



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 (08-Jun-2022) (Shift 1)

Total Time: 1 Hour

Total Marks: 200

Instructions

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

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

English Language

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

The clock that we have in our town square is a big in the whole town

- a. the bigger
- b. the big
- c. the biggest
- d. a biggest

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

Comic

- a. Native
- b. Costly
- c. Tragic
- d. Empty

-
3. Complete the sentence with an appropriate ANTONYM of the word mentioned in the bracket. (+2, -0.5)

My fascination with Tyler's items _____ (approached) into distant memories.

- a. receded

b. escalated

c. expanded

d. intensified

-
4. 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. These carriers of bacteria and viruses cause many diseases like Yellow Fever, Malaria etc. so panchayats and municipalities are taking a lot of care to protect people from them.

B. There are thousands of species of mosquitoes that are known to the people of the world. They mainly live in still water and other places where water is stored.

C. Mosquitos are everywhere now. Villagers, as well as city dwellers are afraid of these small creatures.

D. Usually, female and male mosquitoes take feed on plant's or fruit honey, however female mosquitoes mostly suck the blood of humans.

a. ADCB

b. DABC

c. CBAD

d. ACBD

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

Easily provoked

- a. Invincible
- b. Irascible
- c. Iridescent
- d. Irrational

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

Mr. Pramod couldn't wait to trying out his new recipe.

- a. waited to try out
- b. wait for try out
- c. waited to try
- d. wait to try out

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

Funny stories made me and my brother _____.

- a. conscious
- b. determined
- c. giggly
- d. gritty

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

I know her.

- a. She is whom I know.
- b. She is known to me.
- c. She knows me.
- d. I am known by her.

9. Select the most appropriate ANTONYM of the given word.

(+2, -0.5)

Uniform

- a. Inflexible
- b. Variable
- c. Orderly
- d. Irrelevant

10. The given sentence contains an error in tense form. Identify the error and choose the option that correctly rectifies the error.

(+2, -0.5)

Bakshi will going to call you later in the evening.

- a. Bakshi was gone to call you later in the evening.
- b. Bakshi will go to call you later in the evening.
- c. Bakshi is going to call you later in the evening.
- d. Bakshi goes to call you later in the evening.

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

(+2, -0.5)

Upset the apple-cart

- a. Withdraw
- b. Spoil careful plans
- c. Consider unsatisfactory
- d. To be offended

12. The following sentence has been split into four-segments. Identify the segment that contains a grammatical error.

(+2, -0.5)

They attend / a meeting / in Chicago / this weekend.

- a. a meeting
- b. this weekend
- c. in Chicago
- d. They attend

13. Select the most appropriate meaning of the underlined word in the given sentence.

(+2, -0.5)

His perverse thoughts were by very disturbing so he decided to try seeing a therapist.

- a. Convergent
- b. Deviant

- c. Cynical
- d. Logical

14. Select the INCORRECTLY spelt word.

(+2, -0.5)

- a. Certificate
- b. Channel
- c. Champeon
- d. Challenge

15. Select the INCORRECTLY spelt word.

(+2, -0.5)

- a. Tryst
- b. Yogurt
- c. Serrene
- d. Shopaholic

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

(+2, -0.5)

The rich man was known all throughout the country for his noble deeds, kindness and as one who makes an active effort to promote

human welfare.

- a. Squanderer

- b. Spendthrift
- c. Pacifist
- d. Philanthropist

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

Pocket an insult

- a. Insult someone strongly
- b. Endure insult and protest
- c. Tolerate insult without protest
- d. Rebel against insult

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

Settlers _____ a new colony in the early 18th century.

- a. fixed
- b. extended
- c. established
- d. entrenched

19. In the following questions a statement has been given with highlighted text. Select the options that can replace the text with correct idiom or phrase. (+2, -0.5)

Reginald **betrayed** his closest friend. It was big shock for all.

- a. Stab someone in the back
- b. Looking to your laurels
- c. A black sheep
- d. Every cloud has a silver lining

20. Select the INCORRECTLY spelt word.

(+2, -0.5)

- a. Hilarious
- b. Demolish
- c. Magnificent
- d. Gargantuan

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)

There was once a young man who wished to (1) _____ his heart's desire. And while that is, as beginnings go, there was much about this young man and what happened to him that was unusual, (2) _____ even he never knew the whole of it. The tale started. The town of Wall stands today as it has (3) _____ for six hundred years, on a high (4) _____ of granite slab amidst small forest woodland: There is a road from Wall, a winding track rising sharply up from the forest, where it is (5) _____ with rocks and small stones.

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

- a. appreciate

b. achieve

c. prevail

d. value

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)

There was once a young man who wished to (1) _____ his heart's desire. And while that is, as beginnings go, there was much about this young man and what happened to him that was unusual, (2) _____ even he never knew the whole of it. The tale started. The town of Wall stands today as it has (3) _____ for six hundred years, on a high (4) _____ of granite slab amidst small forest woodland: There is a road from Wall, a winding track rising sharply up from the forest, where it is (5) _____ with rocks and small stones.

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

a. despite

b. even though

c. although

d. in spite

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)

There was once a young man who wished to (1) _____ his heart's desire. And while that is, as beginnings go, there was much about this young man and what happened to him that was unusual, (2) _____

_____even he never knew the whole of it. The tale started. The town of Wall stands today as it has (3) _____for six hundred years, on a high (4) _____of granite slab amidst small forest woodland: There is a road from Wall, a winding track rising sharply up from the forest, where it is (5) _____with rocks and small stones.

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

- a. established
- b. stood
- c. erected
- d. edified

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)

There was once a young man who wished to (1) _____his heart's desire. And while that is, as beginnings go, there was much about this young man and what happened to him that was unusual, (2) _____even he never knew the whole of it. The tale started. The town of Wall stands today as it has (3) _____for six hundred years, on a high (4) _____of granite slab amidst small forest woodland: There is a road from Wall, a winding track rising sharply up from the forest, where it is (5) _____with rocks and small stones.

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

- a. furrow
- b. trench
- c. jut

d. line

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)

There was once a young man who wished to (1) _____ his heart's desire. And while that is, as beginnings go, there was much about this young man and what happened to him that was unusual, (2) _____ even he never knew the whole of it. The tale started. The town of Wall stands today as it has (3) _____ for six hundred years, on a high (4) _____ of granite slab amidst small forest woodland: There is a road from Wall, a winding track rising sharply up from the forest, where it is (5) _____ with rocks and small stones.

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

- a. sequenced
- b. lined
- c. queued
- d. furnished

General Intelligence

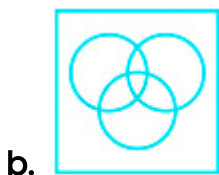
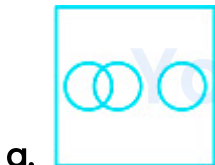
26. Select the option that is related to the fifth term in the same way as the second term is related to the first term and the fourth term is related to the third term. (+2, -0.5)

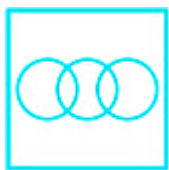
MASTER : AMHGRE :: LUXURY : ULCFYR :: FORMAL : ?

- a. OFMRAL
- b. OFAYLA
- c. OFYAAL
- d. OFINLA

27. Select the Venn diagram that best illustrates the relationship between the following classes. (+2, -0.5)

Doctor, Patient, Indian citizen





d.

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

$$31 * 13 * 7 * 54 * 12 * 4 * 20$$

a. $=, \div, -, \times, +, -$

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

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

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

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

$$96 * 3 * 5 * 56 * 16 * 120$$

a. $\div, \times, -, +, =$

b. $\times, \div, +, -, =$

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

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

30. Two different positions of the same dice are shown, the six faces of which are marked as €, ₣, ₧, £, ₤, ₨. Select the symbol that will be on the face opposite to the one showing '€'. (+2, -0.5)



- a. ₹
- b. ₹
- c. ₹
- d. ₹

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

t m 6 3 2 y



- a. y236mt
- b. y236mt
- c. y236mt
- d. y236mt

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

$$45 * 9 * 3 * 7 * 5 * 21$$

a. $\div, +, \times, -, =$

b. $-, \div, +, \times, =$

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

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

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

1. Elegant
2. Electrician
3. Elephant
4. Elated
5. Elongated

a. 4, 5, 3, 1, 2

b. 3, 5, 4, 1, 2

c. 3, 4, 1, 2, 5

d. 4, 2, 1, 3, 5

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

First row: 124, 38, 100

Second row: 78, 25, 64

Third row: 94, 31, ?

