



Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

SSC CHSL 2021 (Tier-I) Previous Year Paper (02-Jun-2022) (Shift 2)

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. 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)

When you have worked out this sum, you may went out to play.

- a. When you have worked out
- b. went out to play
- c. this sum
- d. you may

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

Going to the weekly market / in every Tuesday / is a ritual that has been followed / by generations in my family.

- a. is a ritual that has been followed
- b. by generations in my family
- c. in every Tuesday
- d. Going to the weekly market

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

Despair

- a. Vile

- b. Hope
- c. Annoy
- d. Definite

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

- a. Audience
- b. Comprehension
- c. Competence
- d. Attendance

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

Wax

- a. Wane
- b. Mourn
- c. Error
- d. Insolent

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

It was apparent that the girl was heading into a serious disaster.

- a. heading along

- b. heading for
- c. heading down
- d. heading out

7. Select the INCORRECTLY spelt word.

(+2, -0.5)

- a. kengaroo
- b. Vivacious
- c. Ambiguous
- d. Itinerary

8. Select the option that can be used as a one-word substitute for the underlined group of words.

(+2, -0.5)

He requested the bank to give him more time as at present he was unable to pay his debts.

- a. Destitute
- b. Meticulous
- c. Reckless
- d. Bankrupt

9. Select the most appropriate meaning of the given idiom.

(+2, -0.5)

Dark horse

- a. A person criticised

- b. Loved person
 - c. An unexpected winner
 - d. A champion
-

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

The people will make him the leader.

- a. He had been made the leader by people.
 - b. He will be made the leader by the people.
 - c. He was made leader by the people.
 - d. People made him the leader.
-

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

I know him.

- a. I am known to him.
 - b. He is known to myself.
 - c. He is known to me.
 - d. Let him be known to me.
-

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

Mahatma Gandhi is undoubtedly one of the much popular authors of our times.

- a. best
- b. total
- c. most
- d. better

-
13. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'. (+2, -0.5)

Sheela is trying for a job since last year.

- a. was trying
- b. have been trying
- c. No substitution required
- d. has been trying

-
14. In the following passage, a word has been deleted. Read the passage carefully and select the most appropriate option to fill in the blank. (+2, -0.5)

Gifting is generally taken to be the easiest act to _____, if only you have the heart to part with something in your _____.

- a. forsake, capacity
- b. perform, possession
- c. forgive, discretion
- d. observe, control

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

(+2, -0.5)

He is a _____ in shining armour.

- a. knit
- b. nite
- c. night
- d. knight

16. 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. However, after studying the myths scientifically, only a simpleton would find them irrational or worthless.

B. Moreover, it is wrong to analyse myths on the yardstick of their factual accuracy as they were designed to serve a greater, deeper purpose.

C. Myths have always been regarded as a complex and intriguing aspect in human life

D. In modern scientific world, they are essentially seen as something unscientific and meaningless.

- a. DCAB
- b. DACB
- c. ACDB
- d. CDAB

17. Select the most appropriate meaning of the given idiom.

(+2, -0.5)

Be like chalk and cheese

- a. Be absolutely lonely
- b. Be absolutely rich
- c. Be absolutely deceptive
- d. Be absolutely different

18. Select the most appropriate ANTONYM of the word 'Lead' from the given sentence.

(+2, -0.5)

All the class monitors were asked to follow the guide who was there to manage and control their visit to Yamuna Biodiversity Park.

- a. Control
- b. Follow
- c. Guide
- d. Manage

19. Select the most appropriate option that can substitute the underlined segment in the given sentence.

(+2, -0.5)

I had get back from Hyderabad last month.

- a. got back from
- b. had got back

- c. get back from
- d. had got back from

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

Salubrious

- a. Beneficial
- b. Vicarious
- c. Insidious
- d. Septic

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)

While I was sitting there (1) _____ over my failure to keep from having to spend (2) _____ glistering summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".

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

- a. smirking
- b. sulking
- c. grinning

d. clapping

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)

While I was sitting there (1) _____ over my failure to keep from having to spend (2) _____ glistening summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".

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

- a. ours
- b. me
- c. my
- d. mine

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)

While I was sitting there (1) _____ over my failure to keep from having to spend (2) _____ glistening summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".

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

- a. disconcerting
- b. beckoning
- c. upsetting
- d. dismissing

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)

While I was sitting there (1) _____ over my failure to keep from having to spend (2) _____ glistening summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".

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

- a. piquing
- b. snapping
- c. peering
- d. tapping

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)

While I was sitting there (1) _____ over my failure to keep from having to spend (2) _____ glistening summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally she put her hand over the receiver and (5) _____ (so that nobody listens), “Amelia! In my bedroom, there is something for you”.

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

- a. commended
- b. cheered
- c. lauded
- d. hissed

Prepp

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General Intelligence

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

First row- 5, 39, 8

Second row- 7, 36, 5

Third row- 11, ?, 9

(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. 60
- b. 40
- c. 50
- d. 70

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27. 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)

6 : 96 :: 8 : 144 :: 5 : ?

- a. 70
- b. 90
- c. 85

d. 75

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

1. Catalyst
2. Carrot
3. Calcium
4. Calculate
5. Calendar

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

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:

All moons are suns.

No moon is a star.

Some stars are planets.

Conclusions:

I. Some suns are planets.

II. No sun is a star.

III. No planet is a moon.

a. Both conclusions I and II follow.

b. None of the conclusions follow.

c. Both conclusions I and III follow.

d. Only conclusion II follows.

30. The second number in the given number pairs is obtained by performing the 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. 43 : 84

b. 21 : 40

c. 15 : 210

d. 19 : 36

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

$$16 * 6 * 69 * 81 * 3$$

a. -, +, x, =

b. x, -, =, ÷

c. $\div, +, =, \times$

d. $+, =, \times, -$

-
32. Which of the following letter-clusters will replace the question mark (?) in the given series to make it logically complete? (+2, -0.5)

TVX, SUW, RTV, QSU, ?

a. TRP

b. RPT

c. TPR

d. PRT

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

19 : 90 :: 25 : ? :: 13 : 60

a. 120

b. 100

c. 115

d. 110

-
34. Select the option that is related to the third word in the same way as the second word is related to the first word. (The words must be considered as meaningful English words and must NOT be related to each other) (+2, -0.5)

based on the number of letters/number of consonants/vowels in the word)

Golf : Stick :: Cricket : ?

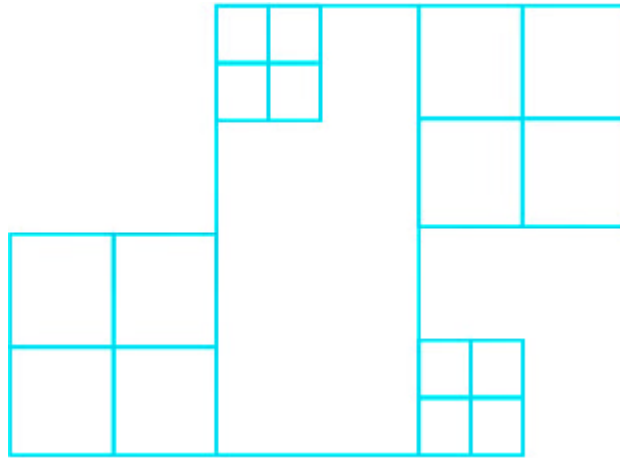
- a. Bat
- b. Stadium
- c. Ball
- d. Wicket

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

$$127 * 13 * 3 * 129 * 41$$

- a. +, =, +, -
- b. -, ×, =, -
- c. ÷, -, =, -
- d. -, -, =, +

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



- a. 37
- b. 21
- c. 36
- d. 20

37. If A denotes '+', B denotes 'x', C denotes '-' and D denotes ' $\div$ ', then what will come in place of '?' in the following equation? (+2, -0.5)

$$17 A (31 B 3) C (64 D 8) A 41 C (21 B 4) = ?$$

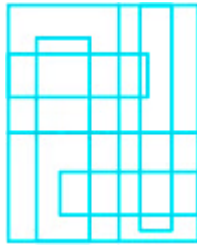
- a. 69
- b. 59
- c. 61
- d. 55

38. In a certain code language, 'MOTHER' is written as 'LNSGIV' and 'FATHER' is written as 'ZUSGIV'. How will 'WONDER' be written in that language? (+2, -0.5)

- a. DLWMIV

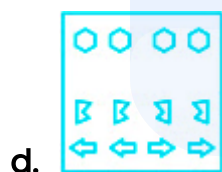
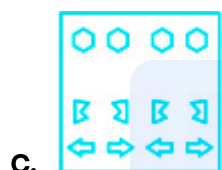
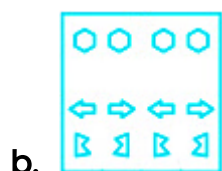
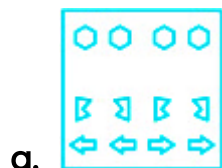
- b. DLMWIV
- c. LDWMIV
- d. LDMWVI

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



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

40. A paper is folded and cut as shown below. How will it appear when unfolded? (+2, -0.5)



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



c.

d. $\text{tYK4}\overline{\text{5}}$

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



a. $\text{K}\overline{\text{C}}\text{9t7A}$

b. $\text{K}\overline{\text{C}}\text{9t7A}$

c. $\text{A}\overline{\text{7t9CK}}$

d. $\text{A}\overline{\text{7t9CK}}$

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

$$99 * 25 * 10 * 12 * 7$$

a. -, =, +, ×

b. +, =, +, ×

c. -, +, =, ×

d. -, =, +, +

44. If 31 December 2009 was Thursday, then what was the day of the week on 25 December 2010? (+2, -0.5)

- a. Monday
- b. Sunday
- c. Saturday
- d. Tuesday

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

$$16 * 4 * 8 * 10 * 2 * 43$$

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

46. In a certain code language, 'ACTOR' is written as '136812' and 'HEROINE' is written as '95128745'. How will 'HERO' be written in that language? (+2, -0.5)

- a. 95128
- b. 95768
- c. 95218
- d. 95378

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

314, 285, 308, ?, 306, 293, 304

- a. 277
- b. 298
- c. 287
- d. 289

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

CIEO, JAAU, QSWA, XKSG, ?

- a. FCOI
- b. ECOM
- c. ECRI
- d. FCRI

49. Two different positions of the same dice are shown, the six faces of which are marked from A to F. Select the letter that will be on the face opposite to the one showing 'D'.



- a. F

b. C

c. B

d. E

-
50. Select the option that is related to the fifth word in the same way as the second word is related to the first word and the fourth word is related to the third word. (The words must be considered as meaningful English words and must NOT be related to each other based on the number of letters/number of consonants/vowels in the word) (+2, -0.5)

Elephant : Trunk :: Fish : Gill :: Kangaroo : ?

- a. Antlers
- b. Pouch
- c. Blowhole
- d. Muzzle

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Quantitative Aptitude

51. Ruksana travelled at 60 km/h while going from point A to point B and returned via the same route at a different speed. If Ruksana's overall average speed during the two-way journey was 48 km/h, what was her speed while travelling from B to A? (+2, -0.5)
- a. 42 km/h
- b. 40 km/h
- c. 45 km/h
- d. 36 km/h
-
52. What distance will be covered by a bus moving at 108 km/h in 40 seconds? (+2, -0.5)
- a. 1 km 600 m
- b. 1 km 400 m
- c. 1 km 800 m
- d. 1 km 200 m
-
53. An arc on a circle that is 15 cm long subtends a 24° angle at the centre. What is the circumference of the circle? (+2, -0.5)
- a. 240 cm
- b. 220 cm
- c. 236 cm

d. 225 cm

54. The ratio of the radii of two right circular cylinders is 2 : 3. If their heights are in the ratio 5 : 3, find the ratio of their volumes. (+2, -0.5)

a. 16 : 19

b. 3 : 4

c. 3 : 1

d. 20 : 27

55. An article is sold at a discount of 10% and an additional discount of 40% is allowed on cash payment. If Anita purchased an article by paying ₹2,700 in cash, the marked price of the article was: (+2, -0.5)

a. ₹5,000

b. ₹2,500

c. ₹2,000

d. ₹5,500

56. A dealer allows his customers a discount of 15% and still gains 15%. If an article cost ₹2,500 to the dealer, then its marked price is (correct to nearest integer): (+2, -0.5)

a. ₹3,382

b. ₹4,382

c. ₹1,312

d. ₹3,182

57. The lengths of a pair of parallel sides of a trapezium are 20 cm and 25 cm, respectively, and the perpendicular distance between these two sides is 14 cm. What is the area (in cm^2) of the trapezium? (+2, -0.5)

- a. 512
 - b. 250
 - c. 300
 - d. 315
-

58. The average of six integers is 48. The average of the first five integers is 70% of the sixth integer. The sixth integer is. (+2, -0.5)

- a. 64
 - b. 62
 - c. 68
 - d. 58
-

59. Two numbers X and Y are such that the sum of 18% of X and 8% of Y is one-third of the sum of 22% of X and 36% of Y. Find the ratio of X and Y. (+2, -0.5)

- a. 2 : 5
- b. 3 : 11
- c. 3 : 8

d. 8 : 3

60. Simplify the following expression.

(+2, -0.5)

$$79 - [6 - \{4 - (8 \times (6 + 3))\}] \div 2$$

a. 11.5

b. 2.5

c. 37

d. 42

61. Find θ , if $\cos \theta = -\frac{\sqrt{3}}{2}$

(+2, -0.5)

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

b. $\frac{5\pi}{6}$

c. $\frac{2\pi}{3}$

d. $\frac{4\pi}{3}$

62. What is the compound interest on ₹10,625 for 2 years at 8% interest per annum, if interest is compounded annually?

(+2, -0.5)

a. ₹1,768

b. ₹1,698

c. ₹1,625

d. ₹1,528

63. The smallest four-digit number which is divisible by 4, 8, 12 and 16 is: (+2, -0.5)

- a. 1010
- b. 1008
- c. 1006
- d. 1012

64. If $(x - \frac{1}{x}) = 7.5$, what is the value of $(x^2 + \frac{1}{x^2})$? (+2, -0.5)

- a. 54.25
- b. 58.25
- c. 60.25
- d. 56.25

65. Which among the below option can be a square root of ? (+2, -0.5)

$$(x^2 - 14x + 49)(x^2 + 6x + 9)$$

- a. $(x - 4)(x + 9)$
- b. $(x - 1)(x + 17)$
- c. $(x - 7)(x + 3)$
- d. $(x - 3)(x + 8)$

