



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

Please bring me a glass of water.

- a. Let a glass of water being brought to me, please.
- b. Let a glass of water be brought to me, please.
- c. Let a glass of water come to me.
- d. Let a glass of water be given to me.

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

Startle

- a. Tumble
- b. Surprise
- c. Impress
- d. Delight

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

The delegates talked of the matter for an hour but without any result.

- a. talked to
- b. talked above
- c. talked from

d. talked over

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

Sahukaars provide loan in 2% interest rate for a month, which is higher than the bank charges.

- a. at 2% interest in a month
 - b. at 2% interest rate per month
 - c. for 2% interest for a month
 - d. for 2% interest rate every month
-

5. The following sentence has been split into four segments. Identify the segment that contains an INCORRECTLY spelt word (+2, -0.5)

Subsequent to the delegation's visit to the villages, / a new working committee and a task force / have been formed to carry out / all the developmental works as promised to the people.

- a. Subsequent to the delegation's visit to the villages
 - b. have been formed to carry out
 - c. a new working committee and a task force
 - d. all the developmental works as promised to the people
-

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

As was customary, the young prince was brought to the podium in a diamond studded carriage for the coronation ceremony.

- a. As was customary, the young prince brings himself to the podium in a diamond studded carriage for the coronation ceremony
- b. As was customary, the young prince is bought to the podium in a diamond studded carriage for the coronation ceremony.
- c. As was customary, the young prince brought in a diamond studded carriage to the podium for the coronation ceremony.
- d. As was customary, the palace staff brought the young prince to the podium in a diamond studded carriage for the coronation ceremony.

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

We should all stays united.

- a. stayed
- b. had staying
- c. stay
- d. are staying

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

Reena got embarrassed and started crying.

- a. frightened and started shouting

- b. humiliated and started weeping
 - c. frustrated and started yelling
 - d. conscious and started admiring
-

9. Select the INCORRECTLY spelt word.

(+2, -0.5)

- a. Expelled
 - b. Sartorial
 - c. Implicate
 - d. Sabotege
-

10. Which word in the given sentence is the ANTONYM of – nibble?

(+2, -0.5)

They sprinted across the floor and leaped up to the elevated platforms, poking their soft muzzles into the stanchions to gobble the grain.

- a. gobble
 - b. muzzles
 - c. elevated
 - d. sprinted
-

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

(+2, -0.5)

One who loves the company of others

- a. Misanthrope
 - b. Gregarious
 - c. Philanthropist
 - d. Patent
-

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

Under the weather

- a. Under debt
 - b. Left by a loved one
 - c. Very angry
 - d. Feeling ill
-

13. Select the denotation of the highlighted word. (+2, -0.5)

The **divisive** politics of this nation has led to its downfall.

- a. Spurring
 - b. Dethroning
 - c. Alienating
 - d. Encouraging
-

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

The moral values in this nation were at their nadir during the autocrat's rule.

- a. horizon
- b. median
- c. base
- d. peak

15. 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. The sharp increase in our consumption of fossil fuels has led to their depletion at an alarming rate.
- B. Unchecked burning of fossil fuel is like an unchecked dripping tap which will eventually run dry.
- C. The toxic pollutants released from burning these fuels are also a cause for concern.
- D. This has led to the tapping of various non-conventional sources of energy that are cleaner alternatives to fossil fuels.

- a. CDBA
- b. CBAD
- c. ACBD
- d. DCBA

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

Pure

- a. Lucid
- b. flawless
- c. Complex
- d. Indecent

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

You and I / am going / to make / a great team.

- a. You and I
- b. to make
- c. am going
- d. a great team

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

- a. Characteristic
- b. Appearance
- c. Controversy
- d. Definetly

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

I was forbidden to take any drink.

- a. prohibited from rebuffing
- b. prohibited from receiving
- c. prohibited from rejecting
- d. prohibited from snubbing

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

(+2, -0.5)

By leaps and bounds

- a. Brisk walk
- b. Very slowly
- c. Superb catch in a cricket match
- d. Very quickly

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)

Relate comic things (1) _____ pompous fashion. Irregularity, in other words the unexpected, the surprising, the astonishing, are essential to and characteristic (2) _____ beauty. Two fundamental literary qualities: supernaturalism and irony. The blend (3) _____ the grotesque and the tragic are attractive to the mind, as is discord to blasé ears. Imagine a canvas for a lyrical, magical farce, for a pantomime, and translate it (4) _____ a serious novel. Drown the whole thing in an abnormal, (5) _____ atmosphere, in the atmosphere of great days – the region of pure poetry.

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

- a. off
- b. over
- c. at
- d. in

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)

Relate comic things (1) _____ pompous fashion. Irregularity, in other words the unexpected, the surprising, the astonishing, are essential to and characteristic (2) _____ beauty. Two fundamental literary qualities: supernaturalism and irony. The blend (3) _____ the grotesque and the tragic are attractive to the mind, as is discord to blasé ears. Imagine a canvas for a lyrical, magical farce, for a pantomime, and translate it (4) _____ a serious novel. Drown the whole thing in an abnormal, (5) _____ atmosphere, in the atmosphere of great days – the region of pure poetry.

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

- a. by
- b. in
- c. at
- d. of

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)

Relate comic things (1) _____ pompous fashion. Irregularity, in other words the unexpected, the surprising, the astonishing, are essential to and characteristic (2) _____ beauty. Two fundamental literary qualities: supernaturalism and irony. The blend (3) _____ the grotesque and the tragic are attractive to the mind, as is discord to blasé ears. Imagine a canvas for a lyrical, magical farce, for a pantomime, and translate it (4) _____ a serious novel. Drown the whole thing in an abnormal, (5) _____ atmosphere, in the atmosphere of great days – the region of pure poetry.

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

- a. up
- b. of
- c. to
- d. on

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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)

Relate comic things (1) _____ pompous fashion. Irregularity, in other words the unexpected, the surprising, the astonishing, are essential to and characteristic (2) _____ beauty. Two fundamental literary qualities: supernaturalism and irony. The blend (3) _____ the grotesque and the tragic are attractive to the mind, as is discord to blasé ears. Imagine a canvas for a lyrical, magical farce, for a pantomime, and translate it (4) _____ a serious novel. Drown the whole thing in an

abnormal, (5) _____ atmosphere, in the atmosphere of great days – the region of pure poetry.

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

- a. into
- b. beside
- c. for
- d. off

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)

Relate comic things (1) _____ pompous fashion. Irregularity, in other words the unexpected, the surprising, the astonishing, are essential to and characteristic (2) _____ beauty. Two fundamental literary qualities: supernaturalism and irony. The blend (3) _____ the grotesque and the tragic are attractive to the mind, as is discord to blasé ears. Imagine a canvas for a lyrical, magical farce, for a pantomime, and translate it (4) _____ a serious novel. Drown the whole thing in an abnormal, (5) _____ atmosphere, in the atmosphere of great days – the region of pure poetry.

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

- a. plentiful
- b. dreamy
- c. littered
- d. hygienic

General Intelligence

26. 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)

13 : 78 :: 23 : ? :: 19 : 228

- a. 276
- b. 368
- c. 298
- d. 342

-
27. If 25 March 1995 is a Saturday, then what will be the day of the week on 12 December 1997? (+2, -0.5)

- a. Tuesday
- b. Thursday
- c. Friday
- d. Saturday

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

First row: 54, 72, 90

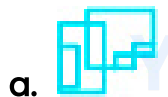
Second row: 79, 97, 115

Third row: 83, 101, ?

(NOTE: Operations should be performed on the whole numbers, without breaking down the number into its constituent digits. For example, 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.)

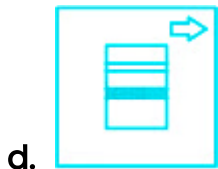
- a. 114
- b. 120
- c. 119
- d. 129

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



30. Select the figure from among the given options that can replace the question mark (?) in the following series.

(+2, -0.5)



31. In a certain code language, 'PAIR' is written as 'ZKIR' and 'SAIL' is written as 'ZHOR'. How will 'BULK' be written in that language?

(+2, -0.5)

a. OPYF

b. YFPO

c. FYPO

d. FPOY

32. Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series. (+2, -0.5)

K a _ _ N _ a K _ R a _ K a _ a R _ N K a

a. R a K a N K a

b. K a K a N K a

c. R a K a N R a

d. R a R a N K a

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

21 A 34 C 6 B (72 D 9) A 13 B 1 + (56 D 4) = ?

a. 34

b. 43

c. 35

d. 29

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

1. Proper
2. Pronoun
3. Proof
4. Prophecy
5. Propel

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

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

(50, 10, 15)

(60, 10, 16)

(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, 15, 19)
- b. (60, 10, 6)
- c. (80, 20, 16)
- d. (80, 6, 15)

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

57, 62, 45, ?, 33, 86

- a. 70
- b. 74
- c. 62
- d. 52

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

Statements:

Some strawberries are bananas.

All bananas are avocados.

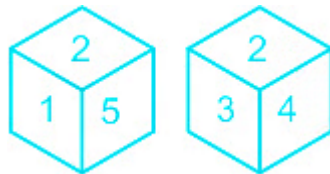
Some avocados are grapes.

Conclusion:

- I. Some avocados are bananas.
 - II. Some grapes are bananas.
 - III. Some avocados are strawberries.
- a. Only conclusions I and II follow
 - b. Only conclusions I and III follow

- c. Only conclusion I follows
- d. Only conclusion II follows

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



- a. 4
- b. 6
- c. 3
- d. 1

39. In a certain code language, 'BROWSER' is written as 'DTQYUGT' and 'MONITOR' is written as 'OQPKVQT'. How will 'PRINTER' be written in that language? (+2, -0.5)

- a. RTKLVTG
- b. RTKPUGT
- c. RTKPVGT
- d. RTKPVHT

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

BURGER : UBTIRE :: EDITOR : DEKVRO :: PLASMA : ?

- a. PLSAMA
- b. LPSAAM
- c. LPCUAM
- d. PLHZMA

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

13 : 120 :: 17 : 152 :: 21 : ?

- a. 148
- b. 184
- c. 188
- d. 144

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

12 : 1764 :: 8 : 528 :: 16 : ?

- a. 4156

- b. 4266
- c. 4260
- d. 4160

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



- a. $\varepsilon w \partial \Sigma b w$
- b. $\varepsilon w \partial \Sigma b m$
- c. $\varepsilon w 9 Z b w$
- d. $\varepsilon w \partial \Sigma p m$

44. Each of the seven friends, Misha, Minshu, Mohi, Priya, Veer, Pari and Krishi, has a different height. Krishi is taller than only three people. Pari is taller than only Veer. Misha is taller than Minshu but not Mohi. Priya is taller than Mohi. (+2, -0.5)

Who among the following is taller than Krishi?

- a. Minshu
 - b. Mohi
 - c. Pari
 - d. Veer
-

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

23, 22, 26, 17, 33, 8, ?

- a. 40
 - b. 44
 - c. 36
 - d. 38
-

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

16, 96, 101, ?, 407, 814

- a. 405
 - b. 396
 - c. 400
 - d. 404
-

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

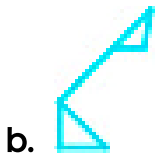


- a. 321cba
- b. 123abc
- c. 321cba
- d. 123abc

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



- a.



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

$$91 * 13 * 26 * 51 * 18$$

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

50. Select the option that represents the letters that, when placed from left to right in the blanks, will complete the letter series. (+2, -0.5)

_ V E F I B V _ F I C V E F _ D _ E F _

- a. E I V I A
- b. A I E V I

c. AEIVI

d. EIVAI

Prepp

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Quantitative Aptitude

51. The price of an article is reduced by 30% but the daily sale of the article increased by 35%. The net percentage effect on the daily sale receipts is: (+2, -0.5)
- $6\frac{1}{2}\%$ increase
 - $5\frac{1}{2}\%$ increase
 - $5\frac{1}{2}\%$ decrease
 - $6\frac{1}{2}\%$ decrease
-
52. In an election between two candidates, a candidate who gets 72% of votes is elected by a majority of 572 votes. Find the total number of the votes polled. (assuming all votes are valid) (+2, -0.5)
- 1100
 - 900
 - 1500
 - 1300
-
53. If we want ₹8,640 three years from now and the compounded interest rate is 20% p.a how much should we invest today? (assuming interest is compounded yearly) (+2, -0.5)
- ₹5,000
 - ₹4,500
 - ₹5,500

d. ₹6,000

54. A man offers a 21% discount on an item. He offers a further discount of 40% on the reduced price for the first 100 customers. If the selling price of the item is ₹4,740, and the customer is one of the first 100 then the marked price (in ₹) of the item is (+2, -0.5)

a. ₹10,000

b. ₹8,000

c. ₹12,000

d. ₹9,000

55. If $1 + \tan \theta = \sqrt{3}$, then $\sqrt{3} \cot \theta - 1 = \text{-----}$. (+2, -0.5)

a. $\frac{\sqrt{3}+1}{2}$

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

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

d. $\frac{2\sqrt{3}+1}{2}$

56. A dealer purchased a food processor for ₹10,000. He offered a discount of 20% on its listed price and still gained a profit of 40%. Find the listed price of the food processor. (+2, -0.5)

a. ₹16,000

b. ₹15,200

c. ₹17,500

d. ₹12,000

57. In a 1500-m race, if A beats B by 100 m and B beats C by 150 m, then by what distance (in m) does A beat C? (+2, -0.5)

- a. 140
 - b. 150
 - c. 100
 - d. 240
-

58. Find the third proportional to 27 and 18. (+2, -0.5)

- a. 9
 - b. 48
 - c. 12
 - d. 36
-

59. Raman has a certain average after 9 innings. In the 10th inning he scores 100 runs, thereby increasing his average by 8 runs. His new average is (+2, -0.5)

-----.

- a. 24
- b. 28
- c. 20
- d. 22

60. If $a + b + c = 0$, then find the value of $\frac{a^2+b^2+c^2}{a^2-bc}$. (+2, -0.5)

- a. -1
- b. 1
- c. 2
- d. -2

61. Find the volume of a solid hemisphere whose radius is 6.3 cm. (Use $\pi = 22/7$) (+2, -0.5)

- a. 623.908 cm^3
- b. 723.908 cm^3
- c. 823.908 cm^3
- d. 523.908 cm^3

62. The following table shows the production of five types of cars by a company for the years 2012 to 2015. (+2, -0.5)

Years →	2012	2013	2014	2015	Total
Types of cars ↓					
D1	7	21	17	6	51
D2	15	11	15	14	55
D3	20	15	12	13	60
D4	5	8	9	25	47
D5	19	15	18	15	67
Total	66	70	71	73	280

In which year was the total production of cars of types D2 and D3 taken together, equal to the total production of cars of types D4 and D5 taken together?