(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. 84
- b. 80
- c. 74
- d. 78

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

A 1 B 2 C 3

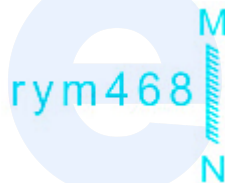


- a. A1B2C3
- b. 3CB21A
- c. A1B5C3
- d. 3CB51A

36. In a certain code language, "TAUGHT" is written as "VYWEJR", and "SIMPLE" is written as "UGONNC". How will "RETURN" be written in that language? (+2, -0.5)

- a. TCWTTL
- b. TCVSTL
- c. TBVSTL
- d. TCWSTL

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



- a. 804mλr
- b. 804mλr
- c. 804mλr
- d. 894mλr

38. In a certain code language, 'HONEST' is written as 'NTRHUU', and 'LABOUR' is written as 'RFFRWS'. How will 'ENOUGH' be written in that language? (+2, -0.5)

- a. KSRYIJ
- b. KSSYJI

c. KSSYII

d. KSSXII

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

ETRE, HSPJ, KRNO, ?

a. NPMT

b. NQLT

c. NPLT

d. NQMT

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

14, 26, 11, ?, 8, 32

a. 29

b. 22

c. 25

d. 18

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

18 A 23 C 6 B (96 D 16) A 3 B 12 = ?

- a. 44
- b. 41
- c. 20
- d. 31

42. Select the figure that will replace the question mark (?) in the following figure series. (+2, -0.5)

PSDLO	SPDLO	SDPLO	SDLPO	?
-------	-------	-------	-------	---

a.

DSLOP

b.

SDLOP

c.

SDOLP

d.

PSDLO

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

154, 165, 148, ?, 142, 177

- a. 174
- b. 162
- c. 171
- d. 168

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

(31, 26, 155)
(18, 12, 108)

(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. (16, 9, 114)
- b. (19, 15, 84)
- c. (17, 9, 136)
- d. (18, 10, 148)

45. If it was Wednesday on 1st January 2020, then what day of the week was it on 28th February 2021? (+2, -0.5)

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

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

DWE, GTH, JQK, MNN, ?

- a. NOP
 - b. PQR
 - c. OPQ
 - d. PKQ
-

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

$$84 * 6 * 25 * 13 * 3$$

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

48. Which letter-group will replace the question mark (?) in the given series? (+2, -0.5)

78, 97, 54, ?, 30, 145

- a. 113
- b. 121
- c. 115
- d. 107

49. In a certain code language, 'ACNE' is written as 'XZVM' and 'BODY' is written as 'LYBW'. How will 'EVIL' be written in that language? (+2, -0.5)

- a. OVER
- b. VEOR
- c. EVOR
- d. ROEV

50. Select the figure that will replace the question mark (?) in the following figure series. (+2, -0.5)



- a.

@	!
,	
:	#

b.



c.



d.



prepp

Your Personal Exams Guide

Quantitative Aptitude

51. Study the given table carefully to answer the question that follows.

(+2, -0.5)

The following table given the information about the populations of five different cities in the year 2020.

City	Total Population	% of Men	% of Women	% of children
P	46800	45%	35%	20%
Q	45400	35%	50%	15%
R	42000	48%	42%	10%
S	39250	42%	42%	16%
T	46200	40%	45%	15%

The number of women in city T forms approximately what percentage of the number of men in city P?

- a. 97.28%
- b. 97.82%
- c. 98.12%
- d. 98.72%

52. If two supplementary angles differ by 74° , then one of the angles is: **(+2, -0.5)**

- a. 65°
 - b. 55°
 - c. 43°
 - d. 53°
-

53. By selling an article for Rs 255, there is a loss of 15%. When the article is sold for Rs 357, the net result in the transaction is: **(+2, -0.5)**

- a. 19% profit
 - b. 17% loss
 - c. 19% loss
 - d. 17% profit
-

54. The difference between a single discount of 20% and two successive discounts of 16% and 4% on a bill of Rs 50,000 is: **(+2, -0.5)**

- a. Rs 450
 - b. Rs 240
 - c. Rs 320
 - d. nil
-

55. Kuldeep offers his customers a discount of 10% on the marked price of a suitcase and he still makes a profit of 20%. What is the actual cost of the suitcase marked for Rs 2,500? (+2, -0.5)

- a. Rs 1,860
- b. Rs 1,875
- c. Rs 1,865
- d. Rs 1,870

56. Study the table and answer the question. (+2, -0.5)

Age of the child	5 years	6 years	7 years	8 years	9 years
Weight (in kg)	20	22	22	27	25

The sum of the weights of which two kids (referred to their ages) exceeds 50 kg?

- a. 7 years and 8 years
- b. 8 years and 9 years
- c. 6 years and 7 years
- d. 6 years and 9 years

57. X does a work in 6 days, while Y does it in 12 days. If they work alternatively and X begins, in how many days will the work be finished? (+2, -0.5)

- a. 7
 - b. 5
 - c. 8
 - d. 6
-

58. What should be subtracted from 246837 to make it divisible by 13 ? (+2, -0.5)

- a. 5
 - b. 6
 - c. 3
 - d. 4
-

59. The fourth proportional to 14, 21, 28 is: (+2, -0.5)

- a. 46
 - b. 40
 - c. 42
 - d. 44
-

60. After spending 20% of his salary on grocery and 30% of the remainder on monthly house rent, a man is left with Rs 8,400. What is his monthly salary? (+2, -0.5)

- a. Rs 42,000

b. Rs 28,000

c. Rs 16,800

d. Rs 15,000

61. A car travelled distances of 10 km, 20 km and 30 km at speeds of 30 km/h, 40 km/h and 60 km/h, respectively. The average speed of the car is: (+2, -0.5)

a. 45 km/h

b. 20 km/h

c. 30 km/h

d. 40 km/h

62. If $x = \sqrt{10} + \sqrt{11}$, $y = \sqrt{10} - \sqrt{11}$, then value of $7x^2 - 50xy + 7y^2 =$ (+2, -0.5)

a. 344

b. 704

c. 1360

d. 386

63. The distance between stations A and B is 778 kilometres. A train travels from station A to station B at a uniform speed of 84 km/h and then returns to station A at a uniform speed of 56 km/h. What is the train's average speed (in km/h) throughout the journey? (+2, -0.5)

a. 63.4

- b. 66
 - c. 67.2
 - d. 65
-

64. Two numbers are less than a third number by 30% and 37% respectively. (+2, -0.5)
By how much is the second number lesser than the first?

- a. 3%
 - b. 7%
 - c. 4%
 - d. 10%
-

65. Ramesh bought a house for Rs 2,00,000. At the end of the first year, he (+2, -0.5)
sold it at a loss of 10% on his investment. He invested the money thus
obtained at a rate of 20% p.a. interest compounded annually for 2 years.
The value of this investment would amount to -----.