66. If $(x^3 + y^3)^{\frac{2}{3}} = (x^2 + y^2)$, then the value of $\frac{x^2 + y^2}{xy}$ $x \neq 0, y \neq 0$, is (+2, -0.5)

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

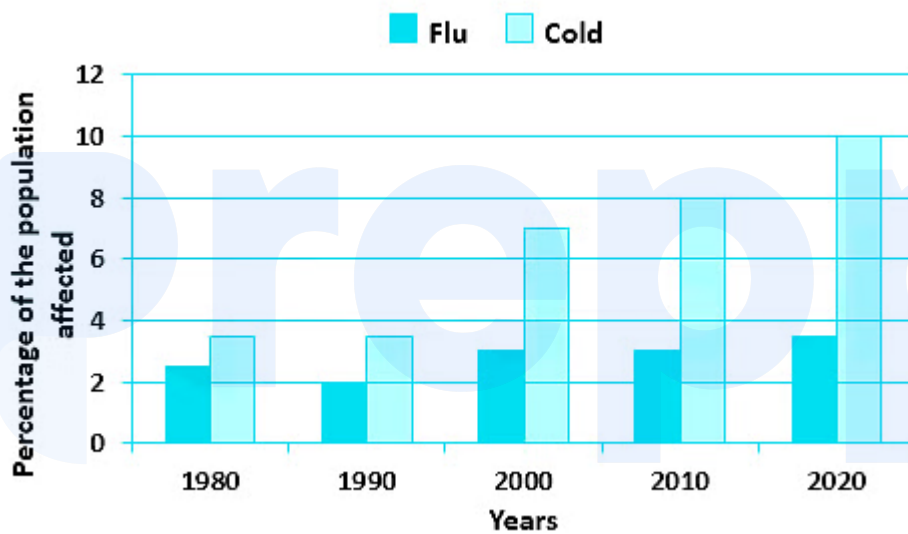
b. $x^2 + y$

c. 1

d. $x + y^2$

67. Study the given graph and answer the following question:

(+2, -0.5)



As per the data available above, in which year was the percentage of population affected by cold was minimum?

a. 2020

b. 1990

c. 2010

d. 2000

68. Study the given table and answer the question that follows.

(+2, -0.5)

Given that the total number of students is 100.

Subject	Marks out of 100				
	80 and above	60 and above	40 and above	20 and above	0 and above
A	9	31	81	92	100
B	4	20	67	81	100
C	7	26	74	87	100

The number of students who scored less than 80% marks in A is:

- a. 73
- b. 83
- c. 91
- d. 71

69. A man sold a radio set and gained one-eighth of its cost price. What is the profit percent? (+2, -0.5)

- a. 20%
- b. 12.5%
- c. 15.5%

d. 18%

70. The table below gives the percentage of female and males in different professions, out of total 10000 people. (+2, -0.5)

Profession	% of People	% of males	% of females
Teaching	20	50	50
Law	15	65	35
Medical	20	60	40
Engineering	24	55	45
Banking	21	52	48

On the basis of the information provided in the table, find the total number of males who are in the teaching profession.

- a. 1000
- b. 2000
- c. 500
- d. 1500

71. The radius of a hemispherical bowl is given as 7 cm. What is the capacity of the bowl ? ($\pi = \frac{22}{7}$) (+2, -0.5)

- a. $718\frac{2}{3} \text{ cm}^3$
- b. $812\frac{1}{3} \text{ cm}^3$
- c. $618\frac{1}{3} \text{ cm}^3$
- d. $518\frac{2}{3} \text{ cm}^3$

72. A pipe can fill a tank in 15 hours. Due to leakage in the bottom it is filled in 20 hours. If the tank is full, and the pipe is closed, how much time will the leak take to empty the entire tank? (+2, -0.5)

- a. 60 hrs
- b. 50 hrs
- c. 40 hrs
- d. 30 hrs

73. Find the 4th proportional to 5, 10 and 12. (+2, -0.5)

- a. 8
- b. 24
- c. 48
- d. 20

74. A man borrowed some money and returned it in two equal instalments of ₹3,025 each. If the rate of interest is 10% per annum, compound annually, find the sum borrowed. (+2, -0.5)
- a. ₹5,575
 - b. ₹6,250
 - c. ₹6,525
 - d. ₹5,250
-
75. In an election between two candidates, one of the candidates secured 35% of the votes cast and was defeated by the other candidate by 1296 votes. If there were no invalid votes, then the total number of votes polled was. (+2, -0.5)
- a. 4546
 - b. 4230
 - c. 4456
 - d. 4320

General Awareness

76. Which of the following instruments is played by P Mani Iyer? (+2, -0.5)
- a. Sarangi
 - b. Violin
 - c. Mridangam
 - d. Mandolina
-
77. Who among the following authors won the Kamaladevi Chattopadhyay NIF Book Prize in the year 2019? (+2, -0.5)
- a. Ornit Shani
 - b. Jairam Ramesh
 - c. Milan Vaishnav
 - d. Dinyar Patel
-
78. The election of the next Vice-President is to be held within _____ of the expiry of the term of office of the outgoing Vice-President. (+2, -0.5)
- a. 90 days
 - b. 60 days
 - c. 120 days
 - d. 75 days
-

79. In the Jayamma vs state of _____ case, in May 2021, the Supreme Court observed that dying declarations are admissible in evidence on the principle of necessity, as there is little hope of the maker surviving. (+2, -0.5)
- a. Andhra Pradesh
 - b. Karnataka
 - c. Tamil Nadu
 - d. Kerala
-
80. Which method of calculating the national income is also known as 'Industrial Origin Method'? (+2, -0.5)
- a. Expenditure Method
 - b. Income Method
 - c. Value Added Method
 - d. Monetary Measures Method
-
81. The famous folk musician Bhupen Hazarika belongs to which of the following states? (+2, -0.5)
- a. Assam
 - b. Odisha
 - c. Madhya Pradesh
 - d. Karnataka

82. Ustad Amjad Ali Khan, a renowned musician from India is known for playing which of the following instruments? (+2, -0.5)

- a. Sarod
- b. Jaltarang
- c. Sarangi
- d. Veena

83. Which of the following dance forms is performed by Guru Vempati Chinna Satyam? (+2, -0.5)

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

84. Modhera Dance Festival is an annual cultural phenomenon in the _____ district of the state of Gujarat. (+2, -0.5)

- a. Junagadh
- b. Mehsana
- c. Amreli
- d. Anand

85. How many passenger trains are there as per 2021 data? (+2, -0.5)

- a. 19169
- b. 11169
- c. 13169
- d. 16169

86. Kalamandalam Kshemavathy Pavithran was conferred the Padma Shri award for her contribution to which of the following dance forms? (+2, -0.5)

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

87. Which of the following novels is written by Kiran Desai? (+2, -0.5)

- a. The Ministry of Utmost Happiness
- b. The Inheritance of Loss
- c. Midnight's Children
- d. The Golden House

88. C V Chandra Shekhar was conferred the Padma Bhushan for his contributions to which of the following forms of Dance? (+2, -0.5)

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

89. In 1857, who was the first to experimentally demonstrate that the yeast responsible for making alcohol from sugar, and contaminating microorganisms found in normal air, could sour fermentation? (+2, -0.5)

- a. Alexander Fleming
- b. Louis Pasteur
- c. Fanny Hesse
- d. Martinus Willem Beijerinck

90. Which of the following Carnatic instruments is performed by Rajna Swaminathan? (+2, -0.5)

- a. Violin
- b. Flute
- c. Veena
- d. Mridangam

91. Who among the following sportspersons is one of the Arjuna Award 2021 winners? (+2, -0.5)

- a. Vikas Kumar
 - b. Nishad Kumar
 - c. Bajrang Punia
 - d. P V Sindhu
-

92. Which phylum of the plant kingdom consists of vascular plants, leaves (known as fronds), roots and sometimes true stems and entire trunks in tree ferns? (+2, -0.5)

- a. Angiosperm
 - b. Pteridophyta
 - c. Bryophyta
 - d. Gymnosperm
-

93. Who observed that in a mixture of non-reactive gases, the total gas pressure is equal to the sum of the partial pressures of the individual gases? (+2, -0.5)

- a. Antoine Lavoisier
 - b. John Dalton
 - c. Amedeo Avogadro
 - d. Robert Boyle
-

94. Which cycle shows the movement of water? (+2, -0.5)

- a. Carbon cycle
 - b. Nitrogen cycle
 - c. Geological cycle
 - d. Hydrological cycle
-

95. Which of the following pairs is NOT correctly matched? (+2, -0.5)

- a. Arun Jaitley cricket stadium - Bengaluru
 - b. Bharat Ratna Atal Bihari Vajpayee Cricket Stadium - Lucknow
 - c. Narendra Modi cricket stadium - Ahmedabad
 - d. Eden Garden - Kolkata
-

96. The autobiography 'My Experiments with Truth' was originally written in which language? (+2, -0.5)

- a. English
 - b. Bengali
 - c. Gujarati
 - d. Marathi
-

97. Who among the following secured one of the two silver medals for India at the Tokyo Olympics 2020? (+2, -0.5)

- a. Ravi Kumar Dahiya

- b. Sushil Kumar
 - c. Bajrang Punia
 - d. KD Jadhav
-

98. Which chemical compound is composed of magnesium, sulphur and oxygen and is commonly used in detox bath to relax muscles and relieve pain in the shoulders, neck, back and scalp? (+2, -0.5)

- a. Epsom salt
 - b. Potash alum
 - c. Rock salt
 - d. Glauber's salt
-

99. The term 'dribble' is used in which of the following sports? (+2, -0.5)

- a. Basketball
 - b. Baseball
 - c. Badminton
 - d. Tennis
-

100. Which climate zone has an average temperature of over 64°F (18°C) throughout the year and more than 59 inches of rainfall each year? (+2, -0.5)

- a. Tropical zone
- b. Temperate zone

- c. Dry zone
- d. Continental zone

Prepp

Your Personal Exams Guide

Answers

1. Answer: b

Explanation:

The erroneous part of the sentence is: **went out to play**

★ Key Points

- Replace '**went out**' with '**go out**' to make the sentence correct.
- The given sentence is written in the **Present Perfect tense**.
- **Structure of the Present Perfect Tense: Subject + have/has + past participle + the rest of the sentence.**
- The **present perfect** in the '**if/when**' -clause of a sentence in the first conditional emphasises that **one action depends on the completion of another**.
 - **Example** - *When I've finished writing my paper by tonight, I'll go out with my friends.*
- The phrase '**go out**' is often used this way to state that someone is going out to do something.
- '**Went out**' as a verb means Simple past tense.
- The given sentence states that "**After completing the sum, he may go out and play.**"

Therefore, the correct answer is **option 2**.

Corrected sentence: *When you have worked out this sum, you may **go out** to play.*

2. Answer: c

Explanation:

The erroneous part of the sentence is: **in every Tuesday**

★ Key Points

- The given sentence contains a **prepositional error** in it.
- Replace 'in' with 'on' to make the sentence correct.
- In English, 'on' is used when referring to days.
- While 'in' is used for larger spans of time such as months and seasons, 'on' is used to indicate specific days, dates and specific times.
 - **Example** – *Yellow roses will bloom in the month of April.*
 - **Example** – *We look forward to your gifts on Christmas Eve.*

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

Corrected sentence: *Going to the weekly market **on** every Tuesday is a ritual that has been followed by generations in my family.*

3. Answer: b

Explanation:

The correct answer is: **Hope**

★ Key Points

- **Despair** means the complete loss or absence of hope. (निराशा)
 - **Example** – *She killed herself in **despair**.*
- Marked option **Hope** means to cherish a desire with anticipation. (आशा)
 - **Example** – *I **hope** that she'll get well soon.*
- It is clear that 'Despair' and 'Hope' are opposite in meaning.
- Therefore the correct answer is **option 2**.

★ Additional Information

- **Vile** means terrible very bad or unpleasant. (नीच)
- **Annoy** means to make someone a little angry, or irritate. (चिढ़ाना)
- **Definite** means clearly defined or determined. (निश्चित)

4. Answer: d

Explanation:

The erroneous spelling is: **Attendance**

★ Key Points

- The correct spelling should be '**Attendance**'.
- 'Attendance' means the action or state of going regularly to or being present at a place or event.
 - **Example** – Her **attendance** at school was sporadic.

Therefore, the correct answer is **option 4** which is incorrectly spelt.

★ Additional Information

- **Audience** means the assembled spectators or listeners at a public event such as a play, film, concert, or meeting.
- **Comprehension** means the ability to understand completely and be familiar with a situation, facts, etc.
- **Competence** means the ability to do something successfully or efficiently.

5. Answer: a

Explanation:

The correct answer is: **Wane**

★ Key Points

- **Wax** means to grow larger or increase. (बड़ा होना या बढ़ना)
 - **Example** – She **waxed** nostalgic at the reunion.
- Marked option **Wane** means to grow smaller or decrease. (छोटा होना या कम होना)
 - **Example** – His interest in the game was **waning**.
- It is clear that '**Wax**' and '**Wane**' are opposite in meaning.

Therefore the correct answer is **option 1**.

★ Additional Information

- **Mourn** means to feel regret or sadness about the loss or disappearance of something. (विलाप)
- **Error** means the state or condition of being wrong in conduct or judgement. (गलती)
- **Insolent** means showing a rude and arrogant lack of respect. (ढीठ)

6. Answer: b

Explanation:

The correct answer is: **heading for**

★ Key Points

- Replace '**heading into**' with '**heading for**' to make the sentence correct.
- We use '**for**' to talk about a purpose or a reason for something.
- If someone is '**heading for**' something, it is likely to happen to them soon.
 - **Example** – *It appears that the rebels are **heading for** victory.*
- We use '**into**' in a sentence to move or guide someone or something into some place or thing.

Therefore, the most appropriate option is **option 2**.

Corrected sentence: *It was apparent that the girl was **heading for** a serious disaster.*

★ Additional Information

- **Along** refers to moving in a constant direction on a road, path, or any more or less horizontal surface.
- '**Heading down**' or '**Going down**' refers to proceeding or going to some specific destination or event.
- '**Heading out**' is often used in reference to a planned departure or as a way to announce one's exit.

