to the Indian music industry during her **eight-decade-long-career** .
  - Over the course of her career, she won **numerous** awards and honours.
  - She is honoured with the **Dadasaheb Phalke Award in 1989** from the Indian government.
  - She received the **Bharat Ratna in 2001** in honour of her achievements to the nation.
  - Lata mainly sang in **Marathi, Hindi, and Bengali** , however she also recorded songs in more than **36 different Indian languages** and a few foreign languages.

⭐ **Additional Information**

- She has collaborated with many illustrious composers, such as **Madan Mohan, R D Burman, the team Laxmikant-Pyarelal, and A R Rahman** .

- She performed at the **Royal Albert Hall** as the nation's first Indian performer in **1974** .
- She is the winner of numerous awards, including **three National Film Awards, 15 Bengal Film Journalists' Association Awards, four Filmfare Best Female Playback Awards, two Filmfare Special Awards, and Filmfare Lifetime Achievement Awards** .
- **Officer of the National Order of the Legion of Honor** , France's highest civilian honour, was presented to her in 2007.
- She was once included as the **artist with the most recordings made between 1948 and 1987** in the Guinness World Records.

---

88. Answer: c

Explanation:

The correct answer is **Gluten**.

⭐ **Key Points**

- **Gluten**
  - Gluten protein acts like a binder, holding food together and adding a 'stretch' property.
  - It is found naturally in some grains, including wheat, barley, and rye.
  - **Wheat and foods containing wheat** are widely available in our food supply and are most often associated to gluten.
  - The **75–85% of the total protein** in bread wheat is made up of gluten.
  - Glutens, particularl **y Triticeae glutens, have exceptional viscoelastic and adhesive qualities** that give **dough its elasticity, aid in rising and maintaining its shape, and frequently result in a chewy texture** in the final product.
  - Some people may experience **negative, inflammatory, immune, and autoimmune reactions** when exposed to gluten.
  - The spectrum of gluten-related disorders includes **dermatitis herpetiformis, gluten ataxia, and other neurological conditions, as well as**

celiac disease, which affects 1-2% of the general population and non-celiac gluten sensitivity, which affects 0.5–13% of the general population .
    - The **gluten-free diet** is used to treat these disorders.

⭐ Additional Information

- **Prolamin**
    - A class of **plant storage proteins known as prolamins** has a high concentration of the proline amino acid.
    - They are present in plants, primarily in the **seeds of cereal grains such oats (avenin), corn, wheat, zein, barley (hordein), rye, and sorghum** .
    - They are characterized by a **high proline and glutamine content** as well as a poor water solubility.
- **Albumin**
    - The most popular **albumins are the serum albumins** , which belong to a family of globular proteins.
    - All of the albumin family's proteins are **heat-denatured, water soluble and moderately soluble in concentrated salt solutions** .
    - The **liver** produces the protein albumin.
- **Glycinin**
    - The main **soybean seed protein** known as glycinin has been recognised as an important food **allergen** .
    - With the exception of the acidic polypeptide A4, glycinin is a **hexameric protein made up of alternating acidic and basic units around the ring and connected by disulfide bridges** .

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89. Answer: a

Explanation:

The correct answer is **rudra veena**.

⭐ Key Points

- **Asad Ali Khan**
    - **Indian musician Asad Ali Khan** was born on **December 1st, 1937** .

- He played the **rudra veena** , a plucked string instrument.
- **The Hindu** referred to Khan as the best living **rudra veena performer in India and praised his dhrupad-inspired performances** .
- He gave performances in several nations, including **Australia, the United States, Afghanistan, Italy, and several other nations in Europe** . He also taught music in the **United States** .
- Khan spent **17 years teaching the sitar at the Faculty of Music and Fine Arts at the University of Delhi, worked at All India Radio, and after retiring, continued to instruct individuals** .
- Khan won a number of national honours, such as the **Padma Bhushan award for civilian service in 2008** and the **Sangeet Natak Akademi Award in 1977** .

⭐ Additional Information

Instrument	Artist
Sitar	Ravi Shankar, Pandit Nikhil Banerjee, Anoushka Shankar, Imrat Khan, Vilayat Khan
Tabla	Zakir Hussain, Alla Rakha, Anindo Chatterjee, Anuradha Pal, Shankhar Gosh
Shehnai	Bismillah Khan, S. Ballesh, Bhaskar Nath, Anant Lal, Rajendra Prasanna

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90. Answer: c

Explanation:

The correct answer is Harper Lee.