- a. Rs 2,59,200
 - b. Rs 2,52,300
 - c. Rs 2,56,900
 - d. Rs 2,54,600
-

66. $\tan(\pi + \theta) = ?$ (+2, -0.5)

- a. $\sec\theta$

b. $\operatorname{cosec}\theta$

c. $\cot\theta$

d. $\tan\theta$

67. Number B is 17.5% less than number A, while number C is 22.5% more than number B. If the value of C is given as 8085, what is the value of A? (+2, -0.5)

a. 7800

b. 7750

c. 8000

d. 8100

68. The surface area of a volleyball spherical is $100\pi \text{ cm}^2$. Find the volume of air enclosed in the ball. (+2, -0.5)

a. $\frac{400}{3} \pi \text{ cm}^3$

b. $\frac{350}{3} \pi \text{ cm}^3$

c. $\frac{500}{3} \pi \text{ cm}^3$

d. $\frac{200}{3} \pi \text{ cm}^3$

69. If 9×4 of $3 \div 2 - 5 \times Q + 2 \times 3 = 10$, then find the value of Q. (+2, -0.5)

a. 10

b. 0.2

c. 0.1

d. 5

70. The average of the four numbers, given in a particular order, is 48. The average of the first three numbers is 42, while the average of the last three numbers is 50. What is the average of the first and last number? (+2, -0.5)

a. 54

b. 55

c. 56

d. 53

71. In a school, the final grades of a subject for an academic year are calculated, based on the grades that a student gets in his assignments, tests and a final exam. Assignments have the weightage of 28%, tests of 22%, and the final exam of 50%. If a student has an assignment grade of 80, a test grade of 75, an exam grade of 86, then his overall grade for the year is _____. (+2, -0.5)

a. 81.9

b. 80.5

c. 84.6

d. 90.2

72. The total surface area of a hemisphere is 64.57 cm^2 . Find its curved surface area. (+2, -0.5)

- a. 64.57 cm^2
 - b. 53.44 cm^2
 - c. 43.04 cm^2
 - d. 33.04 cm^2
-

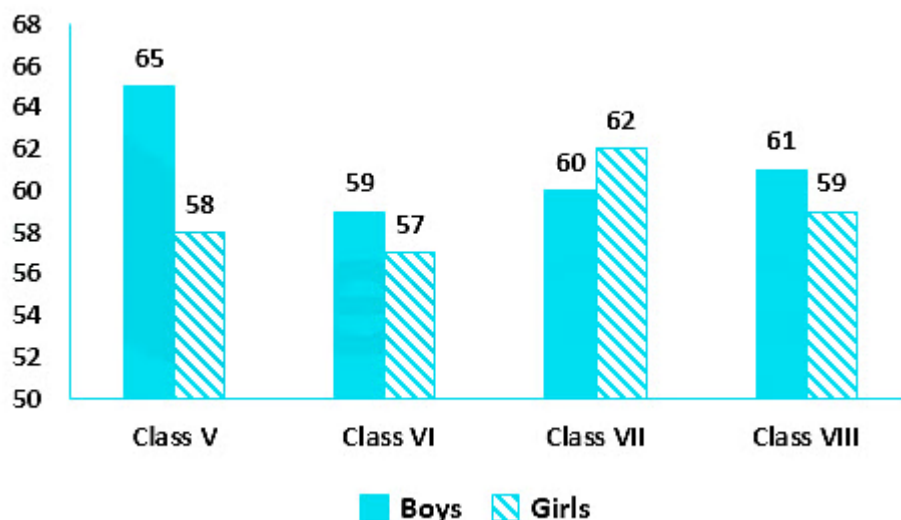
73. The expression $x^4 - 8x^2 + m$ will be a perfect square when the value of m is: (+2, -0.5)

- a. 2
 - b. 16
 - c. 8
 - d. 4
-

74. A wall 10 m long, 5 m high and 20 cm thick is to be constructed using bricks of dimensions $25 \text{ cm} \times 20 \text{ cm} \times 10 \text{ cm}$. How many bricks are required? (+2, -0.5)

- a. 2450
 - b. 2000
 - c. 2500
 - d. 2050
-

75. The bar graph below gives the number of boys and girls in four different classes of a school. (+2, -0.5)



As per the information provided in the bar graph, among all the four classes, which class has the least number of students, boys and girls taken together

- a. Class V
- b. Class VI
- c. Class VII
- d. Class VIII

Your Personal Exams Guide

General Awareness

76. In which year will India host the 15th Men's Hockey World Cup? (+2, -0.5)
- a. 2025
 - b. 2023
 - c. 2022
 - d. 2024
-
77. Income of the state which arises out of the property left by the people without a legal heir is called _____. (+2, -0.5)
- a. escheat
 - b. writ
 - c. de novo
 - d. felony
-
78. In the case of Aparna Bhat vs State of Madhya Pradesh in 2021, the Supreme Court set aside the judgment of Madhya Pradesh High Court which prescribed _____ as condition for bail. (+2, -0.5)
- a. giving money
 - b. getting married
 - c. tying rakhi
 - d. giving job

79. Who among the following is a 19th century exponent of the Kathak dance? (+2, -0.5)

- a. Jatin Goswami
- b. Kalka Prasad
- c. Bhabhananda Barbayan
- d. Krishna Panicker

80. Who among the following was one of the founders of Kerala Kalalayam in 1952? (+2, -0.5)

- a. Pallavi Krishnan
- b. Rema Shrikant
- c. Kalamandalam Kalyanikutty Amma
- d. Sunanda Nair

81. Who proposed the 'plum pudding' theory of the divisible atom in which negatively charged electrons were scattered in a lump of positive charge like a raisin in plum pudding? (+2, -0.5)

- a. Robert Andrews Millikan
- b. Ernest Rutherford
- c. Sir JJ Thomson
- d. Henri Becquerel

82. In India, from where do the tropical cyclones, which enter the Indian subcontinent from the west and the northwest during the winter months, originate? (+2, -0.5)

- a. Over the Gulf of Khambhat
- b. Over the Arabian Sea
- c. Over the Gulf of Mannar
- d. Over the Mediterranean Sea

83. In April 2021, which Indian cricketer was named as 'Wisden Almanack's ODI Cricketer of 2010s in the 2021 edition of the Wisden Cricketers' Almanack? (+2, -0.5)

- a. Hardik Pandya
- b. K L Rahul
- c. Mahendra Singh Dhoni
- d. Virat Kohli

84. Who was the winner of the 7th ICC T20 World Cup cricket? (+2, -0.5)

- a. Australia
- b. Sri Lanka
- c. New Zealand
- d. England

85. Who published the book 'Method de nomenclature (System of Chemical Nomenclature)' along with Claude Berthollet and others that determined the modern method of naming substances? (+2, -0.5)

- a. Jacob Berzelius
- b. Georg Brandt
- c. Antoine Lavoisier
- d. Wilhelm Ostwald

86. Which of the following State Governments started the Lata Mangeshkar Award in 1984? (+2, -0.5)

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

87. R Muthukannammal is a _____ dancer who got the Padma Shri in 2022. (+2, -0.5)

- a. Jhora
- b. Khor
- c. Daph
- d. Sadhir

88. A pyramid of biomass is a diagram that shows the population at each level of the food chain. Accordingly, _____ occupy the base with the highest biomass. (+2, -0.5)

- a. secondary consumers
- b. Decomposers
- c. primary consumers
- d. producers

89. Which of the following names belong to Bharatanatyam ? (+2, -0.5)

- a. Pandit Birju Maharaj
- b. Dr. Narthaki Natraj
- c. Kelucharan Mohapatra
- d. Guru Bipin Singh

90. Which chemical compound, with the chemical formula $\text{CH}_3\text{CH}_2\text{Cl}$, is used as a blowing agent in foamed plastics? (+2, -0.5)

- a. 3-Chlorohexane
- b. 1-chloropropane
- c. Chloromethane
- d. Chloroethane

91. Who among the following Indian music directors introduced Western tunes in the Hindi film industry, who was popularly known as Pancham Da'?

(+2, -0.5)

- a. Salil Chowdhury
- b. Vijaya Bhaskar
- c. Omkar Prasad Nayyar
- d. Rahul Dev Burman

92. Who was famous for the invention of the vacuum pump in the 17th century and also pioneered the concept of the absolute vacuum of space, measured the weight of air and used air pressure to predict the weather?