- a. 2013
- b. 2012
- c. 2014
- d. 2015

63. Which of the following numbers is NOT divisible by 36?

(+2, -0.5)

- a. 136216
- b. 124344
- c. 259884
- d. 120816

64. PQ and RS are two parallel chords of a circle of length 10 cm and 24 cm, respectively, and lie on the same side of the centre O. If the distance between the chords is 7 cm, what is the radius (in cm) of the circle? (+2, -0.5)

- a. 11
- b. 9
- c. 13
- d. 7

65. A seller combines 26 kg of rice priced at ₹20 per kg with 30 kg of rice priced at ₹36 per kg and sells the mixture for ₹30 per kg. What is the percentage of profit he makes? (+2, -0.5)

- a. 8
- b. 5
- c. 7
- d. 3

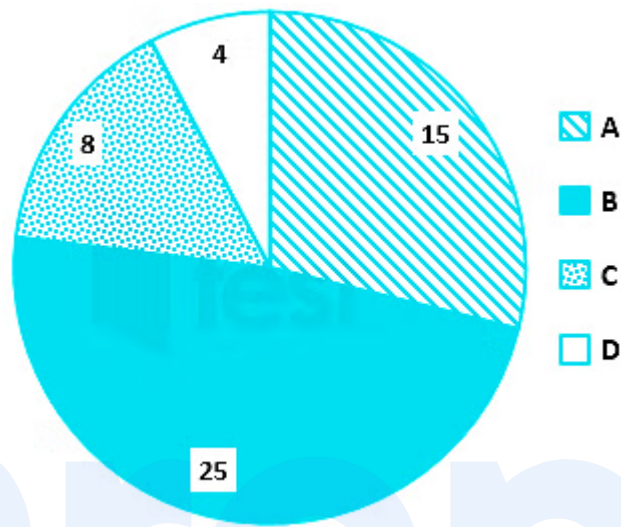
66. The value of $52 - 5[2 + 3\{2 - 2(5 - 3) + 5\} - 10] \div 8$ is: (+2, -0.5)

- a. 40.375
- b. 41.315
- c. 51.375
- d. 50.375

67. Study the given pie-chart and answer the question that follows.

(+2, -0.5)

The pie-chart below represents the actual number of students securing different grades in a science test.



Calculate the percentage of students who took the test and secured a D grade.

- a. $7\frac{9}{13}$
- b. 16
- c. 2
- d. 4

68. With an average speed of 60 km/h, a train reaches its destination on time. (+2, -0.5)

If it goes with an average speed of 45 km/h, it is late by 20 minutes. The distance covered by the train is _____.

- a. 30 km
- b. 40 km

c. 50 km

d. 60 km

69. The surface area of a solid metallic sphere is 616 cm^2 . It is melted and recast into a solid cone of height 28 cm. Find the diameter of the base of the cone so formed. (Take $\pi = 22/7$) (+2, -0.5)

a. 10 cm

b. 12 cm

c. 14 cm

d. 16 cm

70. The area of a square is $4x^2 - 12x + 9$. Which of the following will be the side of the square? (+2, -0.5)

a. $(2x + 3)$

b. $(2x - 3)$

c. $(3x - 2)$

d. $(3x + 2)$

71. What is the radius of a sphere having volume of 4851 cm^3 ? (Use $\pi = 22/7$) (+2, -0.5)

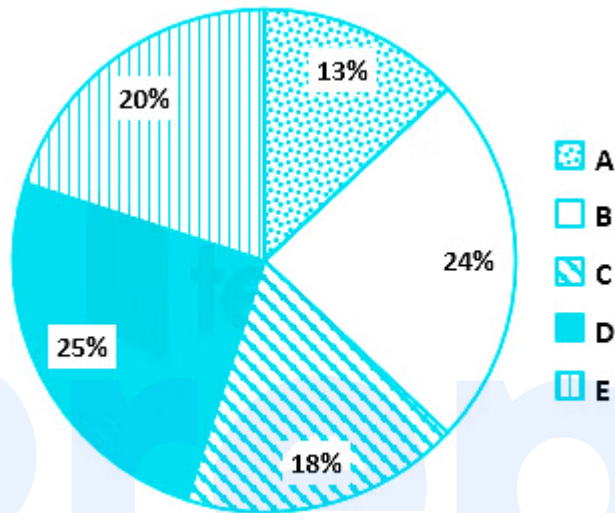
a. 12.5 cm

b. 10.5 cm

c. 9.5 cm

d. 11.5 cm

72. The given pie chart shows the percentage wise distribution of books in 5 different states A, B, C, D and E. The total number of books is 2500. (+2, -0.5)



What is the different between the total number of books in states B and C together and the total number of books in states D and E together?

- a. 75
- b. 50
- c. 25
- d. 43

73. If $a - b = 3$ and $a^3 - b^3 = 999$, then find the value of $a^2 - b^2$. (+2, -0.5)

- a. 60
- b. 62

c. 64

d. 63

74. A dealer had 120 kg of wheat. A part of it was sold by him at 10% gain and the rest at 25% gain. overall, he had a gain of 15%. How much of the wheat was sold at 10% gain? **(+2, -0.5)**

a. 80 kg

b. 60 kg

c. 40 kg

d. 50 kg

75. In one-sixth of the time that B takes to complete a piece of work, A can complete half of the same work. If working together they take 16 days to complete the work, how much time shall B take to complete it alone? **(+2, -0.5)**

a. 38 days

b. 76 days

c. 44 days

d. 64 days

General Awareness

76. In February 2022, the Karnataka High Court declared certain provisions of the Karnataka Police (Amendment) Act, 2021 as unconstitutional, which prohibited and criminalised the activities related to _____. (+2, -0.5)
- a. use of dark web
 - b. gathering at nightclubs
 - c. online gaming
 - d. gambling
-
77. How many countries share the natural heritage of the Caspian Sea? (+2, -0.5)
- a. Two
 - b. Five
 - c. Four
 - d. Three
-
78. Who among the following described the Indian Constitution as 'quasi federal'? (+2, -0.5)
- a. MV Pylee
 - b. Gunnar Myrdal
 - c. AV Dicey
 - d. KC Wheare

79. Who among the following became the youngest player to defeat world number one chess champion, Magnus Carlsen, of Norway in an online chess tournament in February 2022? (+2, -0.5)

- a. Nihal Sarin
- b. Rameshbabu Praggnanandhaa
- c. Vidit Gujrathi
- d. Abhijeet Gupta

80. To combat inflation, what is the usual monetary policy stance adopted? (+2, -0.5)

- a. Owlish
- b. Dovish
- c. Hicksian
- d. Hawkish

81. Which of the following novel is written by Bhisham Sahni? (+2, -0.5)

- a. Vande Mataram
- b. Tamas
- c. Nirmala
- d. Gunahon Ka Devta

82. What is the role of ribosomes of a polysome? (+2, -0.5)

- a. Translate the mRNA into proteins
 - b. Help in making DNA
 - c. Help in DNA replication
 - d. Create rRNA
-

83. Who synthesised acetic acid for the first time? (+2, -0.5)

- a. Berthelot
 - b. F Wohler
 - c. Berzelius
 - d. Kolbe
-

84. The Novel 'Train to Pakistan' dealing with the tragedy of India's Partition is written by whom among the following authors? (+2, -0.5)

- a. Mulk Raj Anand
 - b. Ruskin Bond
 - c. M L Malgaonkar
 - d. Khushwant Singh
-

85. Identify the factor that does NOT affect the salinity of the ocean. (+2, -0.5)

- a. The type of marine organisms found in the water bodies
- b. The rate of evaporation and precipitation

- c. Wind
 - d. The amount of fresh water flowing into the ocean
-

86. Who among the following is NOT a recipient of Bharat Ratna Award? (+2, -0.5)

- a. Bhimsen Joshi
 - b. Pandit Ravi Shankar
 - c. Bismillah Khan
 - d. Pandit Kumar Gandharva
-

87. The systematic name of which compound is nitrogen trihydride that is widely used in many industrial processes, and as a fertiliser and refrigerant? (+2, -0.5)

- a. Potash
 - b. Urea
 - c. Phosphine
 - d. Ammonia
-

88. The "Sattriya" classical dance is associated with which state? (+2, -0.5)

- a. Kerala
- b. Bihar
- c. Odisha

d. Assam

89. Allah Jilai Bai, a singer from Rajasthan is famous for which of the following? (+2, -0.5)

- a. Ghazals
 - b. Folk songs
 - c. Bhajans
 - d. Hindustani classical vocals
-

90. What is the maximum number of players of a single team on the floor at one time in a basketball game? (+2, -0.5)

- a. 7
 - b. 6
 - c. 4
 - d. 5
-

91. Which of the following teams was defeated by the Indian Hockey team to win the bronze medal in Asian Champions Trophy 2021 on December 22, 2021? (+2, -0.5)

- a. Pakistan
- b. Bangladesh
- c. Nepal

d. Sri Lanka

92. Rama Vaidyanathan was awarded with the honour of the Devadasi National Award in 2013 for her contribution in which of the following Indian dance forms? **(+2, -0.5)**

- a.** Mohiniyattam
 - b.** Odissi
 - c.** Kuchipudi
 - d.** Bharatnatyam
-

93. Famous singer Teejan Bai is related to which of the following folk musics? **(+2, -0.5)**

- a.** Pabuji ki Phad
 - b.** Pandvani
 - c.** Mand
 - d.** Aalha
-

94. Which of the following is used as a pesticide or fumigant for cereals and as an igniting agent in flares? **(+2, -0.5)**

- a.** Ethanoic acid
- b.** Magnesium bisulphite
- c.** Aluminium phosphide
- d.** Hydrogen peroxide

95. As per coding convention of India Census, how many digit code is used for showing state code? (+2, -0.5)

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

96. In which sport is the term LONA used? (+2, -0.5)

- a. Kabaddi
- b. Kho-Kho
- c. Volleyball
- d. Soft ball

97. Who among the following has been awarded the Padma Shri in 2020 for her contribution in Indian Classical dance? (+2, -0.5)

- a. Indira PP Bora
 - b. Shovana Narayan
 - c. Rukmini Devi Arundale
 - d. Padma Subrahmanyam
-

98. Kamalini Asthana and Nalini Asthana, the celebrated dancer duo have been conferred the Padma Shri for their significant contribution to which of the following dance forms in 2022? (+2, -0.5)

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

99. Autobiography of an Unknown Indian is the collective memoir of ----- (+2, -0.5)

- a. Nirad C Chaudhuri
- b. Vikram Seth
- c. Salman Rushdie
- d. Amitav Ghosh

100. Who among the following won the Best Male Singer National Award at the 67th National Film Awards? (+2, -0.5)

- a. Mika Singh
- b. Arijit Singh
- c. K.J Yesudas
- d. B Praak

Answers

1. Answer: b

Explanation:

The correct option is **Let a glass of water be brought to me, please.**

★ Key Points

- Given sentence "**Please bring me a glass of water**" is in **Simple Present Tense** and in **Active voice**.
- The sentence given in the above question is an imperative sentence as it refers to a request or command as seen in the given sentence, where the speaker is asking someone to bring a glass of water.
- The rule for changing a Simple Present Tense sentence into a Passive voice is as follows:
 - Interchange the object and subject with each other, i.e. object of the active sentence become the subject of the passive sentence.
 - We need to change the verb '**bring**' down to passive, which will become '**be brought**'.
 - **Structure (for the sentence that involves requests):** Let + Subject + Third form of verb + Object.
 - **Example:** *Sit down, Please. (Active Voice)*

Let me be seated. (Passive Voice)

2. Answer: b

Explanation:

The correct answer is **Surprise** .

★ Key Points

- **Startle** refers to take an action that surprises and occasionally disturbs a person or an animal.
 - **Example** : *She was reading the novel but my voice startled her.*
- **Surprise** refers to an unexpected event.
 - **Example**: *He gave his mother a surprise on her birthday.*
- " **Startle** " and " **Surprise** " are similar in meaning.

Therefore, the correct option is **Surprise**.

★ Additional Information

- **Tumble** refers to drop suddenly and uncontrollably.
- **Impress** refers to earn someone's regard or admiration.
- **Delight** means considerable enjoyment, satisfaction, or pleasure.

3. Answer: d

Explanation:

The correct answer is "Talked over."

★ Key Points

- "Talked of" is grammatically incorrect in this sentence.
- The correct usage is "**Talked over**" instead of "**Talked of**."
- We use "**of**" when we want to show that people or things relate to other things or people.
 - **Example**: *She was staring at the wall of her office.*
- We use the "over" when describing movement or position that is higher than another and "on something."
 - **Example**: *We were talking over phone.*
- In the given sentence, the delegates talked on the matter.

The correct sentence is: **The delegates talked over the matter for an hour but without any result.**

4. Answer: b

Explanation:

The correct answer is **At 2% interest rate per month.**

★ Key Points

- The sentence can be improved by replacing the "In 2% interest rate per month." with "At 2% interest rate per month."
- We use the preposition "in" when describing a location in relation to a bigger area.
 - **Example:** *The novel is in my locker.*
- We use the preposition "at" when we talk about prices and numbers.
 - **Example:** *We booked the hotel at 2500 rupees.*
- Thus, the correct option is At 2% interest rate per month.

The correct sentence is: **Sahukaars provide loan at 2% interest rate per month which is higher than the bank charges .**

5. Answer: c

Explanation:

The incorrectly spelt word is "**commitee**." i.e. option 3.

★ Key Points

- In the given options "**commitee**" is incorrectly spelt. Its correct spelling is "**Committee**."
- Let's look at its meaning.
- **Committee:** A small group of individuals appointed to speak on behalf of a bigger organisation and either make decisions or gather data for it.
 - **Example:** *He is a part of the school's development **committee** .*

- Therefore, as per the points mentioned above, we find that the correct answer is Option 3.