7. Answer: a

Explanation:

The erroneous spelling is: **kengaroo**

★ Key Points

- The correct spelling should be '**kangaroo**'.
- '**K angaroo**' is a large Australian mammal with a long stiff tail, short front legs and long powerful back legs.
 - **Example** – The **kangaroo** lives in droves in the open grassy plains.

Therefore, the correct answer is **option 1** which is incorrectly spelt.

★ Additional Information

- **Vivacious** means attractively lively and animated (typically used for a woman).
- **Ambiguous** means open to more than one interpretation; not having one obvious meaning.
- **Itinerary** means a travel document recording a route or journey.

8. Answer: d

Explanation:

The correct answer is: **Bankrupt**

★ Key Points

- **Bankrupt** means a person or organization declared in law as unable to pay their debts.
 - **Example** – His father went **bankrupt** and the family had to sell their home.
- So, it is clear that the '**Bankrupt**' can be used as a one-word substitute for 'unable to pay his debts.'

Therefore, the correct answer is **option 4**.

★ Additional Information

- **Destitute** means extremely poor and lacking the means to provide for oneself.
- **Meticulous** means showing great attention to detail; very careful and precise.
- **Reckless** means to be marked by a lack of proper caution.

9. Answer: c

Explanation:

The correct answer is: **An unexpected winner**

★ Key Points

- **Dark horse** means someone with a secret ability or achievement; an unexpected winner of a race, competition or election.
 - **Example** – *The movie is a **dark horse** for the award.*
- So, it is clear that the most appropriate meaning of the given idiom 'Dark horse' is 'An unexpected winner.'

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

10. Answer: b

Explanation:

The correct answer is **option 2**.

★ Key Points

- The subject of the Active Voice is changed into the object of the Passive voice. Also, the object of the Active Voice is changed into the subject of the Passive Voice.

- The usage of a helping verb is necessary while changing the voice of the sentence from Active to Passive.
- The preposition “by” is used before the object made in Passive Voice. However, it is optional in some cases.
- The Active voice in this question is in **Future Indefinite** . Thus, the Passive voice will also be in the **Future Indefinite** .
- The format of Active voice is: **Subject + shall/will + V1 + Object** .
- Thus, in Passive voice, the format will be: **Object of the active voice (Subjective case) + shall/will + be + made + by + Subject of the active voice (Objective case)** .
- For example:
 - He will complete the assignment. (Active Voice)
 - The assignment will be completed by him. (Passive Voice)
- The options except option (2) don't follow the correct grammatical format of the Passive Voice.
- Therefore, the correct answer is: **He will be made the leader by the people** .

11. Answer: c

Explanation:

The correct answer is option 3.

★ Key Points

- The **Active Voice** describes sentence where the subject performs the action stated by the verb. While in the **Passive Voice** subject is acted upon by the verb.
- The structure of active voice = Subject + Verb + Object
- The structure of passive Voice = Object + helping verb + verb (3rd form) + by + Subject
- Rules of Conversion from Active to Passive Voice:
 - Identify the subject, the verb, and the object.
 - Change the object into subject.
 - Change the verb into past participle of the verb.
 - Change the subject into object.

Thus the passive voice will be: *He is known to me.*

★ Additional Information

- The word '**known**' takes a fixed preposition '**to**'.

12. Answer: c

Explanation:

The correct answer is: **most**

★ Key Points

- Replace '**much**' with '**most**' to make the sentence correct.
- '**Most**' denotes the greatest or highest degree, often used with an adjective or adverb to form the **superlative**.
 - **Example** – *Peter is one of the **most** reliable people on this planet.*
- **Superlative** adjectives are used to describe an object which is at the upper or lower limit of quality.
- The **comparative** form of '**much**' is '**more**', and the **superlative** form of '**much**' is the '**most**'.
- '**Much**' means a large amount, while '**most**' means the largest amount in comparison with other things.
 - **Example** – *I will lend you as **much** money as you want.*
- '**One of the**' is always used with **superlatives** and it is used when we are referring to someone or something specific among many others.

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

Corrected sentence: *Mahatma Gandhi is undoubtedly one of the **most** popular authors of our times.*

★ Additional Information

- **Best** means the most excellent or desirable type or quality.
- **Total** means the whole number or amount of something.

- **Better** describes something as being superior or is an adverb that means something is done to a higher degree or more completely.

13. Answer: d

Explanation:

The correct answer is: **has been trying**

★ Key Points

- Replace 'is trying' with 'has been trying' to make the sentence correct.
- "Is trying" refers to occurring in the present, at the present moment.
- Structure of the Present Continuous Tense: Subject + am/is/are + present participle (verb+ing) + the rest of the sentence
 - Example – *The boys are playing in the park.*
- "Has been trying" refers to the **present perfect continuous**. It refers to a time period which began in the past and continues in the present and into the future.
- Structure of the Present Perfect Continuous Tense: Subject + have/has + been + present participle + the rest of the sentence
 - Example – *I have been watching TV since 7 pm.*
- We normally use 'since' with the present perfect to describe an action or situation that **began in the past and continues in the present**.
- In the given sentence 'since' is used to mean that "Sheela is continuously trying for a job for the last year and in present, the search is going on."
- 'Has' is used with the third person singular.

Therefore, the correct answer is **option 4**.

Corrected sentence: *Sheela has been trying for a job since last year.*

14. Answer: b

Explanation:

The correct words are: **perform** and **possession**

★ Key Points

- **Perform** means carry out, accomplish, or fulfil an action, task, or function.
 - **Example** – *I have my duties to **perform**.*
- **Possession** means the state of having, owning, or controlling something.
 - **Example** – *She came into **possession** of a rare silver coin.*
- According to the given sentence, **Perform** and **Possession** is the most appropriate words.

Therefore, the correct answer is **option 2**.

Complete sentence: *Gifting is generally taken to be the easiest act to perform, if only you have the heart to part with something in your possession.*

★ Additional Information

- **Forsake** means to stop doing or having something.
- **Capacity** means the amount that something can produce.
- **Forgive** means to stop feeling angry or resentful towards someone for an offence, flaw, or mistake.
- **Discretion** means the right or ability to decide something.
- **Observe** means to watch carefully the way something happens or the way someone does something.
- **Control** means to exercise authoritative or dominating influence over someone or something.

15. Answer: d

Explanation:

The correct answer is: **knight**

★ Key Points

- **Knight** means a warrior of the Middle Ages who fought on horseback, served a king, held a special military rank, and swore to behave in a noble way
 - **Example** – The ***knight*** sharpened his sword in preparation for battle.
- If we refer to someone as "**A knight in shining armour**", that means they are kind and brave, and likely to rescue you from a difficult situation.
- So, it is clear that the most appropriate word is '**knight**.'

Therefore, the correct answer is **option 4**.

Complete sentence: He is ***aknight*** in shining armour.

★ Additional Information

- **Knit** means to make a garment, fabric, etc. by interlocking loops of one or more yarns either by hand with knitting needles or by machine.
- **Nite** means an informal, simplified spelling of night.
- **Night** means the period from sunset to sunrise in each twenty-four hours.

16. **Answer: d**

Explanation:

The correct answer is "**CDAB** "

★ Key Points

- Let's look at the correct sequence of the passage.
- **Statement C** is the opening sentence of the passage which explains the theme of the passage that is **Myths and its importance**.
- **Statement D** is the second sentence of the passage which explains that In today's world myths are describes as something unscientific and meaningless.
- **Statement A** is the third sentence of the passage which explains that myths also have great scientific values and only a foolish person would consider them irrational or worthless.

- **Statement B** is the last sentence of the passage which explains that people should not analyse myths on their factual accuracy and describes for what purposes myths are designed.

Hence, the correct sequence is **C, D, A, B**

The correct passage is: C. *Myths have always been regarded as a complex and intriguing aspect in human life. D. In modern scientific world, they are essentially seen as something unscientific and meaningless. A. However, after studying the myths scientifically, only a simpleton would find them irrational or worthless. B. Moreover, it is wrong to analyse myths on the yardstick of their factual accuracy as they were designed to serve a greater, deeper purpose.*

17. Answer: d

Explanation:

The correct answer is: **Be absolutely different**

★ Key Points

- The idiom '**Be like chalk and cheese**' is used for expressing very different from one another; totally or nearly opposite in nature.
 - **Example** - *My brother and I are like **chalk and cheese**.*

So, it is clear that the most appropriate meaning of the given idiom '**Be like chalk and cheese**' is '**Be absolutely different.**'

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

18. Answer: b

Explanation:

The correct answer is: **Follow**

★ Key Points

- **Lead** means to go before or with to show the way; conduct or escort.
 - **Example** – Britain is now taking the **lead** in environmental policies.
- Marked option **Follow** means go or come after (a person or thing proceeding ahead).
 - **Example** – I'll **follow** you back to the house.
- So, it is clear that '**Lead**' and '**Follow**' are **opposite in meaning** .

Therefore, the correct answer is **option 2**.

★ Additional Information

- **Control** means the power to influence or direct people's behaviour or the course of events.
- **Guide** means show or indicate the way to someone.
- **Manage** means succeed in surviving or in achieving something despite difficult circumstances.

19. **Answer: a**

Explanation:

The correct answer is: **got back from**.

★ Key Points

- The rule is: **Present Perfect + Point of Time= Simple Past**.
- It should be noted that the **point of time** (last month) in the past demonstrates that the action took place at a point in the past.
- So, the **verb** that must be used should be in the **simple past tense** .
- The point of time in the past is mentioned by the following as given below:
 - ago
 - before
 - yesterday
 - the other day

- last month/year/day
- The use of 'had get back from' is grammatically incorrect as the point of time is present in the sentence.
- Thus, 'got back from' is the correct usage in this context.

Therefore, the corrected sentence is: I got back from Hyderabad last month.

20. Answer: a

Explanation:

The correct answer is: **Beneficial**

★ Key Points

- **Salubrious** means favorable to or promoting health or well-being.
 - **Example** – *Vegetables are **salubrious** foods which provide essential nutrients.*
- Marked option **Beneficial** means to produce good results or helpful effects.
 - **Example** – *Regular exercise has many **beneficial** health effects.*
- So, it is clear that 'Salubrious' and 'Beneficial' are **similar in meaning**.

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

★ Additional Information

- **Vicarious** means to experience in the imagination through the feelings or actions of another person.
- **Insidious** means something that is unpleasant or dangerous, gradually and secretly causing harm.
- **Septic** means an infection caused by bacteria.

21. Answer: b

Explanation:

The correct answer is: **sulking**

★ Key Points

- **Sulking** means to be silent, morose, and bad-tempered out of annoyance or disappointment.
 - **Example** – *He's **sulking** in his room because I wouldn't let him have any more chocolate.*
- Here in the given paragraph, '**sulking**' is used as a verb to describe the sorrowness of the author's failure.
- So, it is clear that the most appropriate word is '**sulking**'.

Therefore, the correct answer is **option 2**.

Correct Paragraph: *While I was sitting there (1) **sulking** over my failure to keep from having to spend (2) _____ glistering summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally, she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".*

★ Additional Information

- **Smirking** means to smile in a way that expresses satisfaction or pleasure about having done something.
- **Grinning** means a facial expression characterized by turning up the corners of the mouth; usually showing pleasure or amusement.
- **Clapping** means to strike the palms of one's hands against one another resoundingly, and repeatedly to express approval.

22. **Answer: c**

Explanation:

The correct answer is: **my**

★ Key Points

- 'My' is a possessive adjective and pronoun that we use where we already have a noun and want to indicate ownership.
 - **Example** – *Those are my glasses.*
- 'my' is always placed before a noun.
- Here in the given paragraph, 'my' is used to explain that the glistening summer months belong to the speaker.
- So, it is clear that the most appropriate word is 'my'.

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

Correct Paragraph: *While I was sitting there (1) sulking over my failure to keep from having to spend (2) my glistening summer months on the freaking Cote of Azur, Grandmere started (3) _____ me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally, she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".*

★ Additional Information

- 'Ours' is used to referring to a thing or things belonging to or associated with the speaker and one or more other people previously mentioned or easily identified.
- 'Me' is used by a speaker to refer to himself or herself as the object of a verb or preposition.
- 'Mine' is used in place of another noun when it's understood what's being discussed and adds information describing whose it is.

★ Confusion Points

- Both **my** and **mine** are possessives, but they are used rather differently.
- 'My' is put before a noun to indicate the speaker's possession.
 - **Example** – *You have your talent. I have **my** talent.*
- **Mine** is similar to **my**, but it cannot be used with the following noun the same way as **my**, it can't be put before a noun.
- 'Mine' is always used after a helping verb to refer to something previously mentioned.
 - **Example** – *You have your talent. I have **mine**.*

23. Answer: b

Explanation:

The correct answer is: **beckoning**

★ Key Points

- **Beckoning** means to make a gesture with the hand, arm, or head to encourage or instruct someone to approach or follow.
 - **Example** – *She was **beckoning** them in to shore.*
- Here in the given paragraph, '**beckoning**' is used as a **verb** to describe a call or signal by a motion.
- So, it is clear that the most appropriate word is '**beckoning**'.

Therefore, the correct answer is **option 2**.

Correct Paragraph: *While I was sitting there (1) sulking over my failure to keep from having to spend (2) my glistering summer months on the freaking Cote of Azur, Grandmere started (3) beckoning me from the phone. She kept (4) _____ her fingers on the phone to catch my attention. I just sat there blinking at her until finally, she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".*

★ Additional Information

- **Disconcerting** means making someone feel uncertain and uncomfortable or worried
- **Upsetting** means causing unhappiness, disappointment, or worry.
- **Dismissing** means to treat as unworthy of serious consideration.

24. Answer: d

Explanation:

The correct answer is: **tapping**

★ Key Points

- **Tapping** means the act or noise of touching something gently.
 - **Example** – *He was busy **tapping** away at his computer.*
- Here in the given paragraph, '**tapping**' is used as a verb to describe the noise of touching Grandmere's fingers on the phone to catch the speaker's attention.
- So, it is clear that the most appropriate word is '**tapping**'.

Therefore, the correct answer is **option 4**.

Correct Paragraph: *While I was sitting there (1) **sulking** over my failure to keep from having to spend (2) **my** glistering summer months on the freaking Cote of Azur, Grandmere started (3) **beckoning** me from the phone. She kept (4) **tapping** her fingers on the phone to catch my attention. I just sat there blinking at her until finally, she put her hand over the receiver and (5) _____ (so that nobody listens), "Amelia! In my bedroom, there is something for you".*

★ Additional Information

- **Piquing** means to look closely and searchingly
- **Snapping** means the action of breaking suddenly and completely, typically with a sharp cracking sound.
- **Peering** means causing unhappiness, disappointment, or worry.