(+2, -0.5)

- a. John Cockcroft
- b. Otto von Guericke
- c. Enrico Fermi
- d. Valerianus Magnus

93. What is the common name of the members of family Phaeophyceae?

(+2, -0.5)

- a. Green algae
- b. Red algae
- c. Brown algae
- d. Blue green algae

94. 'Jakhan Choto Chilam' is an autobiography written in the Bengali language by which of the following Indian Bangla film directors? (+2, -0.5)

- a. Rituparno Ghosh
- b. Mrinal Sen
- c. Satyajit Ray
- d. Tapan Sinha

95. Who among the following personalities was awarded the Padma Shri for his contribution to Bundeli Folk Dance in 2022? (+2, -0.5)

- a. Ravi Shankar Sharma
- b. Dinesh Kumar Barkesia
- c. Anil Kumar Raghupati
- d. Ram Sahay Pandey

96. Pandit Ravi Shankar was one of the best known players of the _____. (+2, -0.5)

- a. Sitar
- b. Sarangi
- c. Sarod
- d. Tabala

97. The Fifteenth Finance Commission was constituted in: (+2, -0.5)

- a. 2016
 - b. 2017
 - c. 2018
 - d. 2019
-

98. In which of the following categories did the weightlifter Mirabai Chanu bag a silver medal at the Tokyo Olympics 2020? (+2, -0.5)

- a. 55 kg
 - b. 49 kg
 - c. 64 kg
 - d. 59 kg
-

99. Which of the following novels by Krishna Sobti was originally published as 'Dilo-Danish'? (+2, -0.5)

- a. Memory's Daughter
 - b. The Music of Solitude
 - c. A Gujarat Here, A Gujarat There
 - d. The Heart Has its Reasons
-

100. Which of the following awards was conferred on Krishna Sobti in the year 1980 for her Hindi novel 'Zindaginama'? (+2, -0.5)

- a. Sahitya Akademi Award

- b. Saraswati Samman
- c. Jnanpith Award
- d. Vyas Samman

Prepp

Your Personal Exams Guide

Answers

1. Answer: c

Explanation:

The correct answer is **"the biggest"**

★ Key Points

- Here in this statement one is comparing the clock in the town square with respect to all the watches in town.
- Superlative degrees are used for such types of comparisons and **"the biggest"** is the superlative degree.
- Also we do not use the article **"a"** with superlative degrees because superlatives make the noun specific and the article **"the"** is used with specific nouns.
 - Example: *This glass is **the biggest** of all the four glasses in the shop.*
- Therefore, the correct option here is **the biggest** (option 3).

The correct sentence is : *The clock that we have in our town square is **the biggest** in the whole town.*

★ Additional Information

Let us have a look at the other options also:

- **"The bigger"** is a comparative degree and these degrees are used to compare two things only.
 - Example: *This watch is **bigger** than the other one.*
- **"The big"** is simply used when we are talking about only one specific thing.
 - Example: ***The big** house.*
- **"A biggest"** is never used because we do not use the article **"a"** with superlative degrees.

2. Answer: c

Explanation:

The correct answer is: **"Tragic"**

★ Key Points

- The word given here is **"Comic"** which means something related to comedy or something that makes you laugh.
 - Example : *I love reading **comic** books.*
- The marked word is **"Tragic"** which means something related to death, accident, mishappening, or that makes you feel sad.
 - Example : *Her sister's death was so **tragic**.*
- We can clearly see that both words are exactly opposite to each other.
- Therefore, **"Tragic"** is an antonym for **"Comic"**.

★ Additional Information

Let us have a look at the other options.

- **"Native"** means a person who was born in some specific country and also lives there.
 - Example : *He is a **native** of America.*
- **"Costly"** means something that requires a lot of money.
 - Example : *This dress is very **costly**.*
- **"Empty"** means there is nothing inside.
 - Example : *This room is **empty**.*

3. Answer: a

Explanation:

The correct answer is **"receded"**

★ Key Points

- The word given in the bracket is "**approached**" which means **to come close(near) to something or something** .
 - Example : *He **approached** the truck.*
- We have to fill the opposite of (approached) in the blank space.
- From the above options word "**Receded**" means **to move away from something** .
 - Example : *These haunted memories will **recede** with time.*
- Therefore, the word "**Receded**" is the opposite of the word "**approached**".

The correct sentence is: *My fascination with Tyler's items **receded** into distant memories.*

Let us look at other options also:

★ Additional Information

- **Escalated** means to make something bigger or faster.
 - Example : *Rahul **escalated** the bike.*
- **Expanded** means to become bigger in size.
 - Example : *Arjun has **expanded** his field area .*
- **Intensified** means to make something stronger or more serious.
 - Example : *He **intensified** fighting by abusing.*

4. Answer: c

Explanation:

The correct answer is "**CBAD**"

★ Key Points

- When arranging sentences it is easier to order the first few, and then eliminate the options accordingly.
- **The first sentence of a paragraph is usually independent and introduces a topic. The second one provides more information about it.**
- Here, only **C** and **B** are independent and introduce a topic. So, we look at their interrelation .

- Out of these, **C** is truly independent while **B** provides more information about "Mosquitos are everywhere now. Villagers, as well.." introduced by **C**.
- So, **B** must come after **C**. Then **CB** is the **correct order for the first two lines**.
- This particular order is shown by **option 3 "CBAD"**.

Thus, the correct sequence is: " **CBAD** "

C : Mosquitos are everywhere now. Villagers, as well as city dwellers, are afraid of these small creatures.

B : There are thousands of species of mosquitoes that are known to the people of the world. They mainly live in still water and other places where water is stored.

A : These carriers of bacteria and viruses cause many diseases like Yellow Fever, Malaria, etc. so panchayats and municipalities are taking a lot of care to protect people from them.

D : Usually, female and male mosquitoes take feed on plants or fruit honey, however female mosquitoes mostly suck the blood of humans.

5. Answer: b

Explanation:

The correct answer is "**Irascible**"

★ Key Points

- The most appropriate one-word substitute for the given group of words is "**Irascible**".
- **Irascible** : means a person who tends to be easily angered or short-tempered.
 - Example : *She is an **irascible** and tough woman.*
- Therefore, as per the above-mentioned points **option 2, "Irascible"** is the correct answer.

★ Additional Information

Let us have a look at the meaning of other options also:

Word	Meaning
Invincible	someone who is very strong and cannot be defeated easily
Iridescent	someone or something giving a lustrous and glossy shining look
Irrational	something that is not clearly thought or doesn't have any reason

6. Answer: d

Explanation:

The correct answer is " wait to try out ".

★ Key Points

- " Trying " in "wait to trying out" is in the **present continuous tense** .
- **Present continuous tense** is used to indicate the **action going on** .
 - **Example:** *Lucy is **eating** her breakfast.*
- In the given sentence, the **action is yet to start** . This demands the usage of **simple present tense** .
- Therefore, the correct sentence should be " **Mr Pramod couldn't wait to try out his new recipe** ".

★ Additional Information

- The present tense is divided into **simple, continuous, perfect, and perfect continuous**.

Tense	Meaning	Example
Simple Present	denotes facts or actions happening now	She sits on the chair.
Present Continuous	denotes the action happening	She is sitting on the chair.
Present Perfect	denotes the action that started in the recent past and has its influence in the present.	She has sat on the chair.
Present Perfect Continuous	denotes the action that started in the recent past and has its influence is going on in the present.	She has been sitting on the chair.

7. Answer: c

Explanation:

The correct answer is: "giggly"

★ Key Points

- Here the correct word to be filled in is "giggly".
- Word "giggly" means **to laugh in a silly way**.
 - Example: A group of **giggly** girls was punished by a teacher.
- Funny stories can make anyone laugh.
- Therefore, "giggly" can be used here to represent laughing behavior.

The correct sentence is :Funny stories made me and my brother **giggly**.

★ Additional Information

Let us look at other options also:

- "Conscious" means to be in an active mental state.

- Example: *He became **conscious** after three hours.*
- "**Determined**" means to have an affirmation for doing something.
 - Example: *He is fully **determined** toward his goal.*
- "**Gritty**" means to show courage.
 - Example: *Eyes of the soldiers in the war were **gritty**.*

8. Answer: b

Explanation:

The correct answer is "**She is known to me**"

★ Key Points

- Given sentence " **I know her** " is in simple **Present Indefinite tense** and in **Active form**.
- The rule for changing a simple Present Indefinite tense form into a **Passive form** 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.
 - The helping verb comes before the object in the passive voice as the passive voice starts with the object of the active voice.
 - Convert the "**know**" into a past participle or 3rd form of the verb.
 - "**I**" will change into "**me**" and "**her**" will change into "**she**".
 - Structure: **Subject+ V1 + Object.(Active Voice)**

Subject+ is+ V3 + to + Object.(Passive Voice)

- Example :**Active Voice** : *He drives a car.*

Passive Voice : *A car is driven by him.*

★ Additional Information

- In active voice, a sentence emphasizes the subject performing an action.
- in passive voice, a sentence emphasizes the object performing an action.