★ Additional Information

Let's look at the meaning of other options also:

Word	Meaning
Subsequent	occurring following something else
Delegation	The act of giving someone a certain task, responsibility, authority, etc.
Developmental	Connected to the growth of someone or something

6. Answer: d

Explanation:

The correct answer is **As was customary, the palace staff brought the young prince to the podium in a diamond studded carriage for the coronation ceremony.**

★ Key Points

- Given sentence "As was customary, the young prince was brought to the podium in a diamond studded carriage for the coronation ceremony " is in **Simple Past Tense** and in **Passive voice** .
- The rule for changing a **Simple Past tense** form into an **Active voice** is as follows:
 - Interchange the subject with the object and vice-versa.
 - Convert the verb into a past participle or 2nd form of the verb.
 - Structure: **Subject + second form of verb + Object.**

- **Example:** *He drove the car. (Active Voice)*

The car was driven by him. (Passive Voice)

Therefore, the correct answer is: As was customary, the palace staff brought the young prince to the podium in a diamond studded carriage for the coronation ceremony.

Additional Information

- The **Active voice** is used when the subject of the sentence does the action.
- The **Passive voice** is used when we focus on the object of the sentence.

7. Answer: c

Explanation:

The correct answer is **Stay**.

★ Key Points

- The sentence can be improved by replacing the "**All stays**" with "**Stay.**"
- The given sentence is in **Simple Present Tense**.
- We use the "**Simple Present Tense**" when something is happening right now or frequently.
 - **Structure:** Subject + first form of verb + s/es/ies (with singular verb) + Object.
 - **Example:** *She needs to do her homework.*
- As "**all**" is a plural verb, "**stay**" should be used instead of "all stays."
- Thus, the correct option is **Stay**.

The correct sentence is: **We should stay united.**

8. Answer: b

Explanation:

The correct answer is **Humiliated and started weeping**.

★ Key Points

- The sentence can be improved by replacing the "**Embarrassed and started crying**" with "**Humiliated and started weeping**."
- **Embarrassed**: Feeling ashamed or timid.
 - **Example**: *She felt embarrassed when teacher scolded her.*
- **Humiliated**: Someone who is made to feel foolish or ashamed.
 - **Example**: *She felt humiliated in front of the whole class.*
- Thus, the correct option is **Humiliated and started weeping**.

The correct sentence is: **Reena got humiliated and started weeping**.

★ Additional Information

- **Frightened** refers to a person who is afraid or concerned.
- **Frustrated** refers to getting frustrated or feeling less confident as a result of not getting what you desire.
- **Conscious** refers to a person who is awake, reasoning, and aware of his surroundings.

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9. Answer: d

Explanation:

The incorrectly spelt word is "Sabotege."

★ Key Points

- In the given options "Sabotege" is incorrectly spelt. Its correct spelling is "**Sabotage**."
- Let's look at its meaning.

- **Sabotage:** To tamper with or destroy machinery, tools, or structures in order to hinder the success of an adversary or rival.
 - **Example:** *Her image has been sabotaged by boys.*
- Therefore, as per the points mentioned above, we find that the correct answer is **Sabotege** .

★ Additional Information

Let's look at the meaning of other options also:

Word	Meaning
Expelled	To compel someone to abandon a place of employment, a group, or a nation.
Sartorial	Pertaining to the creation of clothing, typically for males, or to a certain style of wearing.
Implicate	To demonstrate that someone committed a crime or is at least partially to blame for something negative that occurred.

10. Answer: a

Explanation:

The correct answer is **Gobble** .

★ Key Points

- **Nibble** refers to eating something by taking several, little bits.
 - **Example:** *A mouse has nibbled the cheese.*
- **Gobble** means eating food too fast.

- **Example:** *She gobbled her breakfast.*
- Nibble and **Gobble** have different meanings.

Therefore, the correct option is **Gobble**.

★ Key Points

- **Muzzles** refers to an animal's mouth and nose, especially one that is a dog.
- **Elevated** refers to something that is larger beyond what is reasonable or normal.
- **Sprinted** refers to go quickly across a small distance, either in a race or out of a strong desire to reach somewhere.

11. Answer: b

Explanation:

The correct answer is "**gregarious**"

★ Key Points

- In the given options, the most appropriate answer that can be used as a one-word substitute is '**gregarious**.'
- **Gregarious:** like to be with other people.
 - **Example:** *Emma is a **gregarious**, outgoing sort of person.*
- Therefore, the correct answer is option 2.

★ Additional Information

- Let's look at the meanings of the other options.
- **Misanthrope:** someone who dislikes and avoids other people.
- **Philanthropist:** a person who helps the poor, especially by giving them money.
- **Patent:** the official legal right to make or sell an invention for a particular number of years.

12. Answer: d

Explanation:

The correct answer is "**feeling ill**"

★ Key Points

- The most appropriate meaning of the given idiom is '**feeling ill.**'
- **Under the weather:** To feel sick.
 - **Example:** *I was still feeling a bit **under the weather.***
- Therefore, as per the points mentioned above, we find that the correct answer is option 4.

★ Additional Information

- Let's look at the usage and meaning of some idioms.

Idioms	Meaning	Example
Through thick and thin	Being faithful and loyal in all circumstances.	A true friend supports you through thick and thin.
The best of both worlds	Enjoying the two different situations.	By taking up part-time work you can enjoy family life as well, the best of both worlds.
When pigs fly	Something impossible to happen.	Politician stop taking bribes can happen only when pigs fly.

13. Answer: c

Explanation:

The correct answer is "**alienating**"

★ Key Points

- In the given options, the most appropriate answer is '**alienating**.'
- **Alienating**: to cause someone or a group of people to stop supporting and agreeing with you.
 - **Example:** *All these changes to the newspaper have **alienated** its traditional readers.*
- Therefore, the correct answer is **option 3**.

★ Additional Information

- Let's understand the usage and meaning of the other options.

Words	Meaning	Example
Spurring	give an incentive or encouragement to someone.	Her son's passion for computer games spurred her to set up a software business.
Dethroning	to beat someone who is best at something.	The world champion was dethroned by a young Swedish challenger.
Encouraging	making you feel more.	There was a lot of positive feedback, which was very encouraging .

14. Answer: c

Explanation:

The correct answer is "**base**"

★ Key Points

- **Nadir** means the point at which something is at its lowest value or level.
 - **Example:** *At its **nadir** in the mid-1980s, the pound was almost at parity with the dollar.*
- **Base** means the lowest part or edge of something.

- **Example:** *She sat down at the **base** of a tree.*
- Therefore, the correct answer is **option 3**.

★ Additional Information

- Let's understand the usage and meaning of the other options.

Words	Meaning	Example
Horizon	the line at the farthest place that you can see, where the sky seems to touch the land or sea.	The moon rose slowly above the horizon .
Median	middle one in a set of values arranged in order of size.	Median household income fell last year.
Peak	the highest, strongest	Prices reach a peak during August.

15. Answer: c

Explanation:

The correct answer is "ACBD"

★ Key Points

- Sentence A should come first as it is the opening of the paragraph.
- Sentence C is the second sentence as it states about toxic pollutants caused by fossil fuels.
- Sentence B is the third sentence as it states that unchecked the burning of fossil fuel leads to getting dried.
- Sentence D comes at the end as it is the conclusion of the paragraph.

★ Additional Information

- The paragraph after the re-arrangement is as follows:

- The sharp increase in our consumption of fossil fuels has led to their depletion at an alarming rate. The toxic pollutants released from burning these fuels are also a cause for concern. Unchecked burning of fossil fuel is like an unchecked dripping tap which will eventually run dry. This has led to the tapping of various non-conventional sources of energy that are cleaner alternatives to fossil fuels.

16. Answer: d

Explanation:

The correct answer is "**indecent**"

★ Key Points

- **Pure** means not mixed with anything else.
 - **Example:** A *pure* Arab horse.
- Marked option **indecent** means morally offensive.
 - **Example:** She accused him of making *indecent* suggestions to her.
- Therefore, the most appropriate antonym of the given word '**pure**' is '**indecent**.'

★ Additional Information

- Let's understand the usage and meaning of the other options.

Words	Meaning	Example
Lucid	clearly expressed and easy to understand	She gave a clear and lucid account of her plans for the company's future.
Flawless	perfect or without mistakes.	A flawless performance.
Complex	involving a lot of different but related parts.	A complex network of roads.

17. Answer: c

Explanation:

The correct answer is "am going"

★ Key Points

- The given sentence is grammatically incorrect.
- Here, the verb 'am' should be changed into 'are.'
- The verb 'are' is used in the present tense form with the second person singular and all plurals.
- The verb 'are' is used with the pronouns 'you' and 'they.'
 - **Example:** *They are both helpful.*
- The above example indicates second person singular, all present tense.
- Therefore, as per the points mentioned above, the correct answer is option 3.

18. Answer: d

Explanation:

The correct answer is "definitely"

★ Key Points

- In the given options, the incorrectly spelled word is 'definetly.'
- The correct spelling of the word is 'definitely.'
- **Definitely:** without any doubt.
 - **Example:** *He definitely said he would be here.*
- Therefore, the correct answer is option 4.

★ Additional Information

- Let's look at the usage and meaning of the other options.

Words	Meaning	Example
Characteristic	a typical or noticeable quality of someone or something.	Unfortunately, a big nose is a family characteristic .
Appearance	to be present for a short time.	I didn't really want to go to the party, but I thought I would better put in an appearance .
Controversy	a lot of disagreement or argument about something.	The police had caused heated controversy ever since it was introduced.

19. Answer: b

Explanation:

The correct answer is "prohibited from receiving"

★ Key Points

- In the given options, the most appropriate answer is 'prohibited from receiving.'
- **Forbidden:** not allowed.
 - **Example:** *Smoking is **forbidden** in the cinema.*
- Therefore, as per the points mentioned above, we find that the correct answer is **option 2**.

20. Answer: d

Explanation:

The correct answer is "very quickly"

★ Key Points

- The most appropriate meaning of the given idiom is '**very quickly.**'
- **By leaps and bounds:** someone or something is increasing or improving quickly.
 - **Example:** *He is improved in **leaps and bounds** this season.*
- Therefore, as per the points mentioned above, we find that the correct answer is **option 4.**

★ Additional Information

- Let's look at the usage and meaning of some idioms.

Idioms	Meaning	Example
Go down in flames	to fall miserably	If you do not plan properly your dreams can go down in flames.
It cost an arm and a leg	something is very expensive.	Luxury cars can something cost an arm and a leg to people.
See eye to eye	To agree with each other's opinions.	You can see eye to eye with people who do not agree with your opinion.

21. Answer: d

Explanation:

The correct answer is "**in**"

★ Key Points

- In the given options, the most appropriate answer is 'in'
- It is a preposition.
- A preposition is a word or group of words used before a noun or pronoun or noun phrase to show direction, time, place, location, etc.
 - **Example:** *He reads **in** the evening.*
- Therefore, as per the points mentioned above, the correct answer is option 4.

22. Answer: d

Explanation:

The correct answer is "of"

★ Key Points

- In the given options, the most appropriate answer is 'of'
- It is a preposition.
- A preposition is a word or group of words used before a noun or pronoun or noun phrase to show direction, time, place, location, etc.
 - Example: *She stared at the floor **of** her room.*
- Therefore, as per the points mentioned above, the correct answer is option 4.

23. Answer: b

Explanation:

The correct answer is "of"

★ Key Points

- In the given options, the most appropriate answer is 'of'
- It is a preposition.
- A preposition is a word or group of words used before a noun or pronoun or noun phrase to show direction, time, place, location, etc.
 - Example: *He resigned from his position as a member **of** the school board.*
- Therefore, as per the points mentioned above, the correct answer is option 2.

24. Answer: a

Explanation:

The correct answer is "into"

★ Key Points

- In the given options, the most appropriate answer is 'into'
- It is a preposition.
- A preposition is a word or group of words used before a noun or pronoun or noun phrase to show direction, time, place, location, etc.
 - Example: *She dived **into** the water.*
- Therefore, as per the points mentioned above, the correct answer is option 1.

25. Answer: b

Explanation:

The correct answer is "dreamy"

★ Key Points

- In the given options, the most appropriate answer is 'dreamy.'
- **Dreamy**: seeming to be in a dream and not paying attention to what is happening around you.
 - **Example**: She gets this dreamy expression on her face when she talks about food.
- Therefore, as per the points mentioned above, the correct answer is **option 2**.

★ Additional Information

- Let's look at the usage and meaning of the other options.

Words	Meaning	Example
Plentiful	a lot of it is available	Strawberries are plentiful in the summer.
Littered	a small piece of rubbish that has been left lying on the ground in public places.	About two percent of fast-food packaging ends up in litter .
Hygienic	clean	It isn't hygienic to let all animals sit at the dining table.

26. Answer: b

Explanation:

The logic followed here is:

Logic: $(\text{First number} - 7) \times \text{first number} = \text{second number}$

1) 13 : 78

$$\Rightarrow (13 - 7) = 6$$

$$\Rightarrow 6 \times 13 = 78$$

2) 19 : 228

$$\Rightarrow (19 - 7) = 12$$

$$\Rightarrow 12 \times 19 = 228$$

Similarly,

3) 23 : '?'

$$\Rightarrow (23 - 7) = 16$$

$$\Rightarrow 16 \times 23 = 368$$

Hence, the correct answer is **"368"**.

27. Answer: c

Explanation:

We have, 25 March 1995 is Saturday.

Since 1996 is leap year = 2 odd days. So, 25 March 1996 = Saturday + 2 = Monday

Again 1997 is ordinary year = 1 odd day. So 25 March 1997 = Monday +1 = Tuesday

Next, we will count the remaining days = $6 + 30 + 31 + 30 + 31 + 31 + 30 + 31 + 30 + 12$
 $= 262 \div 7 = 3$ odd days

Thus, on 12 Dec 1997 = Tuesday + 3 = Friday

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

28. Answer: c

Explanation:

The logic here is:

Logic: Each term is added by 18 to get the next term of the same row.

First row $\rightarrow 54 + 18 = 72 \Rightarrow 72 + 18 = 90$

And,

Second row $\rightarrow 79 + 18 = 97 \Rightarrow 97 + 18 = 115,$

Similarly,

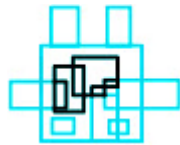
Third row $\rightarrow 83 + 18 = 101 \Rightarrow 101 + 18 = 119$

Hence, the correct answer is "119".