⭐ Key Points

- **Harper Lee**
- American author **Nelle Harper Lee (April 28, 1926)** is well known for her **1960 book 'To Kill a Mockingbird** .'

- It became a modern American literature classic after winning the **1961 Pulitzer Prize** .
- In **2007** , Lee was given the **Presidential Medal of Freedom for her contributions to writing, among other honours and honorary degrees** .
- **To Kill a Mockingbird's** plot and characters are partially based on **Lee's observations of her family and neighbours** as well as an incident that happened in **1936** , when she was 10 years old, close to her hometown.
- The book discusses how two young children in the **Deep South of the 1930s see the irrationality of adult attitudes on race and class** .

⭐ Additional Information

Author	Books
Mary Shelley	Posthumous Poems ofPercy Bysshe Shelley (1824), The Last Man (1826), The Fortunes of Perkin Warbeck (1830), History of a Six Weeks' Tour (1817), Frankenstein; or, The Modern Prometheus (1818)
George Orwell	Nineteen Eighty-Four (1949), Animal Farm (1945), Homage to Catolonia (1938), The Road to Wigan Pier (1936), Burmese Days (1934)
Charles Dickens	The Pickwick Papers (1836), Oliver Twist (1837), Nicholas Nickleby (1838), The Old Curiosity Shop (1840), Barnaby Rudge (1841), A Christmas Carol (1843)

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91. Answer: b

Explanation:

The correct answer is **Tartaric acid**.

⭐ Key Points

- **Tartaric acid**
  - A **dicarboxylic acid with two stereocenters** that occurs naturally is **tartaric acid** . Compared to citric acid, it tastes harsher and sharper.
  - Of all the solid acidulants, it has the **highest water solubility** .
  - It is a **white, crystalline organic acid often used as an acidulant in grape and lime-flavoured drinks, gelatine desserts, jams, jellies, and hard sour confectionery** .
  - It is a **potent dicarboxylic acid of plant origin that is derived typically from tartar,** appears in a variety of isomeric forms, and is utilised primarily in **food and medication** .
  - Its salt, **potassium bitartrate** , also referred to as **cream of tartar** , is produced naturally during the fermentation process.
  - Numerous industrial uses exist for tartaric acid as well. Metal ions including c **alcium and magnesium have been seen to chelate in the presence of the acid** .

⭐ Additional Information

- **Malic Acid**
  - In some **fruits and wines, malic acid** , an alpha hydroxy acid, can be found.
  - It's utilised in **foods, cosmetics, and even medications** . Malic acid is **sour and acidic** .
  - When used to the skin, this assists in removing **dead skin cells** .
  - In persons with dry mouth, its **sourness also encourages the production of more saliva** .
- **Oxalic Acid**
  - Many plants, including **leafy greens, vegetables, fruits, chocolate, nuts, and seeds** , contain the chemical molecule **oxalic acid** .
  - It typically forms **oxalate in plants** where it is connected to minerals.

- In nutrition science, the names **"oxalic acid" and "oxalate"** are interchangeable.

- **Ascorbic Acid**
  - **Ascorbic acid (vitamin C)** is taken as a **dietary supplement** when the quantity of ascorbic acid in the diet is insufficient.
  - Vitamin C is a necessary nutrient that **aids in collagen development, tissue healing, and the enzymatic synthesis of certain neurotransmitters** .
  - The population groups who are most susceptible to ascorbic acid insufficiency are those who **consume a small variety of foods or who have intestinal malabsorption issues as a result of cancer or kidney disease** .

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92. Answer: b

Explanation:

The correct answer is **Pakistan**.

⭐ **Key Points**

- **Asia Cup Cricket Tournament 2023**
  - **Ramiz Raja, the president of Pakistan Cricket Board (PCB)** , has officially announced that **Pakistan would host the Asia Cup in 2023** .
  - The **ODI format would be used for the tournament** , which is supposedly going to be held in Pakistan.
  - Pakistan **last organized the Asia Cup in 2008** , and since then, it has failed to host a significant ICC competition.
  - The tournament's **16th edition** will take place in 2023.
  - The decision was made during the **ACC meeting on October 15, 2021, in Dubai,** where PCB chairman Raja was in attendance.
  - The **2022 Asia Cup will be a T20 tournament, with Sri Lanka** serving as the host nation.
  - After a terrorist incident in **Lahore, Pakistan, in 2009** , on the bus carrying the **Sri Lankan squad** , teams from all over the world stopped going there.