9. Answer: b

Explanation:

The correct answer is: "Variable"

★ Key Points

- The word given here is "Uniform" which means something which is the same every time or that doesn't change with time.
 - Example: *He is driving the car at a uniform speed.*
- The marked word is "Variable" which means something that changes with time and doesn't remain constant.
 - Example: *It is difficult to calculate the cost with so many variables.*
- We can clearly see that both words are exactly opposite to each other.
- Therefore, "Variable" is an antonym for "Uniform".

★ Additional Information

Let us have a look at the other options.

- "Inflexible" means something which is not flexible.
 - Example: *His body is **inflexible**.*
- "Orderly" means something that acquires a specific order.
 - Example: *Every task should be done **orderly** in the company.*
- "Irrelevant" means something that does not make any sense.
 - Example: *This discussion is totally **irrelevant**.*

10. Answer: c

Explanation:

The correct answer is " **Bakshi is going to call you later in the evening** ".

★ Key Points

- **Fixed appointments** demand the usage of the **present tense** even if the incident happens in the future.
 - **Example:** *Tomorrow is a holiday.*
- Here, the situation is fixed that Bakshi will call. So, **the present continuous tense** is more appropriate.
- Moreover, in the future continuous tense, the **"will + ing verb"** does not come together.
- The **correct** format is **" will + be+ ing verb "**.
 - **Example:** *Tina **will be going** to the museum this evening.*
- Therefore, the correct answer is **Option 3**.

★ Additional Information

- The future tense is divided into **simple, continuous, perfect and perfect continuous**.

Tense	Meaning	Example
Simple	denotes future incidents	Mark will sing this evening.
Continuous	denotes the future progressing action.	Mark will be singing this evening.
Perfect	denotes completed action in future.	Mark will have sung this evening.
Perfect Continuous	denotes actions that are unfinished but will be finished in the future.	Mark will have been singing this evening.

11. Answer: b

Explanation:

The correct answer is " **spoil careful plans** ".

★ Key Points

- The appropriate meaning of the idiom " **upset the apple cart** " is " **spoil careful plans** ".
- **Upset the apple cart** - to cause trouble to someone's plans.
 - **Example** :*Dan did not say anything that would **upset the apple cart** .*
- Therefore, the correct answer is **Option 2**.

★ Additional Information

- Let's see some idioms beginning with " **ring** ".

Idioms	Meanings	Examples
Ring out	sound loud and clear.	<i>Steffy rang out her points during the competition.</i>
Ring around	to call many people to organize something	<i>John rang around his family for Christmas eve.</i>
Ring the bell	reminds of something	<i>This shop is ringing the bell about our last meet.</i>

12. Answer: d

Explanation:

The correct answer is "**they attend**"

★ Key Points

- Error is in the part "**they attend**" of the sentence.
- As per the sentence structure, they must attend it this weekend.
- Therefore, the sentence should be in the Future Continuous tense. Its correct form will be:
 - ***They will be attending** a meeting in Chicago this weekend.*

- Therefore, as per the above-mentioned points correct answer is **option 4 "they attend"** .

The correct answer: *They will be attending a meeting in Chicago this weekend.*

13. Answer: b

Explanation:

The correct answer is "**Deviant**"

★ Key Points

- Let us have a look at the meaning of all the options:
 - **Convergent:** means we can establish a solution to any problem by reasoning and logic.
 - **Deviant:** unacceptable and disturbing
 - **Cynical:** to feel angry or hurt
 - **Logical:** having some sort of sense
 - Now, the meaning of **perverse** :isto think in an unacceptable way or be disturbed .
 - Now we can see from the above-mentioned options only **deviant** relates in meaning with **perverse** .
 - Therefore correct option is **option 2 "Deviant"**.
-

14. Answer: c

Explanation:

The incorrectly spelled word is "**Champeon**"

★ Key Points

- In the given options " **Champeon** " is an **incorrectly** spelled word. Its **correct** spelling is "**Champion**".

- Let's look at its meaning:
- **Champion** : a person who has won any league or tournament
 - *Example: He is a **Champion** in boxing .*
- Therefore, as per the points mentioned above, we find that the correct answer is **Champeon** .

The correct answer is: **champeon**

★ Additional Information

Let's look at the meaning of other words given in the options:

Words	Meaning
Certificate	An paper that officially claims that something is true and valid.
Channel	A television station
Challenge	something that force us to go through difficulties

15. Answer: c

Explanation:

The incorrectly spelled word is "**Serrene**"

★ Key Points

- In the given options "**Serrene**" is an **incorrectly** spelled word. Its **correct** spelling is "**Serene**".
- Let's look at its meaning.
- **Serene** : calm and peaceful.
 - *Example: She has a very **serene** smile.*
- Therefore, as per the points mentioned above, we find that the correct answer is **Serrene** .

★ Additional Information

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

Word	Meaning
Tryst	a private meeting between two lovers
Yogurt	a food obtained from milk by its fermentation adding bacteria
Shopaholic	one who loves shopping

16. Answer: d

Explanation:

The correct answer is " **Philanthropist** ".

★ Key Points

- The appropriate answer which means " **one who makes an active effort to promote human welfare** " is " **Philanthropist** ".
- A **philanthropist** means a **person who helps the poor and needy by giving money** .
 - **Example:** *Sam paid fees for the slum children. He is a **philanthropist** .*
- Therefore, the answer is **Option 4** .

★ Additional Information

- **Squanderer** – a person who spends excessively.
 - **Example:** *Rita is a **squanderer** as she spent thousands on bags.*
- **Spendthrift** – a person who spends money wastefully.
 - **Example:** *Jim loves shopping and is a **spendthrift** .*
- **Pacifist** – a person who is against war and violence.
 - **Example:** *I prefer sorting problems through words. I am a **pacifist** .*

17. Answer: c

Explanation:

The correct answer is " **tolerate insult without protest** " .

★ Key Points

- The appropriate answer which means " **pocket an insult** " is " **tolerate insult without protest** " .
- " **Pocket an insult** " means **withstanding an insult without retreating back** .
 - **Example:** *Tom **pocketed** John's insults because they were friends.*
- Therefore, the correct answer is **Option 3** .

★ Additional Information

- Let's see some widely used idioms.

Idiom	Meaning	Example
see eye to eye	agreeing with someone	<i>I finally saw eye to eye with my designer.</i>
a piece of cake	very easy	<i>The job interview was a piece of cake.</i>
when pigs fly	rare occasions	<i>Rim will donate only when pigs fly .</i>

Your Personal Exams Guide

18. Answer: c

Explanation:

The correct answer is " **established** " .

★ Key Points

- **Established** means **something that was built or founded** .
 - **Example:** *The migrants **established** an association in a foreign land.*
- Therefore, the appropriate option is "established".

★ Additional Information

- **Fixed** – something that is stable.
 - **Example:** *The plumber **fixed** the shower as it was leaking.*
- **Extended** – lengthen something.
 - **Example:** *This book is an **extended** version of the movie.*
- **Entrenched** – an attitude or habit that is unlikely to change.
 - **Example:** *The famous college has an **entrenched** managing body.*

19. Answer: a

Explanation:

The correct answer is " **stab someone in the back** ".

★ Key Points

- **Betrayed** means to **cheat someone** .
 - **Example:** *The agent **betrayed** me by giving me a different house from the picture.*
- **Stab someone in the back** means **deceive** someone.
 - **Example:** *The shopkeeper **stabbed the customer on his back** by selling a defective piece.*
- Therefore, the appropriate idiom which means "betrayed" is "stab someone in the back".

★ Additional Information

- Let's see the other idioms given in the options.

Idiom	Meaning	Example
Looking to your laurels	to put an extra effort to succeed.	<i>If Tom needs to lead the score board, he needs to look at his laurels .</i>
A black sheep	The odd one of the group.	<i>Martha was the black sheep in the gang as she was the only girl.</i>
Every cloud has a silver lining	even a bad situation has some hope.	<i>Nora was able to score well despite her accident. She believed that every cloud has a silver lining.</i>

20. Answer: c

Explanation:

The correct answer is " **Magnificent** ".

★ Key Points

- The **correct** spelling of "Magnificent" is " **Magnificent** ".
- **Magnificent** means **grand and lavish** .
 - **Example:***The business magnet has a **magnificent** car.*
- Therefore, the incorrectly spelt word is "Magnificent".