25. Answer: d

Explanation:

The correct answer is: **hissed**

★ Key Points

- **Hissed** means to make a sharp sibilant sound as of the letter 's'.
 - **Example** – *The audience **hissed** loudly at the mention of his name.*

- Here in the given paragraph, '**hissed**' is used to describe a silent sound that nobody listens to, for something surprising.
- So, it is clear that the most appropriate word is '**hissed**'.

Therefore, the correct answer is **option 4**.

Correct Paragraph: While I was sitting there (1)sulking over my failure to keep from having to spend (2)my glistering summer months on the freaking Cote of Azur, Grandmere started (3)beckoning me from the phone. She kept (4)tapping her fingers on the phone to catch my attention. I just sat there blinking at her until finally, she put her hand over the receiver and (5)hissed (so that nobody listens), "Amelia! In my bedroom, there is something for you".

★ Additional Information

- **Commended** means to present as suitable for approval or acceptance; recommend.
- **Cheered** means to shout for joy or in praise or encouragement.
- **Lauded** means highly praised or admired.

26. Answer: a

Explanation:

The pattern followed by the given sets is:

$$(\text{First term} + \text{third term}) \times 3 = \text{Second term}$$

Now we apply the pattern on the given rows:

First row- 5, 39, 8

$$(\text{First term} + \text{third term}) \times 3 = \text{Second term}$$

$$(\underline{5} + \underline{8}) \times 3 = 39$$

$$\underline{13} \times \underline{3} = 39$$

$$39 = 39$$

Second row- 7, 36, 5

$$(\text{First term} + \text{third term}) \times 3 = \text{Second term}$$

$$(\underline{7 + 5}) \times 3 = 36$$

$$\underline{12 \times 3} = 36$$

$$36 = 36$$

Third row- 11, ?, 9

(First term + third term) $\times$ 3 = Second term

$$(\underline{11 + 9}) \times 3 = \text{Answer}$$

$$\underline{20 \times 3} = \text{Answer}$$

$$60 = \text{Answer}$$

Hence the correct answer option 1)

27. Answer: d

Explanation:

The pattern followed in the given series is:

(First term + 10) $\times$ First term = Second term

Let's apply the pattern on the given series:

$$\underline{6 : 96} :: 8 : 144 :: 5 : ?$$

(First term + 10) $\times$ First term = Second term

$$(\underline{6 + 10}) \times 6 = 96$$

$$\underline{16 \times 6} = 96$$

$$96 = 96$$

$$6 : 96 :: \underline{8 : 144} :: 5 : ?$$

(First term + 10) $\times$ First term = Second term

$$(\underline{8 + 10}) \times 8 = 144$$

$$\underline{18 \times 8} = 144$$

$$144 = 144$$

$$6 : 96 :: 8 : 144 :: \underline{5 : ?}$$

(First term + 10) $\times$ First term = Second term

$$(\underline{5 + 10}) \times 5 = \text{Answer}$$

$15 \times 5 = \text{Answer}$

$75 = \text{Answer}$

Hence the correct answer is option 4)

28. Answer: c

Explanation:

The correct order of the given words according to the English dictionary is:

3. Cal cium

4. Ca lculate

5. Calendar

2. Carrot

1. Catalyst

So the correct order is 3, 4, 5, 2, 1.

Hence the correct answer is option 3)

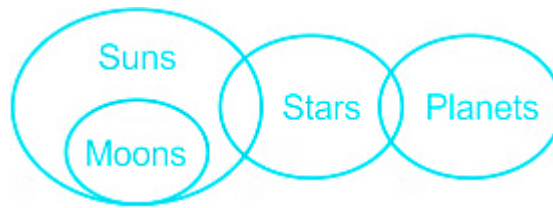
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29. Answer: b

Explanation:

From the given statements, the Venn diagram is:

- All moons are suns.
- No moon is a star.
- Some stars are planets.



I. Some suns are planets: According to the statements, there is no relation between suns and planets so we cannot relate planets with suns also some suns can be moons but no suns are planets. So the conclusion does not follow.

II. No sun is a star: From the given statement, it is safe to say that stars are related to suns and from the diagram, we can see the same. So this conclusion is wrong and it does not follow.

III. No planet is a moon: Since all moons are the sun and some stars are planets therefore we cannot say that planets are not related to moons. There is a possibility that it can be true. Thus the conclusion does not follow.

Since **no conclusion follows**.

Hence **the correct answer is option 2)**

30. Answer: c

Explanation:

The pattern followed in the given set is:

First term $\times 2 - 2 =$ Second term

Let's check with the options given:

Option 1) $43 : 84$

First term $\times 2 - 2 =$ Second term

$$43 \times 2 - 2 = 84$$

$$86 - 2 = 84$$

$$84 = 84$$

Option 2) 21 : 40

First term $\times 2 - 2 =$ Second term

$$\underline{21 \times 2} - 2 = 40$$

$$\underline{42 - 2} = 40$$

$$40 = 40$$

Option 3) 15 : 210

First term $\times 2 - 2 =$ Second term

$$\underline{15 \times 2} - 2 = 210$$

$$\underline{30 - 2} = 210$$

$$28 \neq 210$$

Option 4) 19 : 36

First term $\times 2 - 2 =$ Second term

$$\underline{19 \times 2} - 2 = 36$$

$$\underline{38 - 2} = 36$$

$$36 = 36$$

Option 3) does not follow the pattern. Thus it is the odd pair.

Hence **the correct answer is option 3)**

31. Answer: b

Explanation:

We use the BODMAS rule to solve the equation:

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

We apply each option to the given equation:

$$16 * 6 * 69 * 81 * 3$$

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

$$16 - 6 + \underline{69 \times 81} = 3$$

$$\underline{16} - 6 + \underline{5589} = 3$$

$$\underline{5605} - \underline{6} = 3$$

$$5599 \neq 3$$

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

$$16 \times 6 - 69 = \underline{81 \div 3}$$

$$\underline{16 \times 6} - 69 = 27$$

$$\underline{96} - \underline{69} = 27$$

$$27 = 27$$

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

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

$$\underline{16 \div 6} + 69 = 81 \times 3$$

$$2.6 + 69 = \underline{81 \times 3}$$

$$\underline{2.6 + 69} = 243$$

$$71.6 \neq 243$$

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

$$16 + 6 = \underline{69 \times 81} - 3$$

$$\underline{16 + 6} = 5589 - 3$$

$$22 = \underline{5589} - \underline{3}$$

$$22 \neq 5586$$

Hence the correct answer is option 2)

32. Answer: d

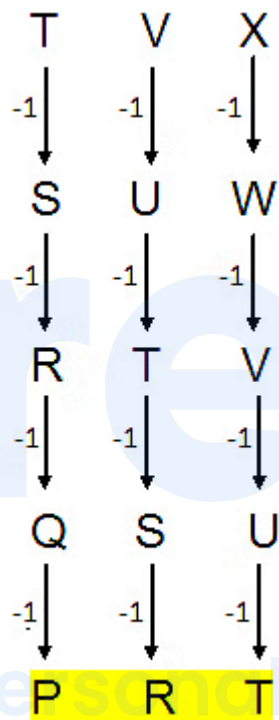
Explanation:

According to the English alphabets and their positional values:

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 pattern followed in the given series is:

Alphabets are decreased to 1 positional values.



Hence the correct answer is option 4)

33. Answer: a

Explanation:

The pattern followed in the given series is:

(First term $\times$ 5) - 5 = Second term

Let's apply the pattern on the given series:

19 : 90 :: 25 : ? :: 13 : 60

(First term $\times$ 5) - 5 = Second term

$$(19 \times 5) - 5 = 90$$

$$95 - 5 = 90$$

$$90 = 90$$

$$19 : 90 :: 25 : ? :: 13 : 60$$

(First term $\times$ 5) - 5 = Second term

$$(13 \times 5) - 5 = 60$$

$$65 - 5 = 60$$

$$60 = 60$$

$$19 : 90 :: 25 : ? :: 13 : 60$$

(First term $\times$ 5) - 5 = Second term

$$(25 \times 5) - 5 = \text{Answer}$$

$$125 - 5 = \text{Answer}$$

$$120 = \text{Answer}$$

Hence the correct answer is option 1)

34. Answer: a

Explanation:

The relation followed in the given series is:

Game : Object used to hit a ball in the game

Golf : Stick -- Golf is played with the help of **stick**.

Cricket : ? -- **Cricket** is played with the help of **bat**.

Since all other options does not follow the relation.

Hence the correct answer is option 1)

35. Answer: b

Explanation:

We use the BODMAS rule to solve the equation:

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

We apply each option on the given equation:

$$127 * 13 * 3 * 129 * 41$$

Option 1) +, =, +, -

$$127 + 13 = 3 + 129 - 41$$

$$140 = 132 - 41$$

$$140 \neq 91$$

Option 2) -, ×, =, -

$$127 - 13 \times 3 = 129 - 41$$

$$127 - 39 = 129 - 41$$

$$88 = 88$$

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

Option 3) ÷, -, =, -

$$127 \div 13 - 3 = 129 - 41$$

$$9.7 - 3 = 129 - 41$$

$$6.7 \neq 88$$

Option 4) -, -, =, +

$$127 - 13 - 3 = 129 + 41$$

$$127 - 13 - 3 = 170$$

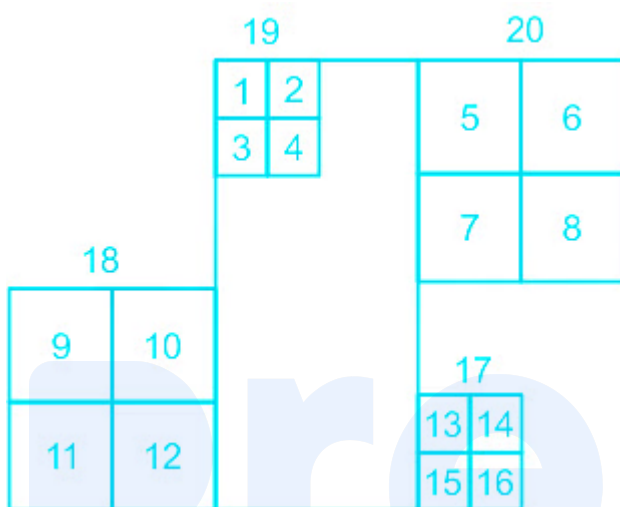
$$111 \neq 170$$

Hence the correct answer is option 2)

36. Answer: d

Explanation:

Explanation :



There are 16 inner squares and 4 outer squares.

Hence, **20** is the **correct answer** .

37. Answer: b

Explanation:

Explanation :

BODMAS Table

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

Symbol	Meaning
A	+
B	×
C	−
D	÷

Given equation : $17 A (31 B 3) C (64 D 8) A 41 C (21 B 4)$

According to BODMAS table

$$\Rightarrow 17 + (31 \times 3) - (64 \div 8) + 41 - (21 \times 4)$$

$$\Rightarrow 17 + 93 - 8 + 41 - 84$$

$$\Rightarrow 110 - 8 + 41 - 84$$

$$\Rightarrow 151 - 8 - 84$$

⇒ 59

Hence, "59" is the correct answer.

38. Answer: c

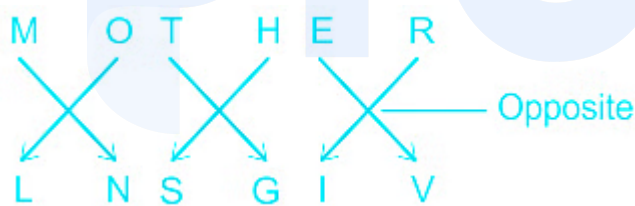
Explanation:

Alphabet and their positional value:

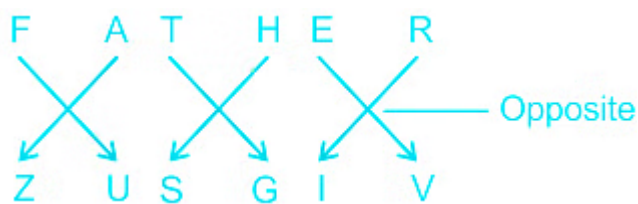
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The logic followed here is:

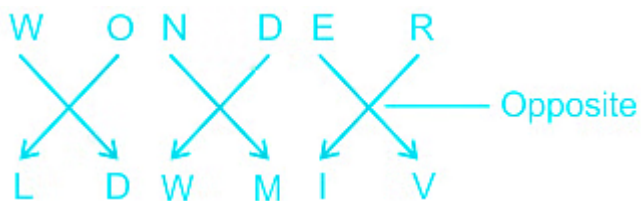
'MOTHER' is written as 'LNSGIV'



for, 'FATHER' is written as 'ZUSGIV'



Similarly, for WONDER:



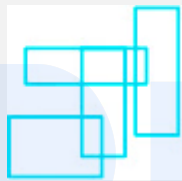
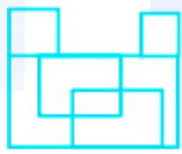
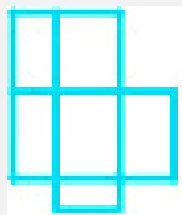
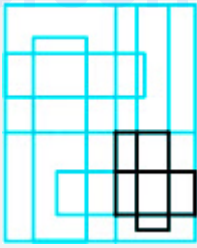
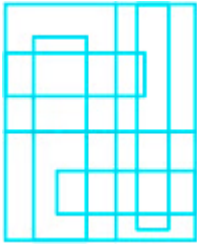
So, WONDER will be coded as LDWMIV.

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

39. Answer: c

Explanation:

The image embedded in given figure is as shown below :

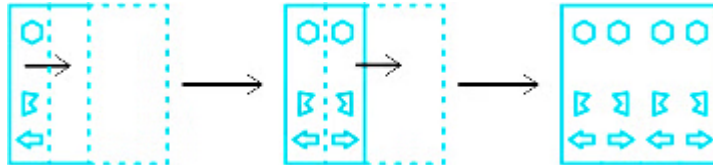
No	Option	Question	Embedded
1			Not Embedded
2			Not Embedded
3			Embedded
4			Not Embedded

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

40. Answer: c

Explanation:

When we unfold the paper step by step we get the following image:



Hence the correct answer is option 3)

41. Answer: b

Explanation:

The correct image of the given figure when the mirror is placed at 'MN' is:

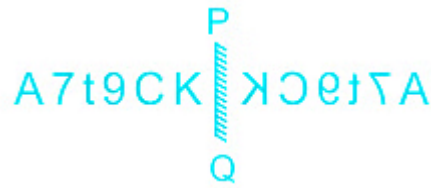


Hence, the correct answer is "Option 2".