29. Answer: a

Explanation:

The figure is given below:



The shaded portion is embedded in the figure.

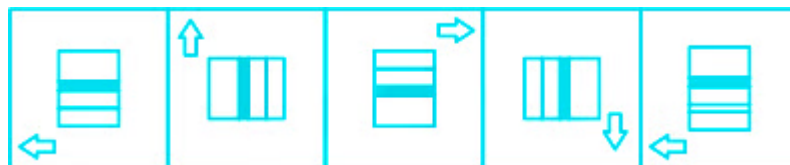
Hence, 'option 1' is the correct answer.

30. Answer: b

Explanation:

Here, we can see that the given figure is moving in clockwise direction.

Given:



In the 1st figure the arrow is bottom left facing left, next it is at top left facing top.

Similarly seeing this, the missing image will be same as the 1st figure given.

First, we will check all the options:

We see that, the next figure will have the arrow at the bottom left and so option 4 is eliminated.

Next, we see that the rectangle image will be in horizontal direction and so option 3 is eliminated.

Again, we see that, the black part is on top and so option 1 is eliminated.

Thus, we are left with option 2



Hence, the correct answer is option 2.

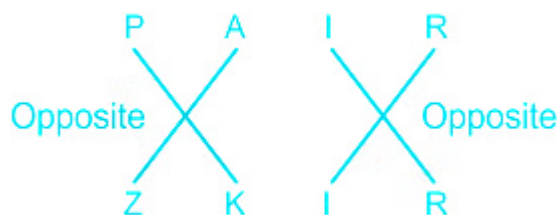
31. Answer: c

Explanation:

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

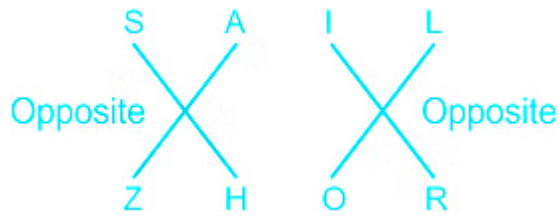
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

'PAIR' is written as 'ZKIR'



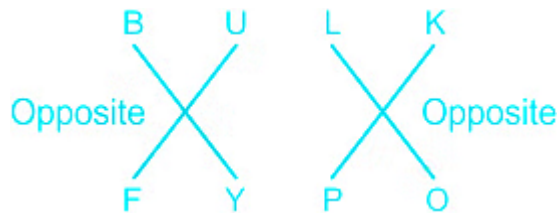
And,

'SAIL' is written as 'ZHOR'



Similarly,

'BULK' be written as '?'



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

32. Answer: a

Explanation:

Here, we need to find the missing blanks

The logic here is: Make of group of 1st seven letters.

Given: K a _ _ N _ a K _ R a _ K a _ a R _ N K a

1) R a K a N K a: K a R a N K a - K a R a N K a - K a R a N K a

2) K a K a N K a: K a K a N K a - K a R a N K a - K a R a N K a

3) R a K a N R a: K a R a N K a - K a R a N K a - R a R a N K a

4) R a R a N K a: K a R a N R a - K a R a N K a - K a R a N K a

In the option 1, the " R a K a N K a " is repeating itself.

From this we can say the pattern: K a **R a** N K a - K **a** R a N K a - **K a** R a N K a

Hence, the missing blanks is '**R a K a N K a**'.

33. Answer: a

Explanation:

BODMAS Rule:

Here, we have a equation as

$$21 \text{ A } 34 \text{ C } 6 \text{ B } (72 \text{ D } 9) \text{ A } 13 \text{ B } 1 + (56 \text{ D } 4)$$

Let us decode the given sign:

Alphabet	Sign
A	+
B	×
C	-
D	÷

$$= 21 + 34 - 6 \times (72 \div 9) + 13 \times 1 + (56 \div 4)$$

Applying BODMAS rule, we will get,

$$= 21 + 34 - 6 \times 8 + 13 \times 1 + 14$$

$$= 21 + 34 - 48 + 13 + 14$$

$$= 82 - 48$$

$$= 34$$

Hence, the correct answer is "34".

34. Answer: b

Explanation:

Here, we need to arrange them in alphabetic order:

The order is:

2. Pro noun

3. Pro of

5. Pro pel

1. Prop er

4. Prop hecy

Hence, the alphabetic order is '2,3,5,1,4'.

35. Answer: a

Explanation:

The pattern followed here is:

Logic: In each pair the 1st number is divided by the 2nd number and the answer is added to the 2nd number to get the 3rd number.

1) (50, 10, 15): $50 \div 10 = 5, 10 + 5 = 15$

2) (60, 10, 16): $60 \div 10 = 6, 10 + 6 = 16$

Next, we will check all the options one by one:

1) (60, 15, 19): $60 \div 15 = 4, 15 + 4 = 19$

2) (60, 10, 6): $60 \div 10 = 6, 10 + 6 = 16 \neq 6$. This is not true.

3) (80, 20, 16): $80 \div 20 = 4, 20 + 4 = 24 \neq 16$. This is not true.

4) (80, 6, 15): $80 \div 6 = 13.33$, $6 + 13.33 = 19.333 \neq 15$. This is not true.

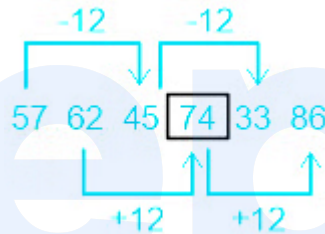
Hence, the correct answer is "(60, 15, 19)".

36. Answer: b

Explanation:

The pattern followed here is:

The logic here is: Each odd term is subtracted by 12 to get the next odd term and each even terms are added by 12 to get the next even terms.

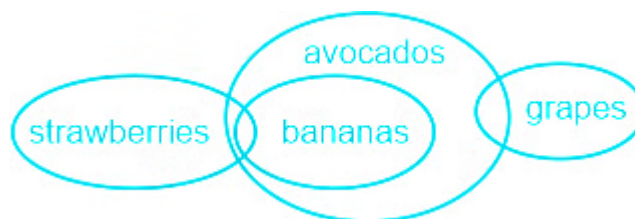


Hence, the correct answer is "74".

37. Answer: b

Explanation:

The least possible Venn Diagram is given below:



Conclusion:

I. Some avocados are bananas → Follow → (As all bananas are avocados. So some avocados are bananas is possible. This is true)

II. Some grapes are bananas → Does not follow → (As they have not mentioned the relationship between grapes and bananas. This is not true)

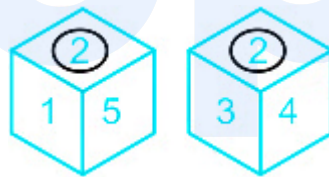
III. Some avocados are strawberries → Follow → (As some strawberries are bananas and all bananas are avocados. So some avocados can be strawberries. This is true)

Hence, the answer is **"Only conclusion I and III follow"**.

38. Answer: b

Explanation:

Here, we have two dices given and have face 2 has common in both.



Since, we can see all the numbers in both the dice except number 6.

We will start writing the numbers starting from the common number 2, in clockwise direction as:

For 1st dice: 2 – 5 – 1

For 2nd dice: 2 – 4 – 3

So, we see that the number 6 has the opposite of number 2.

Hence, the number 6 will be on the face opposite to the one showing '2'.

39. Answer: c

Explanation:

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

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

'BROWSER' is written as 'DTQYUGT'

B	R	O	W	S	E	R
↓ +2	↓ +2	↓ +2	↓ +2	↓ +2	↓ +2	↓ +2
D	T	Q	Y	U	G	T

And

'MONITOR' is written as 'OQPKVQT'

M	O	N	I	T	O	R
↓ +2	↓ +2	↓ +2	↓ +2	↓ +2	↓ +2	↓ +2
O	Q	P	K	V	Q	T

Similarly,

'PRINTER' be written as '?'

P	R	I	N	T	E	R
↓ +2	↓ +2	↓ +2	↓ +2	↓ +2	↓ +2	↓ +2
R	T	K	P	V	G	T

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

40. Answer: c

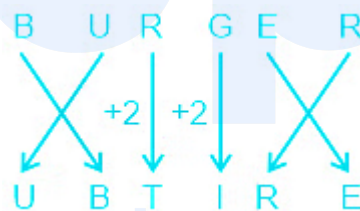
Explanation:

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

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

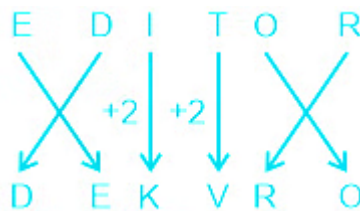
Logic : The 1st two letters interchange their positions in code language and similarly the last two letters. Also, the middle two letters are added by 2 to get the code language.

BURGER : UBTIRE

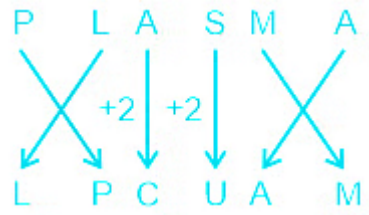


And

EDITOR : DEKVRO



PLASMA : ?



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

41. Answer: b

Explanation:

Logic: First number $\times 8 + 16 =$ Second number

Explanation :

$$13 : 120 = 13 \times 8 + 16 = 120$$

$$17 : 152 = 17 \times 8 + 16 = 152$$

Similarly,

$$21 : 184 = 21 \times 8 + 16 = 184$$

Hence, 184 is the correct answer.

42. Answer: d

Explanation:

The logic followed here is :

$$12 : 1764 = 1764 \div 12$$

And,

$$8 : 528 = 528 \div 8$$

Similarly,

$$16 : 4160 = 4160 \div 16$$

Only, Option 4 is totally divisible by 16

Hence, "**4160**" is the correct answer

43. Answer: d

Explanation:

Explanation :

- The line MN is the mirror
- The word "ma26w" ends with number "3". so, the mirror image will start with

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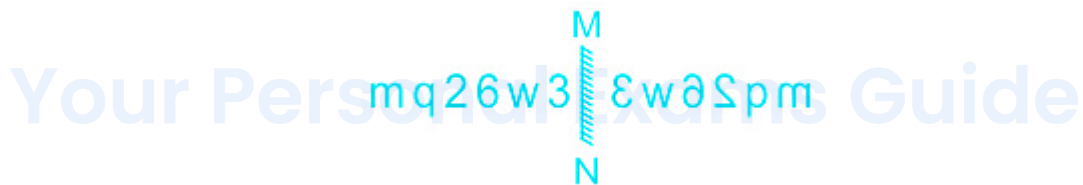


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. because in mirror image left changes to right and the right changes to left vice - versa.

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



Hence, "Option 4" is the correct answer.

44. Answer: b

Explanation:

Explanation :

- Pari is taller than only veer.
- Krishi is taller than only three people.

..... > > > Krishi > Pari > veer

- Misha is taller than Minshu.
- Misha is shorter than Mohi.
- Priya is taller than Mohi.

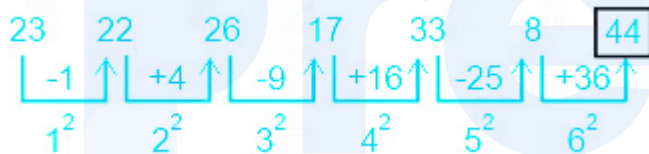
Priya > Mohi > Misha > Krishi > Minshu > Pari > Veer

Hence, **Mohi** is taller than Krishi.

45. Answer: b

Explanation:

The logic followed here is :



Hence, **44** is the correct answer.

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46. Answer: d

Explanation:

The pattern followed here is :



Hence, **404** is the correct answer .

47. Answer: b

Explanation:

The mirror image of XY will form like the following given image:



Detailed Explanation:

- The line XY is the mirror.
- The word "123abc" ends with the Letter "c". So, the mirror image will start with "c" ⇒ Option 1 and 3 are eliminated.
- The word " 123abc " has the last second letter "b". So, the mirror image should be " ⇒ Option 4 is eliminated.

Hence, the correct answer is "Option 2".

Hence, " Option 2" is the **correct answer**.

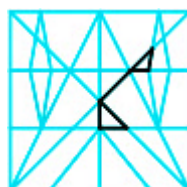
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48. Answer: b

Explanation:

Explanation :

The option figure that is embedded in the given figure when rotation is not allowed is shown below :



Hence, Option 2nd is the correct answer.

49. Answer: a

Explanation:

BODMAS rule

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

Option 1) ÷, +, =, -

Given expression : $91 * 13 * 26 * 51 * 18$

After replacing * with ÷, +, =, - respectively, we get

$$\Rightarrow 91 \div 13 + 26 = 51 - 18$$

$$\Rightarrow 7 + 26 = 51 - 18$$

$$\Rightarrow 33 = 51 - 18$$

$$\Rightarrow 33 = 33$$

Option 2) ×, -, =, +

Given expression : $91 * 13 * 26 * 51 * 18$

After replacing * with ×, -, =, + respectively, we get

$$\Rightarrow \underline{91 \times 13} - 26 = 51 + 18$$

$$\Rightarrow \underline{1183 - 26} = \underline{51 + 18}$$

$$\Rightarrow \underline{1183 - 26} = 69$$

$$\Rightarrow 1157 \neq 69$$

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

Given expression : $91 * 13 * 26 * 51 * 18$

After replacing $*$ with $\div, =, +, -$ respectively, we get

$$\Rightarrow \underline{91 \div 13} = \underline{26 + 51} - 18$$

$$\Rightarrow 7 = \underline{77 - 18}$$

$$\Rightarrow 7 \neq 59$$

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

Given expression : $91 * 13 * 26 * 51 * 18$

After replacing $*$ with $\times, =, -, -$ respectively, we get

$$\Rightarrow \underline{91 \times 13} = 26 - 51 - 18$$

$$\Rightarrow 1183 = -43$$

$$\Rightarrow 1183 \neq -43$$

Hence, the $\div, +, =, -$ is the **correct answer**.

50. **Answer: c**

Explanation:

Explanation: Checking options one by one

Option 1) E V E F I B V I F I C V E F V D I E F A Not following the pattern.

Option 2) A V E F I B V I F I C V E F E D V E F I Not following the pattern.

Option 3) A V E F I B V E F I C V E F I D V E F I Pattern is followed here.

Option 4) E V E F I B V I F I C V E F V D A E F I Not following the pattern

Hence, **A E I V I** is the **correct answer**.