★ Additional Information

- **Hilarious** – very funny.
 - **Example:***Jim's dressing style is **hilarious**.*
- **Demolish** – destroy.
 - **Example:***The government is **demolishing** houses to widen the roads.*
- **Gargantuan** – enormous.
 - **Example:***This property is **gargantuan**.*

21. Answer: b

Explanation:

The correct answer is " achieve ".

★ Key Points

- " Achieve " means to **accomplish something** .
 - **Example:** *Diana **achieved** in convincing her parents for a night out.*
- The blank demands a word that means " **completed something successfully** ".
- Therefore, "achieve" is the appropriate option.

★ Additional Information

- **Appreciate** – praise a person or an object.
 - **Example:** *The boss **appreciated** his team for their hard work.*
- **Prevail** – existing at the time.
 - **Example:** *The **prevailing** orders must be shipped by tomorrow.*
- **Value** – of some benefit.
 - **Example:** *This chair is of great **value** as it is made up of sandal wood.*

22. Answer: c

Explanation:

The correct answer is " **although** ".

★ Key Points

- **Although** is a **conjunction** which means " **in spite of the fact** ".
- It has a **tone of surprise** .
 - **Example :** ***Although** it was bright and sunny, we played on the beach.*
- Therefore, the appropriate option is "although".

★ Additional Information

- **Despite** – without any affect from the object mentioned.

- **Example** :*He was slim **despite** being a foodie.*
- **Even though** – means the same as "Although". But it has a **stronger tone** than "although".
 - **Example:*****Even though** I waited in the queue for an hour, I was unable to get the ticket.*
- **In spite** – regardless.
 - **Example:*****In spite** of my warning, she did not study for the test.*

23. Answer: b

Explanation:

The correct answer is " **stood** ".

★ Key Points

- **Stood** means " **being in an upright position** ".
 - **Example:***The tree **stood** despite the whirlwind.*
- Therefore, the correct option is "stood".

★ Additional Information

- **Established** – make something firm.
 - **Example:***The coach **established** the rules before the match.*
- **Erected** – stand straight.
 - **Example:***The school pupil leader stood **erect** throughout the assembly.*
- **Edified** – to uplift someone mentally and intellectually.
 - **Example:***The Pastor's sermon **edified** John.*

24. Answer: c

Explanation:

The correct answer is " **jut** ".

★ Key Points

- " Jut " means to **extend beyond the surface of something** .
 - **Example:** *The tile has **jutted** to the next room.*
- Therefore, "Jut" is the appropriate option.

★ Additional Information

- **Furrow** – a deep and long cut on the surface.
 - **Example:** *Mr Evans has a **furrow** on his forehead because of old age.*
- **Trench** – a long narrow passage dug into the ground to make a passage.
 - **Example:** *The opposite country dug a **trench** into our country.*
- **Line** – a straight mark on the surface.
 - **Example:** *Students were asked to stand in a straight **line** for the assembly.*

25. Answer: b

Explanation:

The correct answer is " **Lined** ".

★ Key Points

- " Lined " means **assembling something in a straight manner** .
 - **Example:** *The soldiers **lined** up for the drill.*
- Therefore, "lined" is the appropriate option.

★ Additional Information

- **Sequenced** – one after the other.
 - **Example :** *My mother **sequenced** the jams according to their date of expiry.*
- **Queued** – standing one behind the other to form a line.
 - **Example:** *The people **queued** to collect their ration.*
- **Furnished** – provide the necessities.
 - **Example :** *Rini **furnished** the form with all the details.*

26. Answer: d

Explanation:

The logic followed here is:

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

MASTER : AMHGRE

it is coded as alphabet positional value



In the same way

LUXURY : ULCFYR



Similarly,

FORMAL : OFINLA

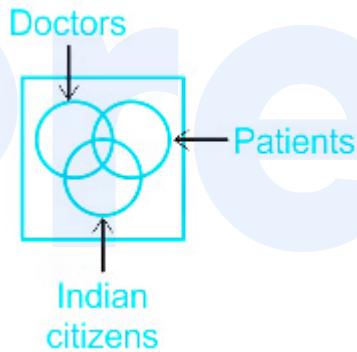


Hence, **OFINLA** is the correct answer.

27. Answer: b

Explanation:

The correct Venn diagram representation is



Some doctors can be patients and Indian citizens.

Some Indian citizens can be doctors and patients.

Some patients can be Indian citizens and doctors.

That's why three of the circles are overlapping partially.

Hence,



i.e. **option 2** is the **correct answer**.

28. Answer: b

Explanation:

The logic followed here is:

BODMAS table

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

Given : $31 \div 13 \div 7 \div 54 \div 12 \div 4 \div 20$

Option 1. $\div, \div, \div, \times, +, -$ by substituting according to BODMAS rule

- $31 = 13 \div 7 - 54 \times 12 + 4 - 20$
- $31 = 1.85 - 54 \times 12 + 4 - 20$
- $31 = 1.85 - 648 + 4 - 20$
- $31 = 5.85 - 648 - 20$
- $31 \neq 662.1$ (LHS $\neq$ RHS)

Option 2. $+, \times, -, =, \times, +$ by substituting according to BODMAS rule

- $31 + 13 \times 7 - 54 = 12 \times 4 + 20$
- $31 + 91 - 54 = 48 + 20$
- $122 - 54 = 68$
- $68 = 68$ (LHS = RHS)

Option 3. $-, -, =, \times, +, \div$ by substituting according to BODMAS rule

- $31 - 13 - 7 = 54 \times 12 + 4 \div 20$
- $31 - 13 - 7 = 54 \times 12 + 0.2$
- $31 - 13 - 7 = 648 + 0.2$
- $31 - 13 - 7 = 648.02$
- $31 - 20 = 648.02$
- $11 \neq 648.2$ (LHS $\neq$ RHS)

Option 4. +, -, =, $\times$, -, + by substituting according to BODMAS rule

- $31 + 13 - 7 = 54 \times 12 - 4 + 20$
- $31 + 13 - 7 = 648 - 4 + 20$
- $44 - 7 = 648 - 16$
- $37 \neq 632$ (LHS $\neq$ RHS)

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

29. Answer: a

Explanation:

BODMAS table

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

Given : $96 \div 3 \times 5 \div 56 \times 16 \div 120$

Option 1. $\div$, $\times$, -, +, = by substituting these values by BODMAS rule

- $96 \div 3 \times 5 - 56 + 16 = 120$
- $32 \times 5 - 56 + 16 = 120$
- $160 - 56 + 16 = 120$
- $176 - 56 = 120$
- $120 = 120$ (LHS = RHS)

Option 2. $\times, \div, +, -, =$ by substituting these values by BODMAS rule

- $96 \times 3 \div 5 + 56 - 16 = 120$
- $96 \times 0.6 + 56 - 16 = 120$
- $57.6 + 56 - 16 = 120$
- $113.6 \neq 120$ (LHS $\neq$ RHS)

Option 3. $\div, \times, +, -, =$ by substituting these values by BODMAS rule

- $96 \div 3 \times 5 + 56 - 16 = 120$
- $32 \times 5 + 56 - 16 = 120$
- $160 + 56 - 16 = 120$
- $216 - 16 = 120$
- $200 \neq 120$ (LHS $\neq$ RHS)

Option 4. $-, +, \div, \times, =$ by substituting these values by BODMAS rule

- $96 - 3 + 5 \div 56 \times 16 = 120$
- $96 - 3 + 0.08 \times 16 = 120$
- $96 - 3 + 1.28 = 120$
- $97.28 - 3 = 120$
- $94.28 \neq 120$ (LHS $\neq$ RHS)

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

30. Answer: c

Explanation:

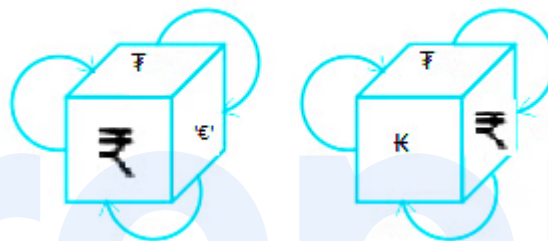
Given :



In the image we can see that the left of ₹ is K and the right of ₹ is €.