42. Answer: c

Explanation:

Explanation: The correct image of the given figure when mirror is placed at 'PQ' is :



Hence, option 3 is the correct answer.

43. Answer: c

Explanation:

Explanation :

BODMAS Table

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

Given equation : $99 * 25 * 10 * 12 * 7$

Option 1) -, =, +, × by subsituating this value in given equation by BODMAS rule we get,

$$99 - 25 = 10 + 12 \times 7$$

$$74 = 10 + 84$$

$$74 \neq 94 \text{ (LHS } \neq \text{ RHS)}$$

Option 2) $+$, $=$, $+$, $\times$ by substituting this value in given equation by BODMAS rule we get,

$$99 + 25 = 10 + 12 \times 7$$

$$124 = 10 + 84$$

$$124 \neq 94 \text{ (LHS} \neq \text{RHS)}$$

Option 3) $-$, $+$, $=$, $\times$ by substituting this value in given equation by BODMAS rule we get,

$$99 - 25 + 10 = 12 \times 7$$

$$109 - 25 = 84$$

$$84 = 84 \text{ (LHS} = \text{RHS)}$$

Option 4) $-$, $=$, $+$, $+$ by substituting this value in given equation by BODMAS rule we get,

$$99 - 25 = 10 + 12 + 7$$

$$74 \neq 29 \text{ (LHS} \neq \text{RHS)}$$

Hence, **Option 3)** is the correct answer.

44. Answer: c

Explanation:

If 31 December 2009 was Thursday then,

Number of odd days in 2010(not a leap year) = 1

Thus, Thursday + 1 = Friday

31 December 2010 will be Friday.

Now, 25 December 2010 = Friday - 6 = Saturday.

So, 25 December 2010 was Saturday.

Hence, the correct answer is "Option 3".

45. Answer: d

Explanation:

BODMAS Table:

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

Given expression : $16 * 4 * 8 * 10 * 2 * 43$

After replacing the $*$ by signs, we get:

Option 1) $÷, ×, -, +, =$

$$16 ÷ 4 × 8 - 10 + 2 = 43$$

$$= 4 × 8 - 10 + 2 = 43$$

$$= 32 - 10 + 2 = 43$$

$$= 34 - 10 = 43$$

$$= 24 \neq 43$$

Given expression : $16 * 4 * 8 * 10 * 2 * 43$

After replacing the $*$ by signs, we get:

Option 2) $÷, ×, +, -, =$

$$16 * 4 * 8 * 10 * 2 * 43$$

$$= \underline{16 \div 4} \times 8 + 10 - 2 = 43$$

$$= \underline{4 \times 8} + 10 - 2 = 43$$

$$= \underline{32 + 10} - 2 = 43$$

$$= \underline{42 - 2} = 43$$

$$= 40 \neq 43$$

Given expression : $16 * 4 * 8 * 10 * 2 * 43$

After replacing the * by signs, we get:

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

$$16 * 4 * 8 * 10 * 2 * 43$$

$$= 16 \times \underline{4 \div 8} - 10 + 2 = 43$$

$$= \underline{16 \times 0.5} - 10 + 2 = 43$$

$$= \underline{8} - 10 \underline{+ 2} = 43$$

$$= \underline{10 - 10} = 43$$

$$= 0 \neq 43$$

Given expression : $16 * 4 * 8 * 10 * 2 * 43$

After replacing the * by signs, we get:

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

$$16 * 4 * 8 * 10 * 2 * 43$$

$$= 16 + 4 \times 8 - \underline{10 \div 2} = 43$$

$$= 16 + \underline{4 \times 8} - 5 = 43$$

$$= \underline{16 + 32} - 5 = 43$$

$$= 48 - 5 = 43$$

$$= 43 = 43$$

Hence, the correct answer is "Option 4".

46. Answer: a

Explanation:

Alphabet and their place value:

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

The logic followed here is:

'ACTOR' is written as '136812'



'HEROINE' is written as '95128745'



Similarly, for 'HERO'



Hence the correct answer is option 1)

47. Answer: d

Explanation:

The pattern followed here is : **Difference between each number in the series is a prime number** i.e 29, 23, 19, 17, 13 and 11.



Hence, 'option 4' is the correct answer.

★ **Important Points**

Prime Numbers : A prime number is a natural number greater than 1 that can be divided only by itself and 1.

First ten Prime Numbers : 2, 3, 5, 7, 11, 13, 17, 19, 23, 29.

48. Answer: b

Explanation:

The positional values of the English alphabet is as follows:

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 pattern followed here is:

$$\begin{aligned}
 &(3) C \xrightarrow{+7} (10) J \xrightarrow{+7} (17) Q \xrightarrow{+7} (24) X \xrightarrow{+7} (5) E \\
 &(9) I \xrightarrow{-8} (1) A \xrightarrow{-8} (19) S \xrightarrow{-8} (11) K \xrightarrow{-8} (3) C \\
 &(5) E \xrightarrow{-4} (1) A \xrightarrow{-4} (23) W \xrightarrow{-4} (19) S \xrightarrow{-4} (15) O \\
 &(15) O \xrightarrow{+6} (21) U \xrightarrow{+6} (1) A \xrightarrow{+6} (7) G \xrightarrow{+6} (13) M
 \end{aligned}$$

Hence, 'option 2' is the correct answer.

49. Answer: a

Explanation:



E and C are common in both the dices.

Clearly, F will be on the face opposite to D.

Hence, 'option 1' is the correct answer.

50. Answer: b

Explanation:

The logic followed here is:

Elephant : Trunk

Trunk is an internal organs that are the extended nose of Elephant,

Fish : Gill

Gills are the internal organs that allow Fish to breathe underwater.

Similarly, for Kangaroo : ?

Pouch is the internal organs of Kangaroo that functions exclusively as baby containers.

Antlers	Outer Boday Part
Blowhole	Outer Boday Part
Muzzle	Outer Boday Part

Hence, 'Option 2' is the correct answer.

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51. Answer: b

Explanation:

Given:

The speed of the car is travelling is 60 km/hr and Average Speed is 48 km/hr

Formula used:

Average speed = Total distance/Total time

Time = Distance/Speed

Calculation:

Let the Speed for returning be S.

Let the distance between A and B be x

$$2x/48 = x/60 + x/S$$

$$\Rightarrow 2x/48 - x/60 = x/S$$

$$\Rightarrow x/24 - x/60 = x/S$$

$$\Rightarrow 3x/120 = x/S$$

$$\Rightarrow S = 40 \text{ km/h}$$

Required speed = S = 40 km/hr

$\therefore$ The Required speed for returning is 40 km/hr.

Calculation:

★ Alternate Method

$$\Rightarrow (2 \times S_1 \times S_2)/(S_1 + S_2) = \text{Average speed}$$

$$\Rightarrow (2 \times 60 \times S_2)/(60 + S_2) = 48$$

$$\Rightarrow 5 \times S_2 = 120 + 2 \times S_2$$

$$\Rightarrow 3 \times S_2 = 120$$

$$\Rightarrow S_2 = 40$$

$\therefore$ The correct answer is 40 km/h.

52. Answer: d

Explanation:

Given:

Speed = 108 km/h

Time = 40 seconds

Formula used:

Distance = Speed $\times$ Time

Calculations:

Let the distance be D then,

According to question,

Distance = Speed $\times$ Time

$$\Rightarrow D = 108 \times \frac{40}{3600}$$

$$\Rightarrow D = 1.2 \text{ km} = 1 \text{ km } 200 \text{ m}$$

Hence, The distance required is 1 Km 200 m.

53. Answer: d

Explanation:

Given:

Length of the arc = 15 cm

Angle subtended by the arc at the centre = 24°

Formula used:

$$\text{Length of the arc} = \frac{\theta}{360^\circ} \times 2\pi r$$

Where, $2\pi r$ = circumference and θ = angle subtended by the arc at the centre.

Calculations:

According to the question,

$$\Rightarrow \frac{\theta}{360^\circ} \times 2\pi r = \text{Length of the arc}$$

$$\Rightarrow \frac{24^\circ}{360^\circ} \times 2\pi r = 15$$

$$\Rightarrow 2\pi r = 15 \times 15$$

$$\Rightarrow 2\pi r = 225 \text{ cm}$$

$\therefore$ The circumference is of length 225 cm.

54. Answer: d**Explanation:**

Given:

Ratio of radius of two right circular cylinders = 2 : 3

Ratio of their heights = 5 : 3

Formula used:

Volume of right circular cylinder = $\pi r^2 h$

Calculation:

Let the volumes of both the cylinder be v_1 and v_2 , respectively.

And the height of both cylinder be h_1 and h_2

Then, according to the question, we have:

$$\Rightarrow v_1 : v_2 = \pi \times (2)^2 \times (5) / \pi \times (3)^2 \times (3)$$

$$\Rightarrow v_1 : v_2 = 20/27$$

$$\Rightarrow V_1 : V_2 = 20 : 27$$

$\therefore$ The ratio of their Volumes is 20 : 27.

55. Answer: a

Explanation:

Given:

The successive discount are 10% and 40% (while done cash payment).

SP = Rs. 2,700

Formula:

$$\text{Successive discount} = X + Y - (XY)/100$$

Where,

X = First discount

Y = Second discount

Calculation:

$$\text{Successive discount} = X + Y - (XY)/100$$

$$\Rightarrow 10 + 40 - (400/100)$$

$$\Rightarrow 46\%$$

Now, according to the question,

$$\Rightarrow (100 - 46)\% \text{ of MP} = \text{SP}$$

$$\Rightarrow 54\% \text{ of MP} = \text{SP}$$

$$\Rightarrow 0.54 \times \text{MP} = 2700$$

$$\Rightarrow MP = 2700/0.54 = 5000$$

$\therefore$ The Required Marked Price is Rs.5,000.

56. Answer: a

Explanation:

Given:

A dealer allows his customers a discount of 15% and still gains 15%.

an article costs ₹2,500 to the dealer.

Formula used:

$$(\text{Marked price})/(\text{Cost price}) = (100 + \text{profit\%})/(100 - \text{discount\%})$$

Calculation:

According to question,

$$\text{Marked price}/2500 = 115/85$$

$$\Rightarrow \text{Marked price} = (23 \times 2500)/17$$

$$\Rightarrow \text{Marked price} = 57,500/17 = \text{Rs.}3382.352 \sim \text{Rs.}3382$$

$\therefore$ Marked price (nearest to one rupee) is Rs. 3382.

57. Answer: d

Explanation:

Given:

Distance between the parallel sides = 14 cm,

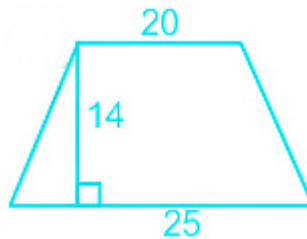
Length of the parallel sides are 20 cm and 25 cm.

Concept Used:

Area of trapezium = $(1/2) \times \text{Sum of the parallel sides} \times \text{Perpendicular distance between the parallel sides}$

Calculation:

According to the Question, We have:



Area of trapezium = $(1/2) \times \text{Sum of the parallel sides} \times \text{Perpendicular distance between the parallel sides}$

$$\text{Area} = (1/2) \times (20 + 25) \times 14$$

$$\text{Area} = 45 \times 7$$

$$\text{Area} = 315 \text{ cm}^2$$

$\therefore$ The Area of the trapezium is 315 cm².

58. Answer: a

Explanation:

Given:

Average of 6 integers is 48.

The average of the first five integers is 70% of the sixth integer.

Formula used:

Average = (sum of the numbers)/(total numbers)

Calculations:

Let the 6th integer be x.

So, according to the question,

$$(\text{Sum of the first 5 integers}) / 5 = 70\% \text{ of } x$$

$$(\text{Sum of the first 5 integers}) / 5 = 0.70 x$$

$$\text{Sum of the first 5 integers} = 3.5 x$$

$$\text{Now, Average of 6 integers} = 48$$

$$(\text{Sum of 5 integers} + \text{6th integer}) / 6 = 48$$

$$\Rightarrow (3.5x + x) = 48 \times 6$$

$$\Rightarrow 4.5 x = 288$$

$$\Rightarrow x = 288 / 4.5 = 64$$

$\therefore$ The Required value of the 6th integer is 64.

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59. Answer: c

Explanation:

Given:

Two numbers X and Y are such that the sum of 18% of X and 8% of Y is one-third of the sum of 22% of X and 36% of Y.

Calculations:

According to the question,

$$\Rightarrow 18\% \text{ of } X + 8\% \text{ of } Y = \frac{1}{3} \times (22\% \text{ of } X + 36\% \text{ of } Y)$$

$$\Rightarrow 3(0.18X + 0.08Y) = 0.22X + 0.36Y$$

$$\Rightarrow 0.54X + 0.24Y = 0.22X + 0.36Y$$

$$\Rightarrow (0.54 - 0.22)X = (0.36 - 0.24)Y$$

$$\Rightarrow 0.32X = 0.12Y$$

$$\Rightarrow X/Y = 0.12/0.32 = 3/8$$

$$\Rightarrow X : Y = 3 : 8$$

$\therefore$ The Required ratio is 3 : 8.

60. Answer: d

Explanation:

Given:

$$79 - [6 - \{4 - (8 \times (6 + 3))\}] \div 2$$

Concept used:

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

Calculations:

$$\Rightarrow 79 - [6 - \{4 - (8 \times (6 + 3))\}] \div 2$$

$$\Rightarrow 79 - [6 - \{4 - (8 \times (9))\}] \div 2$$

$$\Rightarrow 79 - [6 - \{4 - (72)\}] \div 2$$

$$\Rightarrow 79 - [6 - \{-68\}] \div 2$$

$$\Rightarrow 79 - [6 + 68] \div 2$$

$$\Rightarrow 79 - 74 \div 2$$

$$\Rightarrow 79 - 37$$

$$\Rightarrow 42$$

$\therefore$ The Required simplified value is 42.