51. Answer: c

Explanation:

GIVEN:

Price of an article reduced by 30%

Sale increased by 35%

CALCULATION:

Let the price of the article be Rs100 and the daily sale be 100 units

Daily revenue = $100 \times 100 = \text{Rs}10,000$

Now, after change in price and daily sale we have

New receipts = $70 \times 135 = \text{Rs}9,450$.

Decrease = Rs. $(10,000 - 9,450) = \text{Rs}550$.

$\Rightarrow \% \text{Decrease} = \frac{550}{10000} \times 100 = 5.5\% \text{ or } 5\frac{1}{2} \%$.

Hence, net percentage effect is $5\frac{1}{2} \%$ decrease.

★ Shortcut Trick

	Fraction	After	before
30% price of an article	$(-3)/10$	10	7
35% daily sale of the article	$(+7)/20$	20	27
	Total	200	189

$$\Rightarrow \text{Decrease} = 200 - 189 = 11$$

$$\Rightarrow \text{Decrease \%} = (11/200) \times 100 = 5.5 \%$$

52. Answer: d

Explanation:

GIVEN:

The winning candidate gets the majority of votes = 572

Winning candidate got % of votes = 72

CALCULATION:

Let us assume that 100% of votes are polled

Since, the winning candidate gets = 72% votes of polled votes

Hence, the other candidate gets = 28% votes of the polled votes.

$$\Rightarrow \text{Difference} = (72 - 28) = 44\% \text{ of polled votes.}$$

Now, According to the question winning candidate got the majority of votes = 572.

$$\Rightarrow 44\% \text{ of polled votes} = 572$$

$$\Rightarrow 100\% \text{ polled votes} = \frac{572}{44} \times 100 = 1300.$$

Hence, the number of votes polled = 1300.

53. Answer: a

Explanation:

GIVEN:

Amount at the end of 3 years = Rs8,640.

Rate = 20%

Time = 3 years.

FORMULA USED:

Amount = $P \times (1 + R/100)^t$ Where P = Principal, R =
Rate of interest, t = time.

CALCULATION:

Amount = Rs8,640 , R = 20% Time = 3 years

$$\text{Amount} = P \times (1 + R/100)^t$$

$$\Rightarrow 8640 = P \times (1 + 20/100)^3$$

$$\Rightarrow 8640 = P \times 6/5 \times 6/5 \times 6/5$$

$$\Rightarrow P = \text{Rs}5,000.$$

Hence, at present investment should be Rs5,000.

54. Answer: a

Explanation:

GIVEN:

Selling price = Rs4,740.

FORMULA USED:

$$\text{S.P.} = (1 - d_1/100) \times (1 - d_2/100) \times \text{M.P.}$$

Where S.P. = Selling price,

M.P. = Marked price,

d_1 and d_2 = successive discounts respectively.

CALCULATION:

Here, S.P. = Rs4,740, $d_1 = 21\%$, $d_2 = 40\%$

$$\Rightarrow \text{S.P.} = (1 - d_1/100) \times (1 - d_2/100) \times \text{M.P.}$$

$$\Rightarrow 4,740 = (1 - 21/100) \times (1 - 40/100) \times \text{M.P.}$$

$$\Rightarrow 4,740 = 79/100 \times 60/100 \times \text{M.P.}$$

$$\Rightarrow \text{M.P.} = \text{Rs}10,000.$$

Hence, the marked price of an article is Rs10,000.

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55. Answer: a**Explanation:****GIVEN:**

$$1 + \tan\theta = \sqrt{3}$$

FORMULA USED:

$$\tan\theta = 1/\cot\theta$$

CALCULATION:

Here, we have $1 + \tan\theta = \sqrt{3}$

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

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

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

$$\text{Now, } \sqrt{3}\cot\theta - 1 = \sqrt{3} \times \frac{1}{(\sqrt{3}-1)} - 1 = \frac{(\sqrt{3}-\sqrt{3}+1)}{(\sqrt{3}-1)} = \frac{1}{(\sqrt{3}-1)}$$

$\Rightarrow$ On rationalization, i.e. multiply $(\sqrt{3} + 1)$ in both numerator as well as in denominator we get

$$\Rightarrow \frac{1}{(\sqrt{3}-1)} \times \frac{(\sqrt{3}+1)}{(\sqrt{3}+1)} = \frac{(\sqrt{3}+1)}{2}.$$

Hence, the value is $\frac{(\sqrt{3}+1)}{2}$.

56. Answer: c

Explanation:

Given:-

CP = 10,000, Discount = 20%, profit = 40%

To find:-

Listed price

Formula used:-

$$\text{Profit \%} = \frac{SP-CP}{CP} \times 100$$

Calculation:-

By the formula of profit percentage,

$$\text{Profit \%} = \frac{SP-CP}{CP} \times 100$$

$$\Rightarrow 40 = \frac{SP-10,000}{10,000} \times 100$$

$$\Rightarrow SP = 4,000 + 10,000$$

$$\Rightarrow SP = \text{Rs.14,000}$$

Let the marked or listed price be x ,

By the relation of the listed price, discount, and selling price,

$\Rightarrow$ Listed price(Marked price) - discount = Selling price

$\Rightarrow x - 20\% \text{ of } x = 14,000$

$$\Rightarrow x = \frac{14000}{1 - \frac{20}{100}}$$

$$\Rightarrow x = \frac{14000}{\frac{4}{5}}$$

$\Rightarrow x = 17,500$

The listed price of the processor is Rs.17500

57. Answer: d

Explanation:

Given:-

A beats B by 100 m , and B beats C by 150 m

To find:-

Distance between A and C when A finish the race

Formula used:-

Distance = speed $\times$ time

Calculation:-

It is given that A beats B by 100 m which means that when A finishes the race B was 100 m behind him,

$\Rightarrow$ Distance travelled by A is 1500 m and B is 1400 m respectively

$\Rightarrow A : B = 1500 : 1400$

Similarly, the Distance travelled by B and C when B beats C is 1500 m and 1350 m respectively

$\Rightarrow B : C = 1500 : 1350$

We have to find the **relation between A and C** so

$$\frac{A}{C} = \frac{A}{B} \times \frac{B}{C}$$

$$\Rightarrow \frac{A}{C} = \frac{1500}{1400} \times \frac{1500}{1350}$$

$$\Rightarrow \frac{A}{C} = \frac{15}{14} \times \frac{10}{9}$$

$$\Rightarrow A : C = 150 : 126$$

The above ratio signifies that if A travelled 150 m then C would be travelling 126 m

So, If A travels 1500 m then C would be travelling 1260 m

$\Rightarrow$ When **A finishes the race C will be at 1260 m from the start**, the distance from end-

$$\Rightarrow 1500 - 1260 = 240$$

$\Rightarrow$ Distance by which A beats C is **240 m**

A beats C by 240 m.

58. Answer: c

Explanation:

Given:-

Two proportional numbers are 27, 28

To find:-

Third proportional number

Concept used:-

Proportionality theorem i.e, $a : b :: c : d = \frac{a}{b} = \frac{c}{d}$

Calculation:-

Let the third proportional be x

then by proportionality theorem,

$$27 : 18 :: 18 : x$$

$$\Rightarrow \frac{27}{18} = \frac{18}{x}$$

$$\Rightarrow x = \frac{18 \times 18}{27}$$

$$\Rightarrow x = 12$$

The value of the third proportional is 12.

59. Answer: b

Explanation:

Given:- Average increased by 8 when 100 runs were added in the 10th inning.

To find:- New average

Concept used:- Average = $\frac{\text{sum of observation}}{\text{Total number observation}}$

Calculation:- Let the initial average be 'x'

Total run scored till 9th inning = $9 \times x = 9x$

After the 10th inning, the total score will be,

$$\Rightarrow \text{New Total} = 9x + 100$$

$$\Rightarrow \text{New Average} = \frac{9x+100}{10} \text{-----(i)}$$

As the question suggests that the **average is increased by 8**,

$$\Rightarrow \text{New average} = x + 8 \text{-----(ii)}$$

By equation (i) and (ii)

$$\Rightarrow \frac{9x+100}{10} = x + 8$$

$$\Rightarrow 9x + 100 = 10x + 80$$

$$\Rightarrow x = 20$$

$$\text{New average} = 20 + 8 = 28$$

The new average of Raman is 28.

★ Alternate Method

when innings were 9 the average was x

After the 10th inning the average increased by 8, this means '8' is added to each observation (10 innings)

Basically, 80 runs are extra added to the $9x$ (initial sum of runs)

This simply means 20 was the old average because if in the 10th inning he had scored 20 runs then the average would've been the same.

$\Rightarrow$ 20 was the old average and after the 10th inning, it is increased by 8,

$\Rightarrow$ New average = 28

60. Answer: c

Explanation:

Given:-

$$a + b + c = 0$$

To find:-

$$\frac{a^2 + b^2 + c^2}{a^2 - bc}$$

Formula used:-

$$(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ac$$

Calculation:-

As mentioned, $a + b + c = 0$

$$\Rightarrow a = -b - c$$

Let the value of $\frac{a^2 + b^2 + c^2}{a^2 - bc} = k$

$$\Rightarrow a^2 + b^2 + c^2 = k(a^2 - bc)$$

It is given that $a + b + c = 0$, On squaring both sides

$$\Rightarrow a^2 + b^2 + c^2 + 2ab + 2bc + 2ac = 0$$

$$\text{Putting, } a^2 + b^2 + c^2 = k(a^2 - bc)$$

$$\Rightarrow k(a^2 - bc) + 2ab + 2bc + 2ac = 0$$

$$\Rightarrow k(a(-b - c) - bc) + 2ab + 2bc + 2ac = 0$$

$$\Rightarrow k(-ab - ac - bc) = -2(ab + bc + ac)$$

$$\Rightarrow -k(ab + ac + bc) = -2(ab + bc + ac)$$

By comparing, $k = 2$

The value of $\frac{a^2+b^2+c^2}{a^2-bc}$ is 2

★ Shortcut Trick

$a + b + c = 0$ Put the value $a = 1, b = 0, c = (-1)$

Let the value of $\frac{a^2+b^2+c^2}{a^2-bc} = k$

$$\Rightarrow [(1)^2 + 0 + (-1)^2] / [(1)^2 - 0 \times (-1)] = 2 / 1 = 2$$

61. Answer: d

Explanation:

Given:-

radius = 6.3 cm

To find:-

The volume of a solid hemisphere

Formula used:-

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

Calculation:-

Radius (r) = 6.3 cm

By using the formula of volume of the solid hemisphere,

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

$$\Rightarrow Volume = \frac{2}{3}\pi (6.3)^3$$

$$\Rightarrow V = \frac{2}{3} \times \frac{22}{7} \times (6.3) \times (6.3) \times (6.3)$$

$$\Rightarrow V = 523.908 \text{ cm}^3$$

The volume of solid hemisphere is 523.908 cm³

62. Answer: c

Explanation:

Given:- Table which represents the data of production of different car type in different year.

To find:- The year in which production of D2 and D3 is equal to the total production of D4 and D5 when taken together

Calculation:- The total production of cars of **type D2 and D3 taken together** in each year are-

In 2012,

$$(D2)_{15} + (D3)_{20} = 35$$

In 2013,

$$(D2)_{11} + (D3)_{15} = 26$$

In 2014,

$$(D2)_{15} + (D3)_{12} = 27$$

In 2015,

$$(D2)_{14} + (D3)_{13} = 27$$

The total production of cars of type D2 and D3 taken together in each year are-

In 2012,

$$(D4)_5 + (D5)_{19} = 24$$

In 2013,

$$(D4)_8 + (D5)_{15} = 23$$

In 2014,

$$(D4)_{18} + (D5)_9 = 27$$

In 2015,

$$(D4)_{15} + (D5)_{25} = 40$$

We can see that in year 2014 the production of car type D2 and D3 is equal to the production of car type D4 and D5 when taken together.

63. Answer: a

Explanation:

To find:- Which of the following is divisible by 36

Concept used:- Divisibility of 6

Calculation:- The number divisible by 6 must be divisible by 36 as 6 is the factor of 36,

Divisibility of 6 :- The number divisible by both 2 and 3 must be divisible by 6 subsequently by 36

⇒ The option whose unit digit is even and sum of digit is divisible by 3 must be divisible by 6

Checking **option 1**

136216

unit digit = 6, divisible by 2

Sum of digits = $1 + 3 + 6 + 2 + 1 + 6 = 19$

⇒ Sum of digit is not divisible by 3 hence **it is not divisible by 6**

Checking **option 2**

124344

unit digit = 4, divisible by 2

Sum of digits = $1 + 2 + 4 + 3 + 4 + 4 = 18$

⇒ Sum of digit is divisible by 3 hence **it is divisible by 6**

Checking option 3

259884

unit digit = 4, divisible by 2

Sum of digits = $2 + 5 + 9 + 8 + 8 + 4 = 36$

⇒ Sum of digit is divisible by 3 hence it is divisible by 6

Checking option 4

120816

unit digit = 6, divisible by 2

Sum of digits = $1 + 2 + 0 + 8 + 1 + 6 = 18$

⇒ Sum of digit is divisible by 3 hence it is divisible by 6

⇒ Only option 1 is not divisible by 6 which means it will not be divisible by 36 either.

∴ The number which is not divisible by 36 is 136216.

64. Answer: c

Explanation:

Given:

Two chords of length of 10 cm and 24 cm on the same side of center

distance between chords is 7 cm

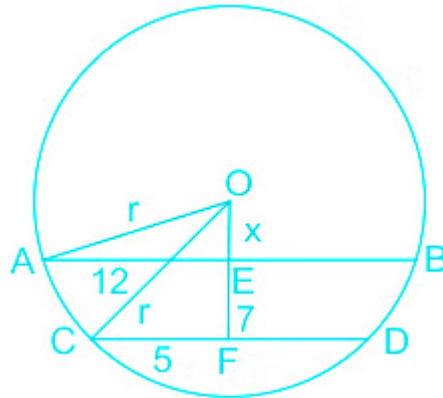
To find:

Radius of circle

Concept used:

Pythagorean theorem

Calculation:



In the given diagram,

AB and CD are the chords of length 24 and 10 cm respectively

Here, E and F bisect chord AB and CD respectively.