⭐ **Additional Information**

- Asia Cup Cricket Tournament
  - A **men's one-day international and Twenty20 international (T20I) cricket tournament** is called the Asian Cricket Council Asia Cup.
  - It was started in **1983 when the Asian Cricket Council was established** as a way to foster goodwill among Asian nations.
  - It was originally scheduled to be held every **two years** .
  - The **Asia Cup is the sole cricket continental championship** , and the victorious team becomes champion of Asia.
  - Every two years, the ODI and T20I **formats are switched** .
  - The **council's offices were located (until 1995) in Sharjah, United Arab Emirates** , where the **first Asia Cup was held in 1984** .
  - The **most successful team in this tournament is India** , who has won **seven titles** (six ODI titles and one T20I title).

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93. Answer: d

Explanation:

The correct answer is folk dance.

⭐ Key Points

- Manjamma Jogathi
  - Jogathi was born to Hanumanthaiah and Jayalakshmi in Kallukamba village in Karnataka's Bellary district on May 20, 1957 , under the name of Manjunatha Shetty .
  - Manjamma Jogathi is an Indian Kannada theatre performer, singer, and dancer of the North Karnataka folk dance style Jogathi Nritya.
  - She became the first transgender woman to hold the position of president of the state's premier folk art institution, Karnataka Janapada Academy , in 2019 .
  - For her contributions to the field of folk dance, the Indian government announced the Padma Shri award to her in January 2021.

⭐ Additional Information

- She was introduced to dancing by a father and son duo, who also led her to Kallavva Jogathi, a dance instructor , where she learned the Jogathi dance.
- Manjamma joined Kallavva's Jogathi dance company permanently and began touring throughout India.
- Manjamma took over the troupe after Kallavva passed away and popularised the dance among the people.
- Achievements
  - Rajyotsava award by Karnataka Government in 2010
  - Karnataka Janapada Academy Award in 2006
- The life of Manjamma has been incorporated to the Bachelor of Arts curriculum at Karnataka State Women's University and Karnataka Folklore University .

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94. Answer: a

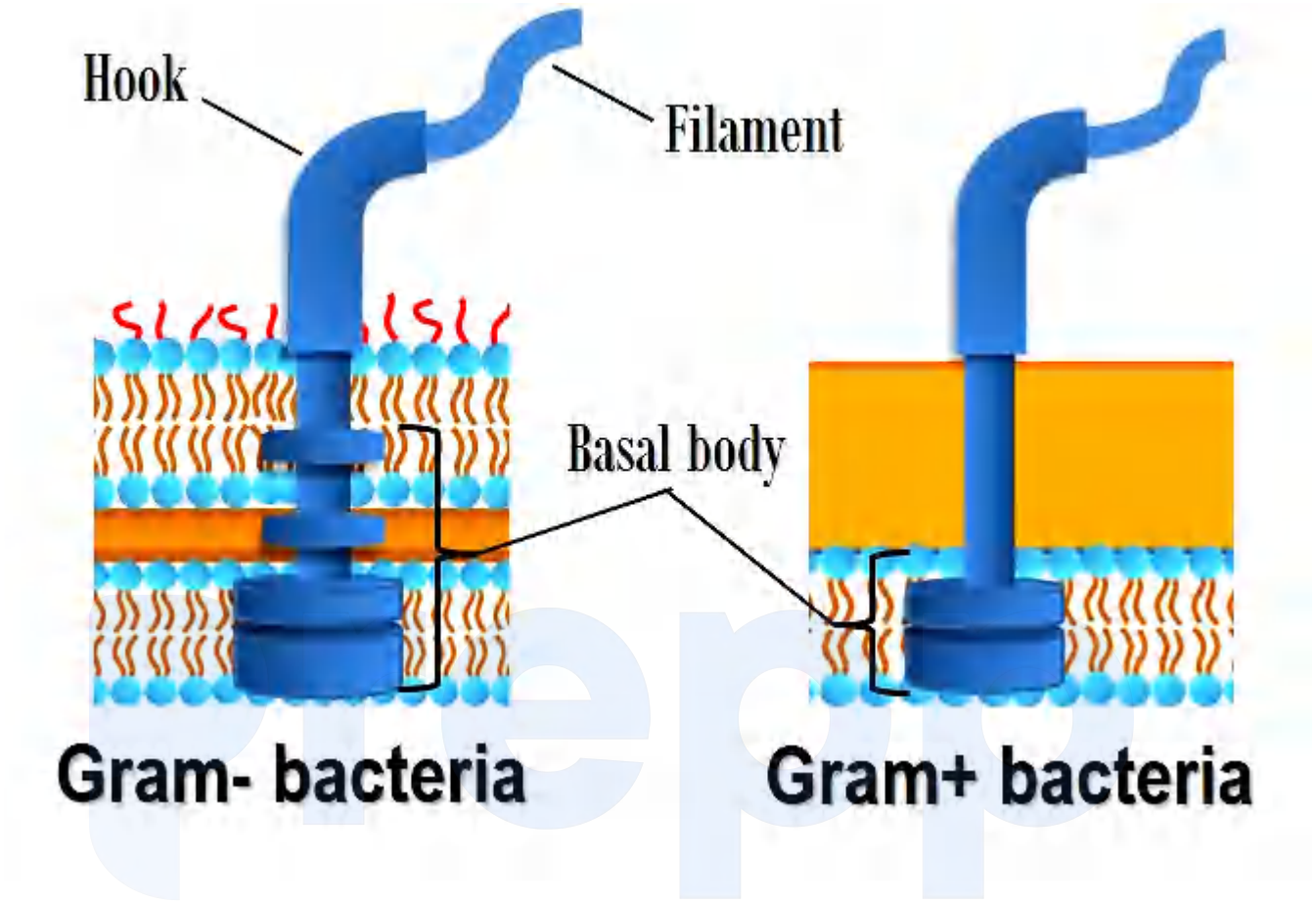
Explanation:

The correct answer is **Torso**.

⭐ **Key Points**

- **Bacterium Flagella**
  - Bacterial flagella are **made of the protein flagellin and are a coiled, thread-like structure with a sharp bend and a rotary motor at the base** .
  - It gives bacteria the **ability to swim freely** through a binary compound of aqueous, also known as **motility or self-propulsion** .
  - It is composed of **three major** structural elements;
    - **Basal body**
      - It is joined to the **cytoplasmic membrane and cell membrane** . It is made up of **rings** that are surrounded by **MotB proteins** .
    - **Hook**
      - A hook is the name for the **wider area at the base of the flagellum** .
      - It connects the **filament to the base's motor protein** .
    - **Filament**

- It is a **thin, hair-like structure** emerging from the hook.



⭐ Additional Information

- The long, helical filament of bacterial flagella is made up of **several flagellin subunits organised in a variety of tangled chains** .
- A flagellum is made up of **numerous parts and rotates** , similar to a boat motor's propeller.
- Depending on the species, the diameter of bacterial flagella varies , which lies between 15 and 20 nm .
- **Functions of Bacterial Flagella**
  - Role in pathogenesis
  - Organ of locomotion
  - Role in identification of organism

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95. Answer: c

Explanation:

The correct answer is **Ileana Citaristi**.

⭐ Key Points

- **Ileana Citaristi**
  - Ileana Citaristi is an **Odissi and Chhau dancer and dance teacher from Italy** who currently resides in Bhubaneswar, India.
  - Citaristi founded he **r own dance school in 1994 after studying odissi under Guru Kelucharan Mohapatra** .
  - She is a **master of the Mayurbhanj Chhau** , which she studied under the guidance of Guru Hari Nayak.
  - She has received the **designation of acharya of Chhau from the Sangeet Mahavidyalya of Bhubaneswar** .
  - She won the **Best Choreography prize at the 43rd National Film Awards in 1995** for Yugant.
  - In **1996, she established the Art Vision Academy** , a place for ideas sharing amongst various artistic mediums like theatre, music, dance, and painting.
  - In **1992** , she received the honorary title **"Leonide Massine for the art of dance."**

⭐ Additional Information

- **Marianela Núñez**
  - **Ballet dancer Marianela Nez** was born in Argentina on **March 23, 1982** .
  - She performs as a **lead dancer for the London-based Royal Ballet** .
  - She has won the **Critics' Circle National Dance Awards for Best Female Dancer in 2005, 2012, 2018 and 2022** .
- **Eiko Shinohara**
  - **Actress Eiko Shinohara** is well-known for her work on **The Secret Monday (1957)** .
- **Maria Kochetkova**
  - **Ballet dancer Maria Olegovna Kochetkova** is from Russia.