61. Answer: b

Explanation:

Given:

$$\cos \theta = -\frac{\sqrt{3}}{2}$$

Concept used:

$$\cos(\pi - \pi/6) = -\frac{\sqrt{3}}{2},$$

As, every trigonometric ratio is negative in the second quadrant except Sin and its reciprocal.

Calculations:

$$\Rightarrow \cos \theta = -\frac{\sqrt{3}}{2}$$

$$\Rightarrow \cos \theta = \cos(5\pi/6)$$

$$\Rightarrow \theta = 5\pi/6$$

$\therefore$ The required value is $\frac{5\pi}{6}$.

62. Answer: a

Explanation:

Given:

Principal = Rs. 10,625

Rate = 8%

Time = 2 years

Formula used:

$$A = P\{1 + (r/100)^t\}$$

Where,

A = amount, P = principal, r = rate, t = time

Compound Interest = Amount – Principal

Calculation:

$$\Rightarrow A = P \times \{1 + (r/100)^t\}$$

$$\Rightarrow A = 10,625 \times \{1 + (8/100)^2\}$$

$$\Rightarrow A = 10,625 \times (108/100)^2$$

$$\Rightarrow A = 10,625 \times (1.08)^2$$

$$\Rightarrow A = \text{Rs.}12,393$$

$$\text{Compound Interest} = 12,393 - 10,625 = \text{Rs.}1,768$$

$\therefore$ The compound interest for the given principal is Rs. 1,768.

Concept used:

★ Alternate Method

The effective rate of R% for 2 years = $R + R + \frac{R \times R}{100}$

Calculation:

The effective rate of 8% for 2 years = 16.64%

$$\Rightarrow 10625 \times 16.64\% = 1768$$

∴ The correct answer is Rs. 1768.

63. Answer: b

Explanation:

Given:

The given numbers are 4, 8, 12 and 16.

Concept:

The smallest four-digit number is 1000.

Calculation:

$$\text{LCM of 4, 8, 12 and 16} = 48$$

When we divide 1000 by 48 we get 40 as the remainder.

$$\begin{aligned} \text{The smallest four-digit number which is divisible by 4, 8, 12 and 16 is} &= 1000 - 40 + 48 \\ &= 1008 \end{aligned}$$

The smallest four-digit number which when divided by 4, 8, 12 and 16 is = 1008

∴ The number will be 1008.

64. Answer: b

Explanation:

Given:

$$= 7.5$$

Calculations:

$$\Rightarrow \left(x - \frac{1}{x}\right) = 7.5$$

On squaring both sides, we get:

$$\Rightarrow \left(x - \frac{1}{x}\right)^2 = (7.5)^2$$

$$\Rightarrow x^2 + \frac{1}{x^2} - 2 = 56.25$$

$$\Rightarrow x^2 + \frac{1}{x^2} = 58.25$$

$\therefore$ The value of $x^2 + \frac{1}{x^2}$ is 58.25.

★ Alternate Method

Concept used:

If $\left(x - \frac{1}{x}\right) = P$ then,

$$x^2 + \frac{1}{x^2} = P^2 + 2$$

Calculation:

$$\Rightarrow \left(x - \frac{1}{x}\right) = 7.5$$

$$\Rightarrow x^2 + \frac{1}{x^2} = (7.5)^2 + 2$$

$$\Rightarrow x^2 + \frac{1}{x^2} = 58.25.$$

$\therefore$ The correct answer of $x^2 + \frac{1}{x^2}$ is 58.25.

65. Answer: c

Explanation:

Given:

$$(x^2 - 14x + 49)(x^2 + 6x + 9)$$

Calculations:

According to the question, we need:

$$\Rightarrow \sqrt{(x^2 - 14x + 49)(x^2 + 6x + 9)}$$

$$\Rightarrow \sqrt{(x^2 + 2(-7)x + 7^2)(x^2 + 2(3)x + 3^2)}$$

$$\Rightarrow \sqrt{(x - 7)^2(x + 3)^2}$$

$$\Rightarrow (x - 7)(x + 3)$$

$\therefore$ The required value is $(x - 7)(x + 3)$.

66. Answer: a

Explanation:

Given:

$$(x^3 + y^3)^{\frac{2}{3}} = (x^2 + y^2)$$

Concept Used:

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

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

Calculation:

For the given equation,

$$(x^3 + y^3)^{\frac{2}{3}} = (x^2 + y^2)$$

Cubing both sides, we get

$$\Rightarrow (x^3 + y^3)^2 = (x^2 + y^2)^3$$

$$\Rightarrow x^6 + y^6 + 2x^3y^3 = x^6 + y^6 + 3x^2y^2(x^2 + y^2)$$

$$\Rightarrow 2x^3y^3 = 3x^2y^2(x^2 + y^2)$$

$$\Rightarrow xy = \frac{3(x^2 + y^2)}{2}$$

Putting the value in the required equation $\frac{x^2 + y^2}{xy}$

$$\Rightarrow \frac{\frac{x^2 + y^2}{2}}{\frac{3(x^2 + y^2)}{2}} = \frac{2(x^2 + y^2)}{3(x^2 + y^2)} = \frac{2}{3}$$

$\therefore$ The required value of $\frac{x^2 + y^2}{xy}$ is $\frac{2}{3}$.

67. Answer: b

Explanation:

Calculation:

Percentage of population affected by cold in the year 2020 = 10%

Percentage of population affected by cold in the year 1990 = 3.5%

Percentage of population affected by cold in the year 2000 = 7%

Percentage of population affected by cold in the year 2010 = 8%

$\therefore$ The percentage of population affected by cold is minimum in the year 1990.

68. Answer: c

Explanation:

Given:

Total number of students = 100

Subject	Marks out of 100				
	80 and above	60 and above	40 and above	20 and above	0 and above
A	9	31	81	92	100
B	4	20	67	81	100
C	7	26	74	87	100

Calculation:

Number of students scored 80 or above in subject A = 9

Total number of students = 100

So, number of students who scored less than 80% of marks = $100 - 9 = 91$

∴ The number of students who scored less than 80% marks in A is 91

69. Answer: b

Explanation:

Given:

Profit = One-eighth of cost price

Concept Used:

$$\text{Profit Percentage} = \frac{\text{Profit}}{\text{CP}} \times 100$$

Calculation:

Let the cost price of a radio set be Rs 100

$$\text{Profit on selling radio set} = \frac{1}{8} \times 100 = 12.5 \text{ Rs}$$

$$\text{Profit Percentage} = \frac{12.5}{100} \times 100 = 12.5$$

$\therefore$ The profit percentage made on selling the radio set is 12.5%.

70. Answer: a

Explanation:

Given:

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Profession	% of People	% of males	% of females
Teaching	20	50	50
Law	15	65	35
Medical	20	60	40
Engineering	24	55	45
Banking	21	52	48

Total number of people = 10,000

Calculation:

Percentage of people in Teaching profession = 20%

Number of people in Teaching profession = $20\% \times 10000 = 2000$

Percentage of males in Teaching profession = 50%

Number of males in Teaching profession = 50% of 2000

Number of males in Teaching profession = 1000

$\therefore$ The total number of males in the teaching profession is 1000.

71. **Answer: a**

Explanation:

Given:

Radius of a hemispherical bowl = 7 cm

Concept Used:

Volume of hemisphere = $\frac{2}{3}\pi r^3$

Calculation:

Capacity of bowl = $\frac{2}{3}\pi r^3$

Capacity of bowl = $\frac{2}{3} \times \frac{22}{7} \times 7 \times 7 \times 7$

Capacity of bowl = $\frac{2}{3} \times 22 \times 49$

Capacity of bowl = $\frac{2156}{3} = 718\frac{2}{3} \text{ cm}^3$

$\therefore$ The capacity of the hemispherical bowl is $718\frac{2}{3} \text{ cm}^3$.

72. Answer: a

Explanation:

Given:

Time taken by pipe to fill the tank = 15 hours

Due to leakage, the time taken to fill the tank = 20 hours

Concept Used:

Rate of Leakage = Initial filling rate – Filling rate with leakage

Calculation:

$\Rightarrow$ Initial rate of filling the tank = $\frac{1}{\text{Time}} = \frac{1}{15}$

$\Rightarrow$ Time taken to fill the tank with leakage = 20 hours

⇒ So, Filling rate with leakage = $\frac{1}{20}$

⇒ Therefore, Rate of leakage = $\frac{1}{15} - \frac{1}{20} = \frac{4-3}{60} = \frac{1}{60}$

Hence, the time taken to empty the entire tank is 60 hours.

Calculation:

★ Shortcut Trick

Efficiency	Pipe	Time	Total capacity
4	P	15	60
3	P + L	20	

So,

Efficiency of the leakage = $(4 - 3) = 1$ unit/hr

Time taken to empty the tank = $60/1 = 60$ hrs

∴ The correct answer is 60 hrs.

73. Answer: b

Explanation:

Given:

5, 10 and 12

Concept Used:

Fourth proportion of three numbers a, b and c = $\frac{b \times c}{a}$

Calculation:

Let the fourth proportion be x.

So, $a = 5$, $b = 10$ and $c = 12$

Then, $x = \frac{10 \times 12}{5} = 24$

$\therefore$ The fourth proportion to 5, 10 and 12 is 24

74. Answer: d

Explanation:

Given:

Value of one installment = Rs 3,025

Rate of interest per annum = 10%

Concept Used:

$$\text{Sum Borrowed} = \left[\frac{\text{Principal}}{1 + \frac{r}{100}} \right] + \left[\frac{\text{Principal}}{\left(1 + \frac{r}{100}\right)^2} \right]$$

Calculation:

Principal amount of each installment = Rs 3,025

$$\text{Sum borrowed by a man} = \left[\frac{3025}{1 + \frac{10}{100}} \right] + \left[\frac{3025}{\left(1 + \frac{10}{100}\right)^2} \right]$$

$$\text{Sum borrowed by a man} = \frac{3025}{\frac{110}{100}} + \frac{3025}{\left(\frac{110}{100}\right)^2} = \frac{3025 \times 10}{11} + \frac{3025 \times 100}{121}$$

$$\text{Sum borrowed by a man} = 275 \times 10 + 25 \times 100 = 2750 + 2500 = 5250 \text{ Rs}$$

Hence, the sum of money borrowed by a man is Rs 5,250

Calculation:

★ Shortcut Trick

Principal	Installment
$10 \times 11 = 110$	$11 \times 11 = 121$
100	121

Now,

$$\Rightarrow 121 \text{ units} = 3025$$

$$\Rightarrow 1 \text{ unit} = 3025/121 = 25$$

$$\Rightarrow (110 + 100) = 210 \text{ units} = 210 \times 25 = 5250$$

$\therefore$ The correct answer is Rs.5250.

75. Answer: d

Explanation:

Given:

Votes secured by first candidate = 35% of the casted vote

Number of votes by which other candidate gave defeat = 1296

Calculation:

Let the total polled votes be x .

Percentage of votes secured by the winning candidate

$$\Rightarrow 100 - 35 = 65\%$$

$$\text{Votes polled for first candidate} = \frac{35}{100} \times x = \frac{7x}{20}$$

$$\text{Votes polled for second candidate} = \frac{65}{100} \times x = \frac{13x}{20}$$

According to the question,

$$\Rightarrow \frac{13x}{20} - \frac{7x}{20} = 1296$$

$$\Rightarrow \frac{6x}{20} = 1296$$

$$\Rightarrow x = \frac{1296 \times 20}{6}$$

$$\Rightarrow x = 216 \times 20 = 4320$$

$\therefore$ The total number of votes polled in the election are 4320

76. Answer: c

Explanation:

The correct answer is Mridangam.

★ Key Points

- **P Mani Iyer**

- Palghat T. S. Mani Iyer, born **Thiruvilvamalai Ramaswamy** was one of the leading **mridangists** in the field of Carnatic music.
- He, along with his contemporaries **Palani Subramaniam Pillai** and **Ramanathapuram C.S. Murugabhoopathy**, are revered as the "Holy Trinity of Mrudangam".
- **Mani Iyer** was the first mridangist to be awarded the Sangeetha Kalanidhi presented by the **Music Academy of Madras**, the **Padma Bhushan** and the **Sangeet Natak Akademi** Awards presented by the Government of India.
- Mani Iyer accompanied all the leading **vocal artists** of his era.
- He was also the **guru** for later mridangam players such as Late Palghat R. Raghu, Late Mavelikkara Velukkutty Nair, Umayalpuram K. Sivaraman, Thanjavur R. Ramadas, Kamalakar Rao, Late G. Harishankar (kanjira), etc.

★ Additional Information

- mridangam
 - The **mridangam** is a percussion instrument of ancient origin.

- It is the primary rhythmic accompaniment in a Carnatic music ensemble.
- sarangi
 - The **sarangi** is a bowed, short-necked string instrument played in traditional music from India – **Punjabi folk music** ,**Rajasthani folk music** , and **Boro folk music** – also in **Pakistan** and **Bangladesh** .
- violin
 - The **violin** , sometimes known as a **fiddle** , is a wooden chordophone in the violin family.
 - Most violins have a hollow mandolin .
 - It is the smallest and thus highest-pitched instrument in the family in regular use.
- mandolin
 - A **mandolin** is a stringed musical instrument in the lute family and is generally plucked with a plectrum

77. Answer: a

Explanation:

The correct answer is Ornit Shani.

★ Key Points

- The New India Foundation (NIF) Kamaladevi Chattopadhyay Book Prize was awarded to political and modern Indian history scholar **Ornit Shani** for her book *How India Became Democratic: Citizenship and the Making of the Universal Franchise*, published by Penguin Random House India.
- The prize carries a sum of **Rs 15 lakhs** and this second annual prize was presented during the Bangalore Literature Festival.
- Members of the **jury** included Nandan Nilekani, Ramachandra Guha, Manish Sabharwal and Srinath Raghavan.
- The Kamaladevi Chattopadhyay NIF Book Prize book prize was set-up in **2018** , with the aim of recognising outstanding non-fiction about contemporary India, and is open to all authors irrespective of their nationality.

- The 2018 prize was awarded to **Dr Milan Vaishnav** for his book *When Crime Pays: Money and Muscle in Indian Politics*.

★ Additional Information

- Jairam Ramesh
 - **Jairam Ramesh** is an **Indian economist**, historian and politician belonging to Indian National Congress.
 - He is a Member of Parliament representing **Karnataka state** in the Rajya Sabha.
- Milan Vaishnav
 - **Milan Vaishnav** is a senior fellow and director of the South Asia Program and the host of the Grand Tamasha podcast at Carnegie, where he focuses on India's political economy, governance, state capacity, distributive politics, and electoral behavior.
- Dinyar Patel
 - **Dinyar Patel** is Assistant Professor of History at the University of South Carolina.
 - He has written for **BBC News** and the **New York Times**, among other publications

78. Answer: b

Explanation:

The correct answer is 60 days.