$\Rightarrow AE = 12$ cm and $CF = 5$ cm

Since the perpendicular distance between the chords is 7 cm

$\Rightarrow EF = 7$ cm

Now, In $\triangle OAE$

OA is the hypotenuse and OE is the perpendicular from centre O say x,

By Pythagorean theorem in $\triangle OAE$

$$OA^2 = OE^2 + AE^2$$

Since $OA = r$, $OE = x$ and $AE = 12$ cm, then by substituting

$$\Rightarrow r^2 = x^2 + 12^2$$

$$\Rightarrow r^2 = x^2 + 144 \text{ -----(i)}$$

By Pythagorean theorem in $\triangle OCF$

$$OC^2 = OF^2 + CF^2$$

Since $OC = r$,

$OF = OE + EF = x + 7$ and $AE = 5$ cm, then by substituting

$$\Rightarrow r^2 = (x + 7)^2 + 5^2$$

$$\Rightarrow r^2 = (x + 7)^2 + 25 \text{ -----(ii)}$$

On equating eq(i) and eq(ii)

$$x^2 + 144 = (x + 7)^2 + 25$$

$$\Rightarrow (x + 7)^2 - x^2 = 144 - 25$$

using identity $[a^2 - b^2 = (a + b)(a - b)]$

$$\Rightarrow (x + 7 - x)(x + 7 + x) = 119$$

$$\Rightarrow x = 5$$

Replacing the value of x in eq(i)

$$\Rightarrow r^2 = 5^2 + 144$$

$$\Rightarrow r^2 = \sqrt{169}$$

$$\Rightarrow \text{Radius} = 13 \text{ cm}$$

The radius of the circle is 13 cm

65. Answer: b

Explanation:

Given:- 26 kg of rice Rs.20/kg is mixed with 30kg of rice Rs.36/kg

To find:- Profit percentage

Formula used:- $\text{Profit} = \frac{\text{Gain}}{\text{CP}}$

Calculation:- Let the quantity of rice-1 and rice-2 be n_1 and n_2 respectively,

$$\Rightarrow n_1 = 26 \text{ kg and } n_2 = 30 \text{ kg}$$

Let the price of rice-1 and rice-2 be w_1 and w_2 respectively,

$$\Rightarrow w_1 = \text{Rs. } 20/\text{kg and } w_2 = \text{Rs. } 36/\text{kg}$$

$$\Rightarrow \text{CP} = 26 \times 20 + 30 \times 36$$

$$\Rightarrow \text{CP} = \text{Rs. } 1600$$

The selling price of 56Kg will be, 56×30

$$\Rightarrow \text{SP} = \text{Rs. } 1680$$

$$\text{Profit \%} = \frac{\text{gain}}{\text{CP}} \times 100$$

$$\text{gain} = \text{SP} - \text{CP} = 1680 - 1600$$

$$\text{Gain} = \text{Rs. } 80$$

$$\text{Profit \%} = \frac{80}{1600} \times 100$$

$$\text{Profit \%} = 5$$

The percentage of profit seller makes is of 5%

66. Answer: c

Explanation:

$$\text{To find:- } 52 - 5[2 + 3\{2 - 2(5 - 3) + 5\} - 10] \div 8$$

Concept used:- BODMAS [Brackets, Order, Division, Multiplication, Addition, Subtraction]

Calculation:- Calculating by using the rule of BODMAS-

$$52 - 5[2 + 3\{2 - 2(5 - 3) + 5\} - 10] \div 8$$

$$\Rightarrow 52 - 5[2 + 3\{2 - 2(2) + 5\} - 10] \div 8$$

$$\Rightarrow 52 - 5[2 + 3\{2 - 4 + 5\} - 10] \div 8$$

$$\Rightarrow 52 - 5[2 + 3\{3\} - 10] \div 8$$

$$\Rightarrow 52 - 5[2 + 9 - 10] \div 8$$

$$\Rightarrow 52 - 5 \div 8$$

$$\Rightarrow 52 - 0.625$$

$$\Rightarrow 51.375$$

The value of the given expression is 51.375

67. Answer: a

Explanation:

Given:- Total number of students = 52

To find:- Percentage of students who took the test and secured grade D

Formula used:- percentage = $\frac{\text{parts}}{\text{whole}} \times 100$

Calculation:- Total number of students who secured grade D is 4

The total number of students who took the test is 52

$\Rightarrow$ **In terms of percentage** (Student secured D with respect to the total number of students) = $\frac{\text{Number of students}}{\text{Total number of student}} \times 100$

$\Rightarrow$ percentage of students who took the test and secured a D grade = $\frac{4}{52} \times 100 = 7 \frac{9}{13} \%$

There are $7 \frac{9}{13} \%$ of the total students who took the test and secured grade D

68. Answer: d

Explanation:

Given:- average speed of train = 60km/h

To find:- Distance covered by train

Formula used:- Distance = speed $\times$ time

Calculation :- Let the time taken by train to reach destination be T ,

Let the distance travelled by train be D

By using the formula, **distance = speed $\times$ Time**

when train travels at an average speed of 60 km/h

$$\Rightarrow D = 60 \times T \text{ -----(i)}$$

when the train travels at an average speed of 45 km/h, takes 20 minutes late,

$$\Rightarrow D = 45 \times \left(T + \frac{20}{60}\right)$$

$$\Rightarrow D = 45 \times (3T + 1) \text{ -----(ii)}$$

Equating (i) and (ii)

$$\Rightarrow 60 \times T = 45 \times (3T + 1)$$

$$\Rightarrow 60T = 135T + 45$$

$$\Rightarrow T = 1 \text{ hour}$$

Substituting the value of T in the equation-(i)

$$\Rightarrow D = 60 \times T = 60 \times 1$$

$$\Rightarrow D = 60$$

∴ Distance covered by the train is 60km

69. Answer: c

Explanation:

Given:- Area of solid sphere = 616 cm^2 , Height of cone = 28 cm

To find:- Diameter of base of cone

Formula used:- Surface area of sphere = $4\pi r^2$

Calculation :- Let the radius of sphere be r , and radius and height of cone be R and H respectively,

Surface area of solid sphere = 616 cm^2

$$\Rightarrow 4\pi r^2 = 616 \text{ cm}^2$$

$$\Rightarrow r^2 = 49$$

∴ The radius of the sphere is 7 cm

As mentioned the sphere is melted and recast into cone this means,

Volume of sphere = volume of cone

$$\Rightarrow \frac{4}{3}\pi r^3 = \frac{1}{3}\pi R^2 H$$

$$\Rightarrow 4r^3 = R^2 H$$

Substituting $r = 7 \text{ cm}$ and $H = 28 \text{ cm}$

$$\Rightarrow 4 \times (7)^3 = R^2 \times 28$$

$$\Rightarrow R = 7$$

$$\Rightarrow D = 2R = 14 \text{ cm}$$

∴ Diameter of the base of the cone is 14cm

70. Answer: b

Explanation:

Given:- Equation of square, $4x^2 - 12x + 9$

To find:- Side of the square

Calculation:- The given equation is, $4x^2 - 12x + 9$

Using mid-term split method to find the factors of the equation,

Since, the above equation is of the square then it **must have two same factors** and the **factor will represent its side**

$$\Rightarrow 4x^2 - 12x + 9$$

$$\Rightarrow 4x^2 - (6 + 6)x + 9$$

$$\Rightarrow 4x^2 - 6x - 6x + 9$$

$$\Rightarrow 2x(2x - 3) - 3(2x - 3)$$

$$\Rightarrow (2x - 3)(2x - 3)$$

$$\Rightarrow (2x - 3)^2$$

The side of square is $(2x-3)$

71. Answer: b

Explanation:

GIVEN:

$$\text{Volume} = 4851 \text{ cm}^3$$

FORMULA USED:

Volume = $\frac{4}{3}\pi r^3$ where r = radius

CALCULATION:

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

$$\Rightarrow 4851 = \frac{4}{3} \times \frac{22}{7} \times r^3$$

$$\Rightarrow \frac{441 \times 21}{8} = r^3$$

$$\Rightarrow r = \sqrt[3]{21/2} = 10.5 \text{ cm.}$$

Hence, radius is 10.5cm.

72. Answer: a

Explanation:

GIVEN:

Total number of books = 2500.

CONCEPT USED:

100% represents Total number of books

CALCULATION:

State. B = 24% and State C = 18%

$$\Rightarrow \text{Since, } 100\% = 2500$$

$$\Rightarrow 24\% = (2500/100) \times 24 = 600 \setminus$$

$$\Rightarrow 18\% = (2500/100) \times 18 = 450.$$

Hence, Total number of books in Band C together = (600 +450) = 1050.

State D = 25% and State E= 20%

$$\Rightarrow \text{Now, } 25\% = (2500/100) \times 25 = 625.$$

$$\Rightarrow 20\% = (2500/100) \times 20 = 500.$$

Hence, Total number of books in D and E together = (625 +500) = 1125.

Now, Difference = (books of D and E) - (books of B and C) = (1125 - 1050) = 75.

Hence, the difference is 75.

73. Answer: d

Explanation:

GIVEN:

$$(a - b) = 3$$

$$(a^3 - b^3) = 999.$$

FORMULA USED:

$$(a^3 - b^3) = (a - b)(a^2 + b^2 + ab)$$

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

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

CALCULATION:

Now, (a -b) = 3 on squaring both the sides we get,

$$\Rightarrow (a - b)^2 = 3^2$$

$$\Rightarrow a^2 + b^2 - 2.a.b = 9.$$

$$\Rightarrow (a^2 + b^2) = 9 + 2ab. \dots\dots\dots(1)$$

$$\Rightarrow (a^3 - b^3) = (a - b)(a^2 + b^2 + ab)$$

place of $(a^2 + b^2)$

..... put the value of equation 1 in the

$$\Rightarrow 999 = 3 \times (9 + 2ab + a^2 + b^2)$$

$$\Rightarrow 333 = 9 + 3(a^2 + b^2 + 2ab) \Leftrightarrow ab = 108.$$

$$\Rightarrow \text{Now, as, } (a + b)^2 = a^2 + b^2 + 2ab. = (9 + 2ab + 2ab) = (9 + 4ab) = (9 + 4 \times 108) = 441.$$

$$\Rightarrow \text{Hence, } (a + b) = 21.$$

$$\text{Now, } (a^2 - b^2) = (a + b)(a - b) = 21 \times 3 = 63.$$

Hence, the value is 63.

74. Answer: a

Explanation:

GIVEN:

Total quantity of wheat = 120kg

a part was sold = 10% gain

rest part = 25% gain

overall gain = 15%

FORMULA USED:

S.P. = $\left[\frac{(100 + \text{Gain}\%)}{100} \right] \times \text{C.P.}$ Where S.P. = Selling price and C.P. = Cost price.

CALCULATION:

Let Cost price of 1kg wheat be Rs100.

Selling price of 1 kg wheat sold at 10% gain = $\frac{110}{100} \times 100 = \text{Rs}110.$

Selling price of 1 kg wheat sold at 25% gain = $\frac{125}{100} \times 100 = \text{Rs}125.$

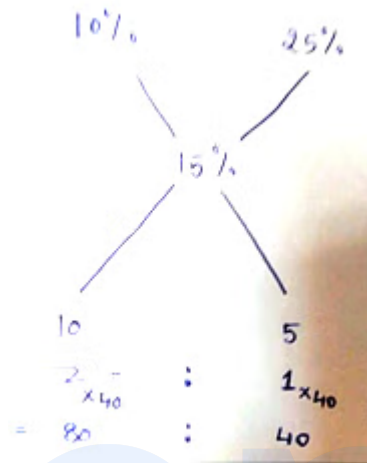
Average selling price of 1 kg wheat = $\frac{115}{100} \times 100 = \text{Rs}115.$

Now, using rule of alligation, we have

Ratio of wheat sold at 10% and 25% profit = $(125 - 115) : (115 - 110) = 10 : 5 = 2 : 1$

Hence, wheat sold at 10% gain = $\frac{2}{3} \times 120 = 80$ kg.

Hence, the wheat sold at 10% gain is 80 kg.



⇒ Hence, wheat sold at 10% gain = $\frac{2}{3} \times 120 = 80$ kg.

★ Shortcut Trick

75. Answer: d

Explanation:

GIVEN:

A and B together completes work in = 16 days

FORMULA USED:

Efficiency = Total work / No. of days.

CALCULATION:

$$B \times \frac{1}{2} = A \times \frac{1}{6}$$

$$\Rightarrow A = 3B$$

$$\Rightarrow \frac{A}{B} = \frac{3}{1}$$

$\Rightarrow$ A's efficiency = 3 unit /day

and B's efficiency = 1 unit/day

$\Rightarrow$ According, to the Question

(A+ B) complete in 16 days

$\Rightarrow$ Total work = (3+1) $\times$ 16 = 4 $\times$ 16 = 64.

$\Rightarrow$ Time taken by B = $\frac{64}{1}$ = 64 days

Hence, B alone takes 64 days to complete the work.

76. Answer: c

Explanation:

The correct answer is online gaming.

★ Key Points

- Karnataka High Court on Online Gaming
 - On February 2022 , the Karnataka High Court declared certain provisions of the Karnataka Police (Amendment) Act, 2021 as unconstitutional, which prohibited and criminalised the activities related to online gambling and skill-based gaming platforms.
 - The Karnataka High Court invalidated the changes to the Karnataka Police Act on three main grounds:
 - Violation of the fundamental freedoms of speech and expression (Article 21), liberty and privacy (Article 19), and trade and commerce (Article 19) .
 - Being evidently arbitrary and unreasonable in so far as it did not differentiate between two different types of games, namely games of skill and games of chance .

- A "game of skill" relies more on a **player's level of mental or physical talent** than it does on chance.
- However, a "game of chance" is primarily determined by a **random element** of any kind. Even when talent is used in games of chance, success is still mostly **determined by chance**.
- While games of chance are classified as **gambling** and are generally forbidden throughout the nation, **skill-based games are often permitted**. Since **betting and gaming** are state issues, each state has its own laws.
- **State legislatures** lack the authority to **pass legislation regulating online skill-based games**.
 - There is **currently no complete legislation** regarding the legality of **online gaming**, which places it in a **regulatory grey area**.

★ Additional Information

- **Karnataka Police (Amendment) Act, 2021**
 - The Karnataka government passed the law to **ban skill-based gaming and online gambling**.
 - The prohibited games included **online rummy, poker, and fantasy sports, as well as any other games that required betting or risking money on an unknown occurrence**.
- A similar regulation enacted by the **Tamil Nadu government was also rejected by the Madras High Court in August 2021**, in addition to the Karnataka law.
- The **Kerala High Court also quashed a state government notification specifically banning online rummy when played for money in September 2021**.