- Between **2015 and 2017, she danced as a principal dancer for the American Ballet Theatre and the San Francisco Ballet between 2007 to 2018** , respectively.

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96. Answer: a

Explanation:

The correct answer is **V Anantha Nageswaran**.

⭐ **Key Points**

- **V Anantha Nageswaran**
  - A renowned economist with a focus on academia is **Dr. Venkatraman Anantha Nageswaran** .
  - In **1985** , Nageswaran earned a **post-graduate diploma in management (MBA) from the Indian Institute of Management (IIM), Ahmedabad** .
  - He later earned a **doctorate in 1994** for his research on the empirical behaviour of exchange rates from the **University of Massachusetts Amherst** .
  - Between **1994 and 2011, he held a number of executive positions in macroeconomic and capital market research** for several private wealth management companies in Switzerland and Singapore.
  - The **Indian government** has appointer Dr. Venkatraman Anantha Nageswaran as **its Chief Economic Adviser (CEA) in January 2022** .

⭐ **Additional Information**

- **Chief Economic Advisor (CEA) of India**
  - A position in the Indian government known as the **Chief Economic Adviser (CEA) is equivalent to that of a secretary in that government** .
  - The **Indian Economic Service's ex-officio** cadre controlling authority is the CEA.
  - The CEA is the director of the **Department of Economic Affairs, Ministry of Finance, Government of India** .

- The **CEA job was a Union Public Service Commission appointment until 2009** , and up until the 1970s, the majority of CEAs were employees of the Indian Economic Service.
- The **Economic Survey, which presents the government's annual economic performance and recommendations for potential reforms** , is the key role played by the CEA.

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97. Answer: a

Explanation:

The correct answer is **Jammu and Kashmir**.

⭐ **Key Points**

- **Fotu La**
  - In the **Zanskar mountain ranges of the Indian state of Jammu and Kashmir, Fotu La** is a high mountain pass on the **Srinagar-Leh road** .
  - Fotu La pass, which rises to a **height of 4,108 metres (13,478 feet)** , is the highest point on the road beyond the well-known **Zoji La** .
  - It is one of the two significant mountain passes **between Kargil and Leh** , the another one is Namik La.
  - A **Prasar Bharti television relay station** serving the surrounding the town of Lamayuru is located at the top of the pass.
  - You will pass through **lunar-like landscapes on your way to the Fotu La Pass** , i.e., landscapes similar to what you might have seen in moon photos.
  - Driving across the pass is a lovely ride where you can stop to take in the **breathtaking scenery of the snow-covered mountain ranges** .

⭐ **Additional Information**

- **Zoji La**
  - It is an a **nother high mountain pass** that can be found in India, in the **Ladakh region of the Himalayas** .

- It is the pass, which connects **Ladakh and Kashmir** , and is located **9 kilometres from Sonmarg and is approximately 3528 metres (11, 649 feet)** above sea level.
- After Fotu La, this pass is regarded as the **highest on the Srinagar–Leh National Highway** .

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98. Answer: d

Explanation:

The correct answer is **Painting**.

⭐ **Key Points**

- Balraj Khanna
  - **Indian author and painter Balraj Khanna** was born in **1940** , in Punjab, India.
  - Since **1965** , he has lived in **England and France** .
  - **'Born in India Made in England'** is an autobiography of Balraj Khanna, published in 2021.
  - This book describes his experience "warts and all," r **ecreating the ambiance of the India of his youth in the first part and depicting England and the English he encountered in the 1960s with revealing observation in the second part** .
  - When Hindus and Muslims, who had coexisted peacefully for decades, were forced apart in 1 **947, Balraj Khanna was a young child in the Punjab witness to this terrible event** .
  - Balraj's career as a **painter flourished in London** .
  - He became friends with the **critic and author Mulk Raj Anand, the painter Avanash Chandra, and the renowned Keeper of the Indian Collection at the Victoria and Albert Museum, W.G. Archer** .
  - **In 1968, at Oxford** , Archer arranged for the 28-year old Balraj to be given **a solo exhibition at the Ashmolean Museum.**

⭐ **Additional Information**

- Balraj joined **The Indian Painters Collective after meeting ambassador Salman Haidar** , who promoted and organised shows for Indian artists.
- Balraj gave lectures on **Indian art at universities including Cambridge, Manchester, Oxford, the Royal College of Art, St. Martin's, and SOAS** .
- He also had **exhibitions at the Hayward Gallery, Serpentine Gallery, Victoria and Albert Museum, Brighton and Hove Museum, and Bradford Museum** .
- During the **India-Pakistan War in 1971–1972** , he began working as a foreign correspondent.
- **'Nation of Fools'** , a book by Balraj, won the **1984 Winifred Holtby Prize for a First Novel from the Royal Society of Literature** .