★ Key Points

- **Vice-President**
 - The election of the next Vice-President is to be held within **60 days** of the expiry of the term of office of the outgoing Vice-President.
 - The **Election Commission of India**, which is a constitutional autonomous body, conducts the election.
 - The **vice president** is elected **indirectly**, by an electoral college consisting of members (**elected as well as nominated**) of both Houses of

Parliament, by the system of proportional representation using **single transferable votes** and the **voting is by secret ballot** .

- The election of the vice president is slightly different from the election of the president as the members of state legislatures are not part of the electoral college but the nominated members of **Rajya Sabha** are part of it.
- The nomination of a candidate for election to the office of the vice president must be subscribed by at least **20 electors** as proposers and **20 electors** as **seconders** .
- Every candidate has to make a security deposit of **₹15,000** in the **Reserve Bank of India** .

★ Additional Information

- Jagdeep Dhankhar
 - **Jagdeep Dhankhar** is an Indian politician and lawyer, who is serving as the **14th and current vice president of India** since **11 August 2022** .
 - Prior to serving in this position, he served as the **Governor of West Bengal** .
 - The vice president of India is the deputy to the head of state of the Republic of India, i.e. the **president** of India.
 - The office of **vice president** is the second-highest constitutional office after the president and ranks second in the order of precedence and first in the line of succession to the presidency.
 - The vice president is also a member of the Parliament of India as the **ex officio chairman** of the Rajya Sabha.

79. Answer: b

Explanation:

The correct answer is Karnataka.

★ Key Points

- On **May 7, 2021** , the Hon'ble Supreme Court of India delivered a judgment that revolved around the issue of dying declaration.

- The decision was passed in the case of **Jayamma & Anr. v. The State of Karnataka** , 2021 with **Lachma s/o Chandyanika & Anr. vs. State of Karnataka**, 2021.
- It was delivered by a double bench comprising Hon'ble Justice **Surya Kant** and Hon'ble Justice **Aniruddha Bose** .
- The present case has undergone through all the **Courts** , i.e., the Trial Court, the High Court, and the Supreme Court, where the final verdict was given.
- This case is a perfect example where the issue of **dying declaration** has been explained in detail by the Hon'ble Supreme Court.
- The Court, in this case, highlighted the significance of a dying declaration and termed it a **solitary piece** of evidence in a murder trial.
- Through this article, we shall analyze the law around dying declarations, in the light of **Jayamma & Anr. v. The State of Karnataka** .

★ Additional Information

- Karnataka
 - **Basavaraj Somappa Bommai** is an Indian politician and engineer who is the current and 23rd Chief Minister of Karnataka.
 - **Thawar Chand Gehlot** is an Indian politician who is the current and 19th Governor of Karnataka.
 - **Bangalore** , officially known as Bengaluru, is the Capital of the Indian State of Karnataka .
 - **Karnataka** state has **5** Tiger Reserves, **30** wildlife sanctuaries and **15** conservation reserves.

80. Answer: c

Explanation:

The correct answer is Value Added Method.

★ Key Points

- Value Added Method

- There are **three** methods for calculating national income namely **Income Method**, **Expenditure method**, and **Value Added Method**.
- In this article, we will understand the **value-added method** for calculating national income.
- The value-added method is used to calculate the **national income** in different stages of production in the circular flow.
- It represents the contribution for each producing unit in the **production process**.
- **Value-added** refers to the additional value to the raw material by an organization, using its production activities.
- It is calculated as the **difference** between the value of output and the value of intermediate goods.
- The **value-added method** is a widely used method for calculating national income as it avoids double counting, which is quite a serious error while estimating national income.

★ Additional Information

- Expenditure
 - The **expenditure** method is a system for calculating gross domestic product (GDP) that combines consumption, investment, government spending, and net exports.
 - It is the most common way to estimate GDP.
- Income
 - The **income** approach is an evaluation methodology used for real estate estimation, which is computed by dividing the capitalisation tariff or price by the net operating income of the rental payments.
- Monetary
 - The **monetary** method is a widely used approach to measure the size of the shadow economy.
 - It is based on the hypothesis that cash is used to make transactions that agents want to keep hidden from official records.

81. Answer: a

Explanation:

The correct answer is Assam.

★ Key Points

- **Bhupen Hazarika**
 - **Bhupen Hazarika** was an Indian playback **singer, lyricist, musician, poet, actor, and filmmaker** from **Assam**, widely known as **Sudha Kontho** means 'nectar-throated'.
 - The songs, based on the themes of **communal amity, universal justice, and empathy**, are especially popular among the people of Assam, West Bengal, and Bangladesh.
 - He is acknowledged to introduce the culture and folk music of Assam and Northeast India to Hindi cinema at the national level.
 - He received the **National Film Award for Best Music Direction** in 1975, **Padma Shri, and Padma Bhushan**, **Dada Saheb Phalke Award**, the highest award for cinema in India, the **Sangeet Natak Akademi Award**, and **Sangeet Natak Akademi Fellowship**, the highest award of the Sangeet Natak Akademi.
 - In **2012**, he was awarded the **Padma Vibhushan**, India's second-highest civilian award, and in **2019** the **Bharat Ratna**, India's highest civilian award, posthumously.
 - Bhupen Hazarika also held the position of Chairman of the Sangeet Natak Akademi from December 1998 to December 2003.

★ Additional Information

- The **15th** Chief Minister of Assam is **Sri Himanta Biswa Sarma**.
- The **30th** Governor of Assam is **Prof. Jagdish Mukhi** and he assumed his office on 10th October 2017.
- **Dispur** is the capital of **Assam**.

82. Answer: a

Explanation:

The correct answer is Sarod.

★ Key Points

- **Ustad Amjad Ali Khan**
 - **Ustad Amjad Ali Khan** born on 9th October 1945 is an **Indian classical sarod player**, best known for his clear and fast ekhara taans.
 - Ustad Amjad Khan was honored with **Padma Shri** in 1975, **Padma Bhushan** in 1991, and **Padma Vibhushan** in 2001.
 - Ustad Amjad Khan was also awarded **21st Rajiv Gandhi National Sadbhavna Award**, the **Sangeet Natak Akademi Award** in 1989, and the **Sangeet Natak Akademi Fellowship** in 2011.
 - **Sarod**: It is a stringed instrument.
 - Sarod known for its deep, weighty, introspective sound, widely used in folk music.
 - The U.S. state of Massachusetts proclaimed **20 April** as **Amjad Ali Khan Day** in 1984.

★ Additional Information

- **sarod**
 - The **sarod** is a stringed instrument, used in Hindustani music on the Indian subcontinent. Along with the sitar, it is among the most popular and prominent instruments.
 - The **Jal Tarang** is a melodic percussion instrument that originates from the Indian subcontinent. It consists of a set of ceramic or metal bowls filled with water. The bowls are played by striking the edge with beaters, one in each hand.
- **Sarangi**
 - The **sarangi** is a bowed, short-necked string instrument played in traditional music from India – Punjabi folk music, Rajasthani folk music, and Boro folk music – also in Pakistan and Bangladesh.
- **Veena**

- The **V eena** also spelled vina, comprises various chordophone instruments from the Indian subcontinent. Ancient musical instruments evolved into many variations, such as lutes, zithers, and arched harps.

83. Answer: d

Explanation:

The correct answer is **Kuchipudi**.

★ Key Points

- **Vempati Chinna Satyam**

- **Vempati Chinna Satyam** (1929–2012) was an Indian dancer and a guru of the **Kuchipudi** dance form.
- Born in a brahmin family, in **Kuchipudi Andhra Pradesh**.
- He refined the art form, bringing it closer to the standards of **Natya Shastra** and giving it a whole new perspective, and introducing new elements, i.e chari (leg movements) of Natya Shastra.
- He has started the **Kuchipudi Art Academy** at **Madras** in **1963**.
- He was awarded by many state governments of India such as **Kalaimamani** by the **Government of Tamil Nadu** and **Kalidas Puraskar** by the **Government of Madhya Pradesh**.
- He was honored with a **Doctorate degree** from **Andhra University**.
- He was also awarded the **Padma Bhushan** by the **Government of India**, the third highest civilian award.

★ Additional Information

- **Manipuri**

- The **Manipuri** Dance also referred to as the Manipuri Raas Leela, is one of the eight major Indian classical dance forms, originating from the state of Manipur.

- **Odissi**

- **Odissi** also referred to as Orissa in old literature, is a major ancient Indian classical dance that originated in the Hindu temples of Odisha – an

eastern coastal state of India.

- **Bharatanatyam**
 - **Bharatanatyam** is a major form of Indian classical dance that originated in Tamil Nadu. The dance form is also briefly mentioned in the Kannada text Manasollasa written by Someshwara III.

84. Answer: b

Explanation:

The correct answer is Mehsana.

★ Key Points

- **Modhera**
 - **Modhera** is a village in the South-west of **Mehsana** District, **Gujrat** .
 - The **three-day** Modhera Dance festival is held every year during the third week of January after the conclusion of the **Uttarayan festival** .
 - Modhera, the **temple** of the **Sun** narrates the history of its **patrons** , the **Solankis** in an architectural marvel.
 - This festival of dance, Uttarardh Mahotsav, derives its name from the planetary and astronomical configuration of the Sun.
 - This festival takes place every year after **Uttarayan** , at the Modhera temple dedicated to the Sun God.
 - Uttarayan is the day when the sun starts its voyage towards Uttar or North indicating the end of winter and the beginning of longer days with a pleasant breeze.
 - During Uttarayan, the Sun migrates from one planet to the other, it travels from **Dhanu or Sagittarius** to **Makara i.e Capricorn** .
 - Halfway through this voyage, when the ' **ardh** ' or half of ' **uttar** ' or Northward journey is over, the period is known as **Uttararadh** .

★ Additional Information

- **Gandhinagar** is the capital of Gujarat.

- **Bhupendrabhai Rajnikantbhai Patel** is an Indian politician and the current Chief Minister of Gujarat since September 2021.
- **Acharya Devvrat** is an Indian politician and former educationalist who is serving as the 20th Governor of Gujarat.
- **Garba**, is a type of Indian dance commonly performed at festivals and on other special occasions in the state of Gujarat, India.

85. Answer: c

Explanation:

The correct answer is **13169**.

★ Key Points

- Indian railway runs **13,169** passenger trains daily, on both long-distance and suburban routes, covering **7,325 stations** across India.
- Mail or Express trains, the most common types of trains, run at an average speed of **50.6 km/h**.
- India has the fourth largest railway network with over **22,593** operating trains with a daily passenger count of **24 million** passengers and **203.88 million** tonnes of freight.
- India's railway network is recognised as one of the **largest** railway systems in the world under single management.
- The passenger traffic in the railway sector dropped to around **1.3 billion** across India in fiscal year 2021. The significant decrease was mainly due to the impact of the coronavirus pandemic.
- Passenger rail traffic from India's suburbs was much higher than the non-suburban rail traffic at the end of fiscal year **2018**.

★ Additional Information

- Indian Railways
 - **Indian Railways** is a statutory body under the ownership of Ministry of Railways, Government of India that operates India's national railway system.

- **Ashwini Vaishnaw** is the **current railway minister** .
- It manages the **fourth** largest national railway system in the world by size, with a total route length of 67,956 km as of **31 March 2022** .

86. Answer: d

Explanation:

Correct answer is Mohiniyattam.

★ Key Points

- Kalamandalam Kshemavathy Pavithran
 - **Kalamandalam Kshemavathy Pavithran** was awarded the Padma Shri in 2011 for her contributions to **Mohiniyattam**.
 - She has also achieve the **Sangeet Natak Akademi Award**, and **Nrithya Natya Puraskara**.
 - Kshemavathy is famous for her **abhinaya and traditionalist approach** to the art form.
 - She has done a **lot of innovative choreographies**.



★ Additional Information

- **Yamini Krishnamurthy** is one of the notable Bharatanatyam and **Kuchipudi**.
- **Kuchipudi** is one of the eight major Indian classical dances.
- **Bharatanatyam** is a major form of Indian classical dance that originated in Tamil Nadu.

- **Kathak** is one of the eight major forms of **Indian classical dance**.

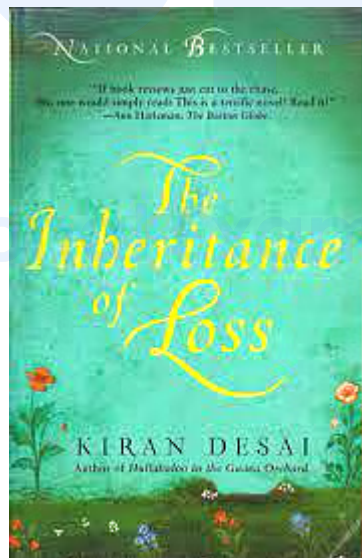
87. Answer: b

Explanation:

Correct answer is **The Inheritance of Loss**.

★ Key Points

- The title of the novel **The Inheritance or Loss** is **meant to encapsulate the generational continuation of loss that these immigrants have experienced**.
- The story is about **the lives of Biju and Sai**.
- Biju is an Indian living in the **United States illegally**, son of a cook who works for Sai's grandfather.
- **Sai is an orphan living in mountainous Kalimpong** with her maternal grandfather, Jemubhai Patel; the cook; and a dog named Mutt.



★ Additional Information

- **The Ministry of Utmost Happiness** is the second novel by Indian writer **Arundhati Roy**, published in 2017.
- **Midnight's Children** is a 1981 novel by British-Indian writer **Salman Rushdie**.
- **The Golden House** is a 2017 novel by **Salman Rushdie**.

88. Answer: a

Explanation:

Correct answer is Bharatanatyam.

★ Key Points

- **Bharatanatyam**
 - In 2011, **C V Chandra Shekhar** was honoured with the Padma Bhushan by the Government of India for **Bharatanatyam**.
 - **Bharatnatyam** was associated with **Devadasi Culture**.
 - Bharatanatyam is a major form of Indian classical dance that **originated in Tamil Nadu**.
 - The dance form is also compactly mentioned in Kannada text **Manasollasa** written by **Someshwara III**.