77. Answer: b

Explanation:

The correct answer is Five.

★ Key Points

- Caspian Sea

- The **Caspian Sea** , which is frequently referred to as the **largest lake** or a **true sea**, is the **largest inland body of water in the entire planet** .
- An **endorheic basin** , it is located between **Europe and Asia** , which is bordered by the **Caucasus Mountains** to the east, **the Iranian Plateau** to the north, the rich plains of **Southern Russia** to the south, and the wide **steppe of Central Asia to the west** .
- With the exception of the extremely salty lagoon of **Garabogazköl** to the east, it has a surface area of **1 43,550 sq mi (372,000 km²)** and a **volume of 78,200 km³** .
- The natural heritage of Caspian sea are shared **by five countries** including, **Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan**.
- **Kazakhstan** to the northeast , **Russia** to the northwest, **Azerbaijan** to the southwest, **Iran** to the south, and **Turkmenistan** to the southeast form the borders of the Caspian Sea.
- The Caspian Sea is famous for its **caviar and oil industries** and is home to a **variety of species** .

★ Additional Information

- Like the Black Sea, the **Caspian Sea** is a remnant of the former **Paratethys Sea** .
- **Other names of Caspian Sea**
 - The lake is known as the **Mazandaran Sea in Iran** , named for the **famous Mazandaran Province** that sits on its southern banks.
 - In early **Russian sources** it is mentioned as **The Khvalyn or Khvalis Sea** (after the name of Khwarezmia).
 - In classical antiquity, it was the **Hyrceanian ocean among the Greeks and Persians** .
 - The **Abbacuch Sea, Mar de Bachu, or Mar de Sala** were the names given to it on **maps made in the Renaissance Europe** .
- In order to further **conserve the Caspian Sea's biodiversity**, **Kazakhstan President Kassym-Jomart Tokayev** signed the Protocol for the Protection of the Caspian Sea against Pollution from Land-based Sources on **October 23, 2021** .

78. Answer: d

Explanation:

The correct answer is KC Wheare.

★ Key Points

- **Quasi Federalism**
 - A state that exists somewhere between **a unitary state** and **a federation** is said to practise **quasi-federalism**.
 - It incorporates the positive aspects of both **a federal and a unitary government**.
 - According to **Prof. K.C. Wheare**, **India is viewed as** a semi-federal state or a **quasi-federal state**.
 - It is also described as a **federal system** with a strong bias in favour of the Centre **by the Supreme Court of India**.
 - The Indian Constitution establishes a federal system of government since it has all the typical characteristics of a federation, including **bicameralism, independent judiciary, dual administration, and the division of powers**. It is also written, supreme, and rigorous.

★ Additional Information

- According to Article 1 of the Indian Constitution, "India, which is Bharat, must be a union of states."
- The Indian Constitution is both **federal in design and unitary in spirit**, making it quasi-federal in nature.
- **The unitary features of the Indian constitution are:**
 - Single Constitution
 - Rajya Sabha does not represent the States equality
 - Division of power is not equal
 - Existence of States depends on the Centre
 - Constitution is not strictly rigid
 - Unified judiciary
 - Proclamation of emergency

79. Answer: b

Explanation:

The correct answer is Rameshbabu Praggnanandhaa.

★ Key Points

- **Rameshbabu Praggnanandhaa**
 - **Grandmaster of chess Rameshbabu "Pragg" Praggnanandhaa** was born in India on **August 10, 2005** .
 - He was a chess prodigy who became the **second-youngest grandmaster at the time at age 12** after becoming t he youngest international master **at age 10** at the time.
 - He defeated world number one chess champion, Magnus Carlsen, of Norway , at the age of 16 in a rapid game on February 22, 2022, at the Airthings Masters Rapid tournament of the Champions Chess Tour 2022 .
 - After the legendary chess players P Harikrishna and Vishwanathan Anand, he is the third Indian to defeat Magnus Carlsen .
 - He makes the **history of the youngest player** to ever do so.
 - He again defeated Carlsen in the **Chessable Masters online rapid chess competition in May 2022** , his second victory against him in **three months** .
 - After Abhimanyu Mishra, Sergey Karjakin, Gukesh D, and Javokhir Sindarov, Praggnanandhaa is the **fifth person** under the age of **30** to hold the **title of Grandmaster** .

★ Additional Information

- **Nihal Sarin**
 - **Nihal Sarin** is an **Indian chess player** who was born on **July 13, 2004** .
 - He was a chess prodigy who became a **Grandmaster at the age of 14** .
 - At the age of 14, he also became **the fourth-youngest player in history to achieve the 2600 Elo rating threshold** .
- **Vidit Gujrathi**
 - Indian chess player Vidit Santosh Gujrathi was born on **October 24, 1994** .

- In **January 2013** , he became the **30th player** from India to receive the title of **Grandmaster** .
- He is the **fourth Indian player** to have achieved the **Elo rating threshold of 2700 as of July 2022** , and is **India's third-highest ranked player** (after Viswanathan Anand and Pentala Harikrishna).
- **Abhijeet Gupta**
 - **Grandmaster Abhijeet Gupta** is an **Indian chess player** who was born on **October 16, 1989** .
 - Gupta is the first player to win the **Commonwealth Chess Championship** **five times** .

80. Answer: d

Explanation:

The correct answer is Hawkish.

★ Key Points

- **Hawkish monetary policy**
 - An **inflation Hawk or a Hawk** is a financial expert or policymaker who thinks that high interest rates should be maintained in monetary policies to control inflation.
 - **High interest rates** are primarily of importance to them in **relation to fiscal policy** .
 - Although they generally support an economy that is running below its **full-employment equilibrium**, **hawks are not very concerned with economic growth** .
 - In other words, **Hawks** see high interest rates as a check on **inflation and inflation as their top priority** .
 - People looking for work may find it difficult while **hawks are in charge because employment doesn't usually rise as quickly** .
 - However, hawkish policies are advantageous for those **on fixed incomes since they prevent their dollars' purchasing value from declining**, as it would in a **situation of inflation** .

★ Additional Information

- Owlish
 - **Markets and business after three years of James Bond-like** comments from a governor recognised for many memorable phrases, people are now anticipating the "**owlish**" monetary policy .
- Dovish
 - **Dove** is a term for an **economist** who supports **monetary policies with low interest rates** .
 - According to the doves, inflation is not always harmful and won't have a significant **negative impact on the economy** .
 - They also think that **maintaining low interest rates through monetary policy** benefits a country's overall economy.
- Hicksian
 - **Hicks** insisted repeatedly that the **monetary theory had passed into history** .
 - He was **trying to convey the idea that economic theory** is intrinsically linked to actual occurrences, and more crucially, that monetary concerns must be examined within **a dynamic sequential framework** in which time is a crucial factor.

81. Answer: b

Explanation:

The correct answer is Tamas.

★ Key Points

- Tamas
 - **Bhisham Sahni's book Tamas** is based on the riots he witnessed while living in Rawalpindi during **India's 1947 Partition** .
 - **Tamas** illustrates the atrocities of senseless communal politics of hostility and hatred as well as their sad results including **death ,destruction, forced migration, and nation-splitting** .

- It has been translated into a variety of Indian languages, including Tamil, Gujarati, Malayalam, Kashmiri, and Manipuri .
- In 1975 , Tamas won the **Sahitya Akademi Award for Literature** , and in 1987, Govind Nihalani made a television movie out of it.

★ Additional Information

• **Bhisham Sahni**

- **Bhisham Sahni** was an Indian novelist, actor, and playwright .
- He was awarded the **Sahitya Akademi Fellowship** in 2002 and the **Padma Bhushan** for literature in 1998 .
- He was **Balraj Sahni's younger brother** , a well-known Hindi film actor.
- He was the **founder and chairman of "SAHMAT,"** an organisation dedicated to promoting intercultural understanding and named for the murdered activist and theatre **artist Safdar Hashmi** .

Book	Author
Vande Mataram	Bankim Chandra Chatterjee
Nirmala	Munshi Premchand
Gunahon Ka Devta	Dharamvir Bharati

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82. Answer: a

Explanation:

The correct answer is Translate the mRNA into proteins.

★ Key Points

• **Ribosomes of a Polysome**

- The **cellular organelles** known as **ribosomes** are made up of **proteins and rRNA** .
- Before they bind to mRNA, they are **present free in the cytoplasm** .

- Multiple ribosomes that are joined to the **mRNA** and contain developing **polypeptide chains** are known as **polysomes** .
- A **polysome** is made up of all the ribosomes that translate a **single mRNA** into many **polypeptides (Proteins)** at once.
- The **coding portion of mRNA** , which is transported by **multiple** ribosomes, forms a **polysome** .
- The presence of **so much mRNA in cells** is due to the **ability of multiple ribosomes** to participate in an **mRNA's function** .

★ Additional Information

- **Prokaryotic, eukaryotic, and membrane-bound polysomes** all have different structures of multiple ribosomes also known as **polyribosomes** .
- **Bacterial polysomes** are found in **double-row formations in prokaryotic cells** , and ribosomes are in touch with one another within smaller subunits.
- Planar double row **polysomes and densely packed 3D helices** , which are similar to that of prokaryotic polysomes, are also present in **eukaryotic cells** .
- **Polysomal profiling** is a method for determining the level of gene expression by monitoring polysome activity.
- Translation is stopped using polysomal profiling, and **sucrose gradient** is then used to separate the resultant cells so that they may be collected by centrifugation.

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83. Answer: d

Explanation:

The correct answer is Kolbe.

★ Key Points

- Synthesis of Acetic Acid
 - Acetic acid was first made or created from **inorganic components** in 1845 by **German scientist Hermann Kolbe** .
 - He created **carbon disulfide with chlorine**, and the end result was **carbon tetrachloride** .

- After that, **tetrachloroethylene** was produced through **thermal decomposition**, **trichloroacetic acid** was created through **aqueous chlorination**, and **acetic acid** was finally produced through an **electrolytic reduction**.
- He exclusively used inorganic materials made of **hydrocarbons**.
- **Carbon, hydrogen, and oxygen** are inorganic elements that are used to create **acetic acid** while **acetic acid** is an **organic one**.
- Acetic acid has a chemical formula and is a **weak acid**.
- **Kolbe's work** was groundbreaking since he **synthesised organic chemicals from inorganic ones**.
- In addition to **bacterial fermentation**, **acetic acid** is also made **synthetically**.
- **Some fruits** naturally contain it.

★ Additional Information

- Kolbe's work was groundbreaking since he synthesised organic chemicals from inorganic ones.
- In addition to bacterial fermentation, acetic acid is also made synthetically.
- Ants and some fruits naturally contain it.

Scientist	Creation	Year
Berthelot	Methane	1856
F Wohler	Urea	1828
Berzelius	Cerium	1803
	selenium	1817

84. Answer: d

Explanation:

The correct answer is Khushwant Singh.

★ Key Points

- **Khushwant Singh**

- Khushwant Singh, a former Rajya Sabha member, is the author of "**Train to Pakistan.**"
- He was a journalist, attorney, and politician from India.
- He shared his memories of the **1947 Partition** in "Train to Pakistan."
- He was a **Rajya Sabha Member of Parliament from 1980 to 1986** .
- In **1974** , Khushwant Singh received the **Padma Bhushan** .
- He did, however, return the **honour in 1984 in opposition to Operation Blue Star** .
- He received the **Padma Vibhushan in 2007** .
- **Other important books written by him are :**
 - The Voice of God and Other Stories, (Short Story) 1957
 - Shall Not Hear the Nightingale, 1959
 - The Sikhs Today, 1959
 - The End of India, 2003
 - Burial at the Sea, 2004.

★ Additional Information

- **Mulk Raj Anand**

- **Indian author Mulk Raj Anand** was born on December **12th, 1905** , and is best known for his **portrayals of the lower castes in traditional Indian society** .
- His first novel, "**Untouchable,**" was published in **1935** .
- The **Padma Bhushan** was awarded to him in **1968** .

- **Ruskin Bond**

- **Author Ruskin Bond is Anglo Indian** and was born on **May 19, 1934** .
- The **Room on the Roof**, his first book, was released in **1956** and was awarded the **John Llewellyn Rhys Prize in 1957** .
- In **1999 and 2014** , he received the **Padma Shri and Padma Bhushan** , respectively.

- **M L Malgaonkar**

- M L Malgonkar , who was born in India on July 12th, 1913 , wrote both fiction and nonfiction works in English .
- His first novel " The Sea Hawk: Life and Battles of Kanhoji Angrey" was published in 1959 .

85. Answer: a

Explanation:

The correct answer is The type of marine organisms found in the water bodies.

★ Key Points

- **Salinity of the Seawater**
- By dividing the weight of the **dissolved substances** by the weight of the **seawater sample**, salinity of seawater is calculated.
- The **weight of a kilogram of seawater** is determined by the **fraction per thousand of solid matter** (present as dissolved solid matter) that it contains.
- Following are some of the **factors** that effect saltwater salinity:
 - **Evaporation and precipitation** play a major role in **determining the salinity of the water** in the ocean's surface layer.
 - River freshwater flow has a significant impact on surface **salinity in coastal areas** , and ice freezing and thawing processes have an impact in polar regions.
 - **Wind** also affects the seawater salinity by **moving water to nearby locations** .
 - The fluctuations in salinity are caused by **ocean currents** .
 - **Water density, temperature, and salinity** are all connected. As a result, any **change in temperature or density affects the salinity of water** in an area.

★ Additional Information

Factors	Affect on Seawater Salinity
Rate of evaporation and precipitation	Water molecules are removed during evaporation from the water's surface, leaving behind salt and increases the salinity.
Amount of fresh water flowing into the ocean	River freshwater tends to lower ocean salinity.
Wind	High wind stress causes more evaporation, which increases the amount of salt in the seawater.

86. Answer: d

Explanation:

The correct answer is Pandit Kumar Gandharva.

★ Key Points

- **Pandit Kumar Gandharva**
 - **Pandit Kumar Gandharva**, known initially as **Shivaputra Siddharamayya Komkalimath** was an Indian classical singer.
 - He was well known for his unique vocal style and for his refusal to be bound by the tradition of any Gharana.
 - Gandharva also experimented with other forms of singing such as **Nirguni Bhajans, folk songs, and ragas and presentations** , often going from fast to slow compositions in the same raga.
 - He is remembered for his great legacy of innovation, questioning tradition without rejecting it outright, resulting in music in touch with the roots of Indian culture, especially the folk music of Madhya Pradesh.