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99. Answer: b

Explanation:

The correct answer is Bhupen Hazarika.

⭐ Key Points

- Bhupen Hazarika
  - **Bhupen Hazarika** , better known by his stage name Xudha kontho, was an **Indian playback singer, lyricist, musician, poet, actor, and filmmaker who was born in Assam on September 8, 1926** .
  - His songs, which he wrote and sang mainly in **Assamese, are characterised by humanism and a sense of universal brotherhood** .
  - They have been translated into various languages and performed, most notably in **Bengali and Hindi** .
  - He is also credited for i **ntroducing Assamese and Northeast Indian folk music and culture to Hindi movies** on a national scale.
  - From **December 1998 to December 2003** , Hazarika served as the **Sangeet Natak Akademi's chairman** .
  - **Awards and Honour**
    - Padma Shri in 1977
    - Sangeet Natak Akademi Award in 1987
    - **Bharat Ratna in 2019**

        - Padma Bhushan in 2001
        - Padma Vibhushan in 2012

⭐ Additional Information

- **Asha Bhoshle**
    - **Asha Bhosle is an Indian playback singer** , businesswoman, occasional actress, and television personality who primarily works in **Indian cinema** .
    - She is renowned for her **versatility and has been called one of the most prominent and well-known vocalists** in Hindi cinema by the media.
    - **Awards**
        - Padma Vibhushan in 2008
        - Dadasaheb Phalke Award in 2000
- **Begum Akhtar**
    - Akhtari Bai Faizabadi, popularly known as **Begum Akhtar, was an Indian singer and actress** .
    - She is revered as one of the **best singers of the ghazal, dadra, and thumri genres** of Hindustani classical music and is known as **"Mallika-e-Ghazal"** (Queen of Ghazals).
    - Begum Akhtar was bestowed with **the Padma Shri in 1968** and the **Padma Bhushan in 1975** by the Indian government.
    - She also received **the Sangeet Natak Akademi Award for vocal music in 1972** .
- **Ravi Shankar**
    - **Ravi Shankar** was an renowned **Indian sitarist and composer** .
    - He was a **sitar virtuoso who became the most well-known performer of North Indian classical music in the second half of the 20th century** , inspiring a generation of artists in India and around the globe.
    - **Achievements**
        - Padma Vibhushan in 1981
        - Padma Bhushan in 1967
        - Bharat Ratna in 1999

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100. Answer: d

Explanation:

The correct answer is **Indore**.

⭐ Key Points

- Lata Mangeshkar
  - Hema Mangeshkar, better known as Lata Mangeshkar was born on 28 September, 1929 in **Indore** (in the present-day Indore district of Madhya Pradesh).
  - She is one of the most versatile singers in the Indian film industry and an occassional composer of music.
  - She is regarded as one of India's greatest and most influential vocalists.
  - She earned prestigious names like "Queen of Melody," "Nightingale of India," and "Voice of the Millennium" for her contributions to the Indian music industry during her eight-decade-long-career .
  - Over the course of her career, she won numerous awards and honours.
  - She is honoured with the Dadasaheb Phalke Award in 1989 from the Indian government.
  - She received the Bharat Ratna in 2001 in honour of her achievements to the nation.
  - Lata mainly sang in Marathi, Hindi, and Bengali , however she also recorded songs in more than 36 different Indian languages and a few foreign languages.

⭐ Additional Information

- **Indore**
  - The **largest and most populated city in the Indian state of Madhya Pradesh is Indore** .
  - It serves as the administrative centre for both the **Indore District and the Indore Division** .
  - It is also regarded as the state's **educational centre** and has the campuses of both **the Indian Institute of Management and the Indian Institute of Technology** .

- It has the **highest elevation of all the major cities in Central India** and is situated on the **southern edge of the Malwa Plateau, with an average elevation of 553 metres (1,814 feet)** above sea level.
- The city is located **190 kilometres (120 km) west of Bhopal** , the state capital.
- Indore is the **most densely inhabited major city in the central province** , with its **530 square kilometre (200 sq mi) total land area** .