★ Additional Information

- **Kathakali**
 - The purpose of **Kathakali Theatre** is to tell and honor stories through the medium of dance.
 - **Kathakali** or 'story play' took shape in **Kerala** in southern India in the **seventeenth century** under the patronage of the prince of Karnataka.
- **Manipuri**
 - The **Manipuri Dance** , also known as the **Manipuri Raas Leela** , is one of the eight major Indian classical dance forms, **originating from the state of Manipur**.

- Kathak
 - **Kathak** is one of the eight major forms of Indian classical dance.
 - It is the classical dance form of **Uttar Pradesh** .

89. Answer: b

Explanation:

Correct answer is Louis Pasteur.

★ Key Points

- Louis Pasteur
 - In the 1850s and 1860s, the French chemist and microbiologist **Louis Pasteur** became the first scientist to study fermentation, when he demonstrated that this process was **performed by living cells**.
 - Pasteur is also known as one of the **fathers of germ theory of diseases** , which was a minor medical concept at the time.
 - His works are ascribe to saving millions of lives through the developments of **vaccines for rabies and anthrax** .
 - Pasteur was in charge for disproving the **doctrine of spontaneous generation** .



★ Additional Information

- Alexander Fleming

- Alexander Fleming was a Scottish physician-scientist who was recognised for **discovering penicillin**.
- **Angelina Fanny**
 - Angelina Fanny Hesse was **the first to propose the use of agar as a culture media for growing and isolating bacteria**.
- **Martinus Willem Beijerinck**
 - Martinus Willem Beijerinck was **the first to recognize that viruses are reproducing entities that are different from other organisms**.

90. Answer: d

Explanation:

Correct answer is Mridangam.

★ Key Points

- **Rajna Swaminathan**
 - **Rajna Swaminathan**, who is based in Maryland, U.S., also took up Carnatic **vocal and Bharatanatyam** classes, but chose to **specialise in the mridangam**.
 - Rajna is born into a musical family — her late mother was a singer and her father plays the mridangam.
 - The **mridangam** is a percussion **instrument** of ancient origin.
 - One of the most **ancient drums of India**, the **mridangam**, which literally means '**body of clay**,' originated in **South India**.



★ Additional Information

- The **violin** , also known as a **fiddle**, is a **wooden chordophone** in the violin family.
- Most violins have a **hollow wooden body**.
- The flute is a **family of classical music instrument in the woodwind group**.
- The **veena** comprises **various chordophone** instruments from the Indian subcontinent.

91. Answer: b

Explanation:

The correct answer is Nishad Kumar.

★ Key Points

- **Nishad Kumar**
 - Nishad Kumar is an **Indian Paralympian high jumper**.
 - He made his maiden Paralympic Games appearance in 2020 Tokyo representing India.
 - He went on to claim the **silver medal** in the **men's high jump T47** category with a new Asian record of 2.06m.
 - He took up the sport of para-athletics in 2009.
 - In **November 2019** , he won the **bronze medal** in the men's T47 category at the 2019 World Para Athletics Championships.
 - He also became the second Indian to win a medal at the 2020 Summer Paralympics after Bhavina Patel.
 - He was honored with the **Arjuna Award** in 2021.

★ Additional Information

- **Arjuna Award**
 - The Arjuna Award is officially known as **Arjuna Awards for Outstanding Performance in Sports and Games**.
 - It is the **second-highest** sporting honor of India.

- The award is named after Arjuna, one of the characters of the Sanskrit epic Mahabharata of ancient India.
- It is awarded annually by the **Ministry of Youth Affairs and Sports**.
- The nominations for the award are received from all government-recognized
 - National Sports Federations
 - Indian Olympic Association
 - Sports Authority of India (SAI)
 - Sports Promotion and Control Boards

92. Answer: b

Explanation:

The correct answer is Pteridophyta.

★ Key Points

- **Pteridophytes**
 - Pteridophytes are **vascular plants** that **reproduce using spores**.
 - They do not produce flowers and seeds and hence are also known as **cryptogams**.
 - They have a well-differentiated plant body into root, stem and leaves.
 - Pteridophytes are found in **moist, shady and damp places**.
 - They are found in crevices of rocks, bogs and swamps, and tropical trees.
 - They are one of the very first "**true**" **plants** to adapt to life on land.

★ Additional Information

- **Angiosperm**
 - Angiosperms are **vascular plants** with stems, roots, and leaves.
 - The seeds of the angiosperm are found in a flower.
 - These make up the majority of all plants on earth.
 - The seeds develop inside the plant organs and form fruit. Hence, they are also known as **flowering plants**.
 - They can grow in various habitats as trees, herbs, shrubs, and bushes.

- **Bryophyta**
 - Bryophyta are land plants, especially the **non-vascular ones**.
 - This division includes-
 - **Mosses**
 - **Liverworts**
 - **Hornworts**
 - Plants in this category do not have roots but have crude stems and leaves.
- **Gymnosperm**
 - Gymnosperms are a group of plants that **produce seeds not enclosed within the ovary** or fruit.
 - It belongs to kingdom '**Plantae**' and sub-kingdom '**Embryophyta**'.
 - The family of gymnosperms consist of **conifers, the cycads, the gnetophytes**.

93. Answer: b

Explanation:

The correct answer is John Dalton.

★ Key Points

- **Dalton's law**
 - Dalton's law states that in a mixture of non-reacting gases, the total pressure exerted is equal to the sum of the partial pressures of the individual gases.
 - This empirical law was observed by **John Dalton in 1801**.
 - It was **published in 1802**.
 - It is also called **Dalton's law of partial pressures**.
 - Dalton's law is related to the **ideal gas laws**.
 - Dalton's law is not strictly followed by real gases, with the deviation increasing with pressure.

★ Additional Information

- John Dalton
 - John Dalton FRS was an **English chemist, physicist, and meteorologist**.
 - He is best known for introducing the **atomic theory** into chemistry, and for his research into **color blindness**.
 - Colour blindness is known as **Daltonism** in several languages.
 - Discovered a way to find the atomic weight of elements namely Hydrogen, Oxygen, Nitrogen, Phosphorus, Carbon, and Sulfur.
 - He also developed **Dalton's Law** which is the law of partial pressures.

94. Answer: d

Explanation:

The correct answer is Hydrological cycle.

★ Key Points

- Hydrological cycle
 - The hydrologic cycle involves the continuous circulation of water in the Earth-Atmosphere system.
 - It is also called as the **water cycle**.
 - During this process, water changes its state from one phase to another, but the total number of water particles remains the same.
 - Water changes its state through a variety of processes from
 - evaporation
 - melting
 - freezing
 - sublimation
 - condensation
 - deposition
 - The major 4 steps are **evaporation** of water, then **condensation**, **precipitation** and **collection**.

★ Additional Information

- Carbon cycle

- The carbon cycle is nature's way of **recycling carbon atoms**.
- In this cycle carbon atoms continually travel from the atmosphere to the Earth and then back into the atmosphere.
- The four steps are **Photosynthesis, Decomposition, Respiration** and **Combustion**.
- **Nitrogen cycle**
 - Nitrogen Cycle is a biogeochemical process through which **nitrogen is converted into many forms**.
 - It is consecutively passing from the atmosphere to the soil to the organism and back into the atmosphere.
 - It involves several processes such as **nitrogen fixation, nitrification, denitrification, decay** and **putrefaction**.
- **Geological cycle**
 - The continuous process in which hot, molten material coming to the surface of the Earth from the interior forms igneous rocks.
 - There are four types of a geological cycle:
 - **tectonic sub-cycle**
 - **hydrologic sub-cycle**
 - **rock sub-cycle**
 - **biogeochemical sub-cycle**

95. Answer: a

Explanation:

The correct answer is Arun Jaitley cricket stadium – Bengaluru.

★ Key Points

- **Arun Jaitley Stadium**
 - Arun Jaitley Stadium is a cricket stadium located at **Bahadur Shah Zafar Marg, New Delhi**.
 - It was **established in 1883** as the **Feroz Shah Kotla Stadium**.
 - It is the **second oldest international cricket stadium** still functional in India.

- Since 2008 the stadium has been the home venue of the Delhi Capitals of the Indian Premier League.
- This stadium hosted ODI matches when India hosted the Cricket World Cup in **1987, 1996, and 2011**.

★ Additional Information

- **Eden Garden**

- Eden Gardens is a cricket ground in Kolkata, India.
- It was established in 1864.
- It is the oldest and second-largest cricket stadium in India and the third-largest in the world.
- The stadium currently has a capacity of 66,000.

- **Narendra Modi cricket stadium**

- The Narendra Modi Stadium is a cricket stadium situated in Ahmedabad, India.
- As of 2022, it is the largest stadium in the world.
- It has a seating capacity of 132,000 spectators.

96. Answer: c

Explanation:

The correct answer is Gujarati.

★ Key Points

- 'The Story of my Experiments with Truth' is the autobiography of Gandhi.
- In which he tells about his life; right from his early life in Porbandar all the way to his youth in England and how he stuck to the power of truth.
- The book was **originally written in Gujarati**.
- It was translated by a close associate of Mahatma Gandhi, **Mr. Mahadev Desai**.
- This book is more like a window that lets the reader see through the life of a legend.

★ Additional Information

- The Story of My Experiments with Truth is the autobiography of Mahatma Gandhi, covering his life from early childhood through to 1921.
- It was written in weekly installments and published in his journal **Navjivan** from **1925 to 1929**.
- Its English translation also appeared in installments in his other journal **Young India**.
- It was initiated at the insistence of **Swami Anand** and other close co-workers of Gandhi.
- In **1998**, the book was designated as one of the **"100 Best Spiritual Books of the 20th Century"**.

97. Answer: a

Explanation:

The correct answer is Ravi Kumar Dahiya.

★ Key Points

- **Ravi Kumar Dahiya**
 - Ravi Kumar Dahiya is an **Indian freestyle wrestler**.
 - He won a **silver medal** at the **2020 Tokyo Olympics** in the **57 kg** category.
 - Dahiya is also a **bronze medallist** from the **2019 World Wrestling Championships** and a three-time Asian champion.
 - In the **2022 Birmingham Commonwealth Games**, he won the **gold medal** in the men's **57 kg** freestyle wrestling category.
 - He was **ranked fifth** at the 2019 Asian Wrestling Championships in Xi'an.

★ Additional Information

- **Sushil Kumar**
 - Sushil Kumar Solanki is a **former Indian wrestler**.
 - He carried the Indian flag at the opening ceremony of the 2012 London Olympics.
 - In **July 2009**, he received the **Major Dhyan Chand Khel Ratna**.

- Sushil won the gold medal in the 74 kg division at the 2014 Commonwealth games.
- **Bajrang Punia**
 - Bajrang Punia is an **Indian freestyle wrestler**.
 - He competes in the **65-kg** weight category.
 - At the 2020 Tokyo Olympics, Punia won a bronze medal.
 - Punia is the only Indian wrestler to win 3 medals at the World Wrestling Championships.
- **KD Jadhav**
 - Khashaba Dadasaheb Jadhav was an **Indian athlete**.
 - He is best known as a wrestler who won a **bronze medal** at the **1952 Summer Olympics** in Helsinki.
 - He was the first athlete from independent India to win an individual medal in the Olympics.

98. Answer: a

Explanation:

The correct answer is Epsom salt.

★ Key Points

- Epsom salt (**magnesium sulfate**) is a chemical compound **comprised of magnesium, oxygen, and sulfur**.
- It is commonly dissolved in baths and used as a **home remedy**.
- It is rumored that absorbing magnesium through the skin can provide numerous health benefits.
- Epsom salts have been used for many years for conditions ranging from insomnia to constipation.
- It is **used to relax muscles and relieve pain in the shoulders, neck, back, and scalp**.
- Epsom salt baths aren't recommended for people with:
 - Severe skin inflammation
 - Skin infections

- Open wounds
- Severe burns

★ Additional Information

- Epsom salt is one of many **naturally occurring mineral salts**.
- It is a **compound of magnesium and sulfate** in rock-like formations.
- It gets its name from the town of Epsom in **Surrey, England**, where it was originally discovered.
- The salt was supposedly discovered about **400 years ago**.
- It has an appearance similar to table salt and is often dissolved in baths.

99. Answer: a

Explanation:

The correct answer is Basketball.

★ Key Points

- The term '**dribble**' is used in **Basketball**.
- In basketball, dribbling is bouncing the ball on the floor continuously with one hand at a time.
- It is the only legal way that a player may maintain possession of the ball while walking or running.
- The dribble allows for much faster advancement and thus more opportunities for scoring.
- It also provides an opportunity for a crafty player on the opposing team to "steal" the ball in mid-bounce.
- Dribbling **should be done with finger pads** and the fingers should be relaxed and spread.
- The wrist should be pushing the basketball, and the forearm should be moving up and down.

★ Additional Information

- Basketball is a team sport in which there are two teams of five players each.
- Players advance the ball by bouncing it while walking or running (dribbling) or by passing it to a teammate.
- On offense, players may use a variety of shots – **the layup, the jump shot, or a dunk; on defense.**
- They may steal the ball from a dribbler, **intercept passes, or block shots; either offense or defense** may collect a rebound.
- It is a violation to lift or drag one's pivot foot without dribbling the ball, to carry it, or to hold the ball with both hands and then resume dribbling.

100. Answer: a

Explanation:

The correct answer is Tropical zone.

★ Key Points

- **Tropical Zone**
 - The tropics are regions of the Earth that lie roughly in the middle of the globe.
 - The tropics between the latitude lines of the Tropic of Cancer and the Tropic of Capricorn.
 - It includes the Equator and parts of North America, South America, Africa, Asia, and Australia.
 - It accounts for 36% of the Earth's landmass and is home to about a third of the world's people.
 - It is warm all year, averaging **25 to 28 degrees Celsius** (77 to 82 degrees Fahrenheit).
 - It gets more than **59 inches of rainfall** each year.

★ Additional Information

- **Temperate zone**
 - The temperate zone lies between **23.5 degrees and 66.5 degrees** in the north and south hemispheres.

- It is characterized by the temperate climate i.e. mild, moderate temperature; neither hot nor cold.
- The **North Temperate Zone** is situated between the **Arctic Circle** and the **Tropic of Cancer**.
- The **South Temperate Zone** is situated between the **Antarctic Circle** and the **Tropic of Capricorn**.
- It is characterized by having a climate that is warm in the summer, cold in the winter, and moderate in the spring and fall.

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