★ Additional Information

- **Pandit Bhimsen Gururaj Joshi**

- **Pandit Bhimsen Gururaj Joshi** was one of the greatest Indian vocalists from India, in the Hindustani classical tradition.
- He accepted the **Bharat Ratna**, India's highest civilian honor, in the year **2009**.
- He is known for the khayal form of singing and his popular renditions of devotional music.
- **Ravi Shankar KBE**
 - **Ravi Shankar KBE** was an Indian sitarist and composer.
 - Ravi Shankar received India's highest civilian honor, the **Bharat Ratna**, in **1999**.
 - **Pandit Ravi Shankar** was awarded by **Bharat Ratna**, the **Grammy Lifetime Achievement Award**, and many more.
- **Bismillah Khan**
 - **Bismillah Khan**, often referred to by the title Ustad, was an Indian musician credited with popularizing the shehnai, a reeded woodwind instrument.
 - In **2001** Bismillah Khan received the **Bharat Ratna**.
 - **Bismillah Khan** was awarded by **Bharat Ratna award**, **Padma Bhushan**, and **Padma Vibhushan award**.

87. Answer: d

Explanation:

The correct answer is **Ammonia**.

★ Key Points

- **Ammonia** is used in many industrial processes, and as a fertilizer and refrigerant.
- **Ammonia** is a colorless, pungent, suffocating, highly water-soluble, gaseous compound, usually produced by the direct combination of nitrogen and hydrogen.
- It is used chiefly for **refrigeration**, and in the manufacturing of chemicals.
- Ammonia is a compound with the molecular formula of **NH₃**.

★ Additional Information

- **Potash** is used primarily in fertilizers (approximately 95%) to support plant growth, increase crop yield and disease resistance, and enhance water preservation.
- **Urea** has important uses as a fertilizer and feed supplement, as well as a starting material for the manufacture of plastics and drugs.
- It is a colorless, crystalline substance that melts at 132.7° C (271° F) and decomposes before boiling.
- **Phosphine** is used in the semiconductor industry to introduce phosphorus into silicon crystals.
- It is also used as a fumigant, a polymerization initiator and as an intermediate for the preparation of several flame retardants.

88. Answer: d

Explanation:

The correct answer is Assam.

★ Key Points

- **Sattriya** is a dance form that is more than 500 years old and comes from the **Vaishnavite monasteries** of **Assam** northeast India.
- It was recognised as a classical dance by **Sangeet Natak Akademi** in 2000.
- The Sattriya dance form was introduced in the **15th century** A.D by the great **Vaishnava saint** and reformer of Assam, **Mahapurusha Sankaradeva** as a powerful medium for propagation of the Vaishnava faith.

★ Additional Information

- **Some Other classical dance forms of India:**
 - Bharatanatyam – Tamil Nadu.
 - Manipuri Dance – Manipur.
 - Kathak – Uttar Pradesh
 - Odissi Dance – Orissa.

- Kathakali – Kerala
- Mohiniattam – Kerala
- Kuchipudi – Andhra Pradesh
- Sattriya Dance – Assam

89. Answer: b

Explanation:

The correct answer is Folk Songs.

★ Key Points

- Allah Jilai Bai was a **folk singer** from **Bikaner, Rajasthan**.
- She was in Durbar of **Maharaja Ganga Singh**.
- She was well versed in **Maand, Thumri, Khayal and Dadra**.
- In **1982**, the Indian Government awarded her the **Padma Shri** in **Arts field**.

★ Additional Information

- Some important facts about Rajasthan:
 - Chief Minister – Ashok Kumar Gehlot
 - Governor – Kalraj Mishra
 - State Bird – Great Indian bustard
 - State Animal – Camel
 - Mother tongue – Marwari
 - Sharing Border with other country – Pakistan

90. Answer: d

Explanation:

The correct answer is 5.

★ Key Points

- There is a maximum of **five players** on the floor at one time.
- Team must have at least four players to start a game.
- Each team is allowed to have 5 **players** on the court at one time.
- Each NBA (National Basketball Association) team can have **a maximum of 15 players**, 13 of which can be active each game.

★ Additional Information

- Basketball is **a game played between two teams of five players each on a rectangular court, usually indoors.**
- Each team tries to score by tossing the ball through the opponent's goal, an elevated horizontal hoop and net called a basket.
- **The Five Rules In Basketball That You Need To Know?**
 - Only Five Players Per Team On The Court. Every team can roll out their game on the grounds with only five players.
 - You Score Should Be More Than The Opponent.
 - Score Should Be Within Shot Clock.
 - Dribbling Ball Advances.
 - To Inbound the Ball The Offense Has 5 Secs.

91. Answer: a

Explanation:

The correct answer is Pakistan.

★ Key Points

- **India defeated Pakistan 4-3** in a thriller to finish third in the Asian Champions Trophy Hockey 2021 in Dhaka.
- Both the teams fought from the start but in the end, it was the big-match experience that made all the difference.
- The tournament was **eventually held from 14 to 22 December 2021.**

★ Additional Information



- Asian Champions Trophy 2021: **Harmanpreet Singh, Sumit, Varun Kumar and Akashdeep Singh** scored the goals for India.
- While Arfraz, Abdul Rana and Nadeem were the scorers for Pakistan in the third-place playoff in Dhaka.

92. Answer: d

Explanation:

The correct answer is Bharatanatyam.

★ Key Points

- **Rama Vaidyanathan is an Indian** bharatnatyam artist from Delhi .
- She is one of the directors of **Ganesha Natyalaya** , one of the best Bharatanatyam institutes of the country.
- Bharatanatyam is a major form of Indian classical dance that originated in **Tamil Nadu** .
- The dance form is also briefly mentioned in Kannada text **Manasollasa** written by **Someshwara III** .
- It has flourished in the temples and courts of southern India since ancient times .

★ Additional Information

- Mohiniyattam is an Indian classical dance form that developed and remained popular in the state of Kerala. Kathakali is another classical dance form of Kerala
- Kuchipudi is indigenous to the state of Andhra Pradesh and differs from the other five classical styles by the inclusion of singing.
- Kuchipudi originated in the **17th century** with the creation by **Sidhyendra Yogi**.
- Odissi is traditionally a dance-drama genre of performance art, where the artist(s) and musicians play out a story, a spiritual message or devotional poem from the Hindu texts, using symbolic costumes, body movement, abhinaya (expressions) and mudras (gestures and sign language) set out in ancient Sanskrit literature.

93. Answer: b

Explanation:

The correct answer is Pandvani.

★ Key Points

- Teejan Bai is an exponent of Pandavani, a traditional performing art form, from **Chhattisgarh**, in which she enacts tales from the Mahabharata with musical accompaniments.
- Pandavani is a **narrative art form of the** tribal areas of Chhattisgarh and its neighbouring states.
- Pandavani is a popular form of entertainment and includes **songs, improvisations and narration of stories**.

★ Additional Information

- Pabuji Ki Phad is a religious scroll painting of folk deities, which is used for a musical rendition of the only surviving ancient traditional folk art form, **Phad painting** in the world.
- Mand is a style of singing in Rajasthan, used in folk songs. It is similar to the **thumri** and the **ghaza**.
- Alha Folk song is famous in Bundelkhand region of Madhya Pradesh.

- Alha and Udal were successful commanders of Rajput king **Chandel king Parmal**.
- The song is sung in glory of them.

94. Answer: c

Explanation:

The correct answer is Aluminium Phosphide.

★ Key Points

- Aluminium phosphide is primarily used as a pesticide that is used by various professionals including farmers, pest controllers, gamekeepers and estate managers.
- It is often dispersed in **pellets**, the pellets react with moisture which produces **toxic phosphine gas**.

★ Additional Information

- Acetic acid (CH_3COOH), also called ethanoic acid, the most important of the carboxylic acids.
- A dilute (approximately 5 percent by volume) solution of acetic acid produced by fermentation and oxidation of natural carbohydrates is called **vinegar**.
- a salt, ester, or acylal of acetic acid is called **acetate**.
- Magnesium bisulphite generates gaseous toxic sulfur dioxide in contact with **oxidizing acids** and **nonoxidizing acids**.
- Reacts with oxidizing agents
- Hydrogen peroxide is a colorless liquid at room temperature with a bitter taste.
- Small amounts of gaseous hydrogen peroxide occur naturally in the air.
- Hydrogen peroxide is unstable, decomposing readily to oxygen and water with **release of heat**.

95. Answer: c

Explanation:

The correct answer is 2.

★ Key Points

- The State code of 2 digits within India has been used similar to the one used in earlier census.
- The purpose of this standard is to ensure that methods are established and implemented to promote the accurate assignment of codes, including geographic entity codes, to enable analysis and tabulation of data.

★ Additional Information

- The Census Bureau's statistical quality standards apply to all information products released by the Census Bureau.
- The activities that generate those products, including products released to the public, sponsors, joint partners, or other customers.

96. Answer: a

Explanation:

The correct answer is Kabaddi.

★ Key Points

- In **Kabaddi**, a team scores a bonus of two points, called a " **lona** ", if the entire opposing team is declared out.
- A bonus scored in the game of kabaddi for getting the entire opposing team declared as out.
- If a team can eliminate all seven players of the opposition team, they earn **two extra points** via all out or Lona
- After a team scores a Lona, all members of the opposition team are revived and play resumes.

★ Additional Information

- Kho Kho
 - **Kho Kho** is a traditional Indian sport, being one of the oldest outdoor sports dating back to ancient India.
 - It is the second most popular traditional tag game in the Indian subcontinent after Kabaddi.
- Volleyball
 - **Volleyball** is a team sport in which two teams of six players are separated by a net.
 - Each team tries to score points by grounding a ball on the other team's court under organized rules.
 - It has been a part of the official program of the **Summer Olympic Games since Tokyo 1964.**
- Softball
 - **Softball** is played by two teams of 9 players each who try to score more runs than their opponent by rounding the bases and crossing home plate as many times as possible.
 - The batting team stays up to bat until the fielding team puts out 3 batters.

97. Answer: a

Explanation:

The correct answer is Indira PP Bora.

★ Key Point

- **Indira P. P. Bora** is a satriya dancer from Assam.
- Trained in Bharatnatyam for 13 years under **Guru Rukhumi Devi Arundale** and in Kuchipudi under the guidance of **Guru Vemapati Chinna Satyam**.
- He was awarded by many awards like:
 - **Sangeet Natak Akademi award** – 1996.
 - **State Bhishnu Rava Award** – 2004.
 - **Jonaki Award** as a distinguished performing female artist.

- Senior Fellowship from Department of Culture, Government of India (for **Satriya dance**).
- **Padma Shri 2020** .

★ Additional Information

- Classical dance forms of India:
 - Bharatanatyam, Tamil Nadu (Southern India).
 - Manipuri Dance, Manipur (North-eastern India).
 - Kathak (Northern India).
 - Odissi Dance, Orissa (Eastern India).
 - Kathakali.
 - Mohiniattam.
 - Kuchipudi (Southern India).
 - Satriya Dance.

98. Answer: c

Explanation:

The correct answer is Kathak.

★ Key Points

- The President of India bestowed PADMA SHRI on duo Nalini-Kamalini Asthana (**Kathak**), R Muthukannammal (Sadir), Padmaja Reddy (Kuchipudi) at a special function at Rashtrapathi Bhavan, New Delhi.
- **Kamalini Asthana** and **Nalini Asthana** are a sister duo from Agra in Uttar Pradesh known for their great performances of the Benaras Gharana style of Kathak.
- They are also known for their contributions to the popularisation of the Benaras Gharana style of Kathak both in India and abroad.
- In the year 2022, Govt of India conferred the Padma shri award, the third highest award in the Padma series of awards, on Kamalini Asthana and Nalini Asthana for their distinguished service in the field of art.

- The award is in recognition of his service as an "Acclaimed Kathak Dancer Duo from Agra known for teaching and propagating it globally".

★ Additional Information

- The world-famous Kathak dancer, **Pandit Birju Maharaj** is the face of the Kalka-Bindadin gharana of Lucknow.
- **Guru Bipin Singh** was a director, choreographer and teacher of Manipuri dance.
- **Savitha Sastry** (born 11 December 1969) is an Indian dancer and choreographer best known as an exponent of Bharatanatyam.

99. Answer: a

Explanation:

The correct answer is Nirad C Chaudhuri.

★ Key Points

- Autobiography of an Unknown Indian is the collective memoir of **Nirad C. Chaudhuri**, a man remembered for his support of the British Empire at a time that India was struggling to hold on to its newfound freedom.
- Nirad Chandra Chaudhuri CBE was an Indian writer.
- Autobiography of an Unknown Indian first published in **1951**.
- The first book is entitled "Early Environment" and its four chapters are:
 - My Place of Birth
 - My Ancestral Place
 - The Place of My Mother.
 - England. The autobiography has acquired many distinguished admirers over the years.

★ Additional Information

- **Vikram Seth** is an Indian novelist and poet. He has written several novels and poetry books. He has received several awards such as Padma Shri, Sahitya

Academy Award, Pravasi Bharatiya Samman, WH Smith Literary Award and Crossword Book Award.

- **Ahmed Salman Rushdie** was **born during the British Raj, into an Indian Kashmiri Muslim family**. He is the son of Anis Ahmed Rushdie, a Cambridge-educated lawyer-turned-businessman, and Negin Bhatt, a teacher.
- **Amitav Ghosh** was awarded a doctorate from Oxford University. He has written for many publications including The Hindu, The New Yorker and Granta, and taught in universities in both India and the US

100. Answer: d

Explanation:

The correct answer is **B Praak**.

★ Key Points

- **B Praak** won the best male singer National Award at **67th National film award**.
- **B Praak** won this award for **Teri Mitti** song in **Kesri** movie.
- **B Praak** won IIFA Award, Mirchi music award for Album of the year.

★ Additional Information

- Some other winner of 67th National Film award.

Best Female Playback Singer	Bardo (Marathi)
Adapted Screenplay	Gumnaami
Best Actress	Kangana Ranaut (Manikarnika, Panga)
Best Actor	Manoj Bajpayee for Bhonsle and Dhanush for Asuran
Best Direction	Bhattacharjee Hoorain

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