In a dice the left and right of the same face are placed opposite to each other. And in this case K and € are in this position. Therefore

K is the face opposite to €



'€' is opposite to K

Hence, K is the correct answer.

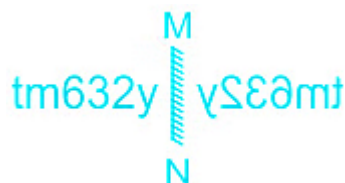
31. Answer: a

Explanation:

The logic followed here is :

In a mirror image left changes to right and the right changes to left .

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



Hence, Option1 is the correct answer.

32. Answer: a

Explanation:

Explanation :

BODMAS table

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

Given equation : $45 \div 9 \times 3 \times 7 \times 5 \times 21$

Option 1 : $\div, +, \times, -, =$ by substituting values by BODMAS rule we get

- $45 \div 9 + 3 \times 7 - 5 = 21$
- $5 + 3 \times 7 - 5 = 21$
- $5 + 21 - 5 = 21$
- $26 - 5 = 21$
- $21 = 21$ (LHS = RHS)

Option 2. : $-, \div, +, \times, =$ by substituting values by BODMAS rule we get

- $45 - 9 \div 3 + 7 \times 5 = 21$
- $45 - 3 + 7 \times 5 = 21$
- $45 - 3 + 35 = 21$
- $80 - 3 = 21$
- $77 \neq 21$ (LHS $\neq$ RHS)

Option 3 : $\times, +, \div, -, =$ by substituting values by BODMAS rule we get

- $45 \times 9 + 3 \div 7 - 5 = 21$
- $405 + 0.42 - 5 = 21$
- $405.42 - 5 = 21$
- $400.42 \neq 51$ (LHS $\neq$ RHS)

Option 4 : $-, +, \times, \div, =$ by substituting values by BODMAS rule we get

- $45 - 9 + 3 \times 7 \div 5 = 21$
- $45 - 9 + 3 \times 1.4 = 21$
- $45 - 9 + 4.2 = 21$
- $49.2 - 9 = 21$
- $40.2 \neq 21$ (LHS $\neq$ RHS)

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

33. Answer: d

Explanation:

The logic followed here is:

The option that represents the correct order of the given words as they would appear in english dictionary shown below

4. El ated
2. El ectrician
1. Ele gant
3. Ele phant
5. El ongated

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

34. Answer: d

Explanation:

The logic followed here is

$$\text{First Row: } 124 \div 2 + 38 = 62 + 38 = 100$$

$$\text{Second Row: } 78 \div 2 + 25 = 39 + 25 = 64$$

$$\text{Third row: } 94 \div 2 + 31 = 47 + 31 = 78$$

Hence, **78** is the **correct answer** .

$$(\text{3rd number} - \text{2nd number}) \times 2 = \text{1st number}$$

★ Alternate Method

Now,

$$\text{First row: } 124, 38, 100 \Rightarrow (100 - 38) \times 2 = 62 \times 2 = 124.$$

$$\text{Second row: } 78, 25, 64 \Rightarrow (64 - 25) \times 2 = 39 \times 2 = 78.$$

$$\text{Third row: } 94, 31, ? \Rightarrow (78 - 31) \times 2 = 47 \times 2 = 94.$$

Hence, **78** is the **correct answer** .

35. Answer: c

Explanation:

The logic followed here is :

In a mirror image left changes to right and the right changes to left.

The correct mirror image of the given figure when the mirror is placed at XY.



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

36. Answer: b

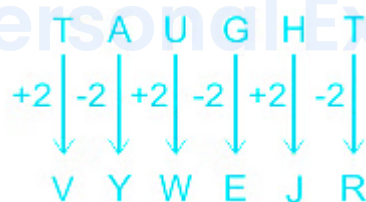
Explanation:

The logic followed here is:

Table of English alphabet positional value

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

"TAUGHT" is written as "VYWEJR"

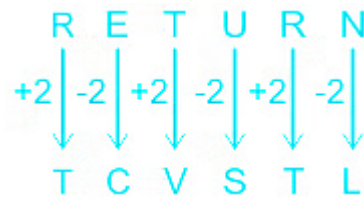


"SIMPLE" is written as "UGONNC"



Similarly,

"RETURN" is written as "TCVSTL"



Hence, "TCVSTL" is the correct answer.

37. Answer: c

Explanation:

The logic followed here is :

In a mirror image left changes to right and the right changes to left.

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



Hence, Option 3 is the correct answer.

38. Answer: d

Explanation:

Explanation :

Table of english alphabet positional value

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

L A B O U R
 ↓ ↓ ↓ ↓ ↓ ↓
 +6 +5 +4 +3 +2 +1
 ↓ ↓ ↓ ↓ ↓ ↓
 R F F R W S

H O N E S T
 ↓ ↓ ↓ ↓ ↓ ↓
 +6 +5 +4 +3 +2 +1
 ↓ ↓ ↓ ↓ ↓ ↓
 N T R H U U

E N O U G H
 ↓ ↓ ↓ ↓ ↓ ↓
 +6 +5 +4 +3 +2 +1
 ↓ ↓ ↓ ↓ ↓ ↓
 K S S X I I

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

39. Answer: b

Explanation:

Explanation :

Table of english alphabet positional value

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

ETRE, HSPJ, KRNO, **NQLT**



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

Your Personal Exams Guide

40. Answer: a

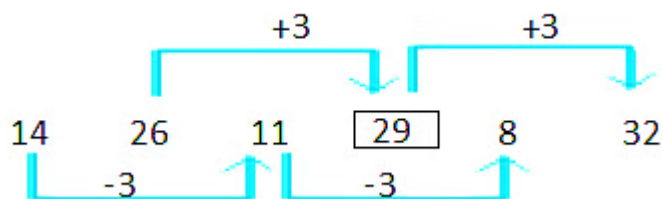
Explanation:

The logic followed here is :

There are two series in the given series;

Series 1: 14, 11, 8,

Series 2: 26, ? , 32,



Hence, **29** is the correct answer.

41. Answer: b

Explanation:

Explanation :

Symbol	Meaning
A	+
B	×
C	-
D	÷

Given equation : $18 \text{ A } 23 \text{ C } 6 \text{ B } (96 \text{ D } 16) \text{ A } 3 \text{ B } 12 = ?$

$$\Rightarrow 18 + 23 - 6 \times (96 \div 16) + 3 \times 12$$

$$\Rightarrow 18 + 23 - 6 \times 6 + 3 \times 12$$

$$\Rightarrow 18 + 23 - 36 + 36$$

⇒ 77 - 36

⇒ 41

Hence, 41 is the correct answer.

42. Answer: b

Explanation:

The logic followed here is:

The figure that will replace the question mark (?) in the following figure series is shown below

P S D L O	S P D L O	S D P L O	S D L P O	S D L O P
-----------	-----------	-----------	-----------	-----------

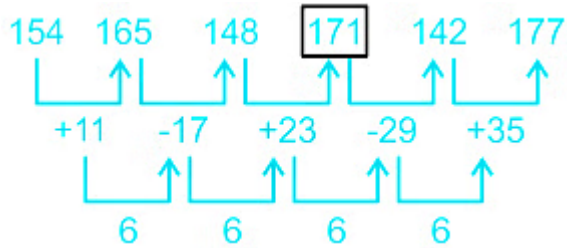
Logic : In second box they have interchanged first two words remaining words remain same then in third box they have interchanged 2nd and 3rd words remaining words remains same and so it continues like this.

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

43. Answer: c

Explanation:

The pattern followed here is :



*(Correction in Diagram. + - alternatively)

Hence, "171" is the correct answer.

44. Answer: c

Explanation:

The logic followed here is :

First - second number = A; $A \times \text{First number} = \text{Third number}$.

(31, 26, 155)



$31 - 26 = 5$; $5 \times 31 = 155$

(18, 12, 108)



$18 - 12 = 6$; $6 \times 18 = 108$

Similarly,

(16, 9, 114)



$16 - 9 = 7$; $7 \times 16 = 112 \neq 114 \rightarrow$ Does not follow the pattern.

(19, 15, 84)



$19 - 15 = 4$; $4 \times 19 = 76 \neq 84 \rightarrow$ Does not follow the pattern.

(17, 9, 136)



$17 - 9 = 8$; $8 \times 17 = 136 \rightarrow$ Follows the pattern

(18, 10, 148)



$18 - 10 = 8$; $8 \times 18 = 144 \neq 148 \rightarrow$ Does not follow the pattern.

Hence, (17, 9, 136) is the correct answer.

45. Answer: d

Explanation:

Given: 1st January 2020 was Wednesday,

Leap Year	2 odd days
Ordinary Year	1 odd day

then,

1st January 2021 = Wednesday + 2(2020 is leap year) = Friday.

Now,

Number of days between 1st January 2021 to 28th February 2021 = 58 days

$\Rightarrow 58 \text{ days} = 58/7 = 8 \text{ weeks and } 2 \text{ odd days.}$

So, 28th February 2021 = Friday + 2 = Sunday.

Hence, the correct answer is "Sunday".

46. Answer: d

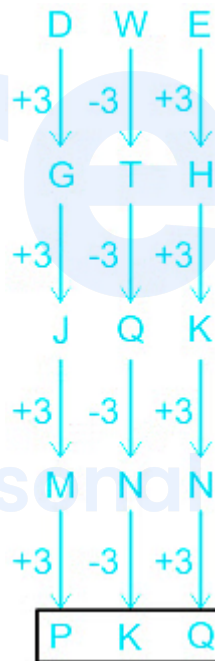
Explanation:

The logic followed here is:

Table of alphabet positional value

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

DWE, GTH, JQK, MNN, **PKQ**



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

47. Answer: a

Explanation:

Explanation :

BODMAS Table

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

Given equation : $84 \div 6 \times 25 \div 13 \times 3$

Option 1) $\div, +, =, \times$ by substituting these value according to BODMAS table we get

$$84 \div 6 + 25 = 13 \times 3$$

$$14 + 25 = 13 \times 3$$

$$14 + 25 = 39$$

$$39 = 39(\text{LHS} = \text{RHS})$$

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

$$84 = 6 - 25 + 13 \times 3$$

$$84 = 6 - 25 + 39$$

$$84 = 45 - 25$$

$$84 \neq 20(\text{LHS} \neq \text{RHS})$$

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

$$84 + 6 \div 25 = 13 \times 3$$

$$84 + 0.24 = 13 \times 3$$

$$84 + 0.24 = 39$$

$$84.24 \neq 39 \text{ (LHS} \neq \text{RHS)}$$

Option 4) -, -, =, +

$$84 - 6 - 25 = 13 + 3$$

$$84 - 6 - 25 = 16$$

$$84 - 31 = 16$$

$$53 \neq 16 \text{ (LHS} \neq \text{RHS)}$$

Hence, " $\div$, +, =, $\times$ " is the correct answer.

48. Answer: b

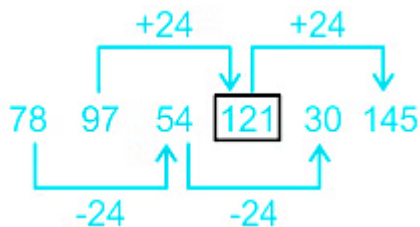
Explanation:

The pattern followed here is :

There are two series in the given series:

Series 1: $78 - 24 = 54$; $54 - 24 = 30$;

Series 2: $97 + 24 = 121$; $121 + 24 = 145$.



Hence, "121" is the correct answer.

49. Answer: c

Explanation:

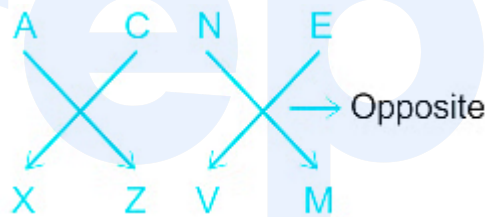
The logic followed here is:

Table of english alphabet positional value is as follows:

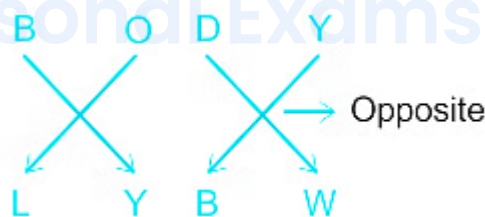
Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

'ACNE' is written as 'XZVM'

A is sitting opposite to Z according to table as given above. same way all letters are sitting opposite according to positional value table



'BODY' is written as 'LYBW'



Similarly,

'EVIL' is written as 'EVOR'



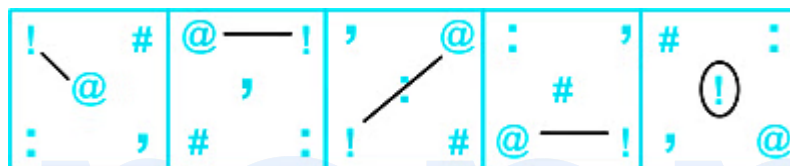
Hence, **EVOR** is the correct answer.

50. Answer: c

Explanation:

The logic followed here is:

The figure that will replace the question mark in the following figure series is given below:



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

51. Answer: d

Explanation:

Calculation:

⇒ Number of women in City T = 45% of 46200

⇒ Number of women in City T = $\frac{45}{100} \times 46200 = 20,790$

⇒ Number of men in City P = 45% of 46800

⇒ Number of men in City P = $\frac{45}{100} \times 46800 = 21,060$

⇒ Percentage formed by number of women in city T as compared to number of men in city P = $\frac{20790}{21060} \times 100 = 98.72$

Hence, the percentage formed by number of women in city T as compared to number of men in city P is 98.72%

52. Answer: d

Explanation:

Given:

Difference between two supplementary angles = 74°

Concept Used:

Sum of two supplementary angles = 180°

Calculation:

Let one angle be x°

So, the other angle will be $(x - 74)^\circ$

Adding both angles together, we get

$$\Rightarrow x + x - 74 = 180^\circ$$

$$\Rightarrow 2x = 180 + 74 = 254^\circ$$

$$\Rightarrow x = \frac{254}{2} = 127$$

$\Rightarrow$ So, first angle is 127°

$\Rightarrow$ Then, other angle will be = $127 - 74 = 53^\circ$

Hence, one of the angle is 53°

53. Answer: a

Explanation:

Given:

Selling price of an article = Rs 255

Loss percentage = 15%

Concept Used:

$$\text{Cost Price} = \frac{100}{100 - \text{Loss}\%} \times SP$$

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

Calculation:

$$\Rightarrow \text{Cost Price of an article} = \frac{100}{100 - 15} \times 255$$

$$\Rightarrow \text{Cost Price of an article} = \frac{100}{85} \times 255 = 300 \text{ Rs}$$

$\Rightarrow$ When article is sold at Rs 357,

$$\Rightarrow \text{Profit} = SP - CP = 357 - 300 = \text{Rs } 57$$

$$\Rightarrow \text{Profit \%} = \frac{57}{300} \times 100 = 19\%$$

Hence, the net result in the transaction is 19% profit.

54. Answer: c

Explanation:

Given:

Successive discounts = 16% and 4%

Single discount = 20%

Bill amount = Rs 50,000

Concept Used:

Discount = Amount – Discount % of Amount

Calculation:

⇒ Price after single discount of 20% = 50000 – 20% of 50000

⇒ Price after single discount of 20% = $50000 - \frac{20}{100} \times 50000 = 50000 - 10000 = 40000$ Rs

Applying successive discounts

⇒ Price after 16% discount = 50000 – 16% of 50000

⇒ Price after 16% discount = $50000 - \frac{16}{100} \times 50000 = 50000 - 8000 = 42000$ Rs

⇒ Again after discount of 4% = 42000 – 4% of 42000

⇒ Price after total successive discounts = $42000 - \frac{4}{100} \times 42000 = 42000 - 1680 = 40320$ Rs

⇒ Difference after applying both discounts = 40320 – 40000 = Rs 320

Hence, the difference between the single discount and successive discounts on a bill is of Rs 320

55. Answer: b**Explanation:**

Given:

Marked Price of suitcase = Rs 2,500

Discount = 10%

Profit % = 20%

Concept Used:

$$\text{Cost Price} = \frac{100}{100 + \text{Profit}\%} \times SP$$

Calculation:

⇒ Selling Price of suitcase = MP – Discount % of MP

⇒ Selling Price = $2500 - 10\% \text{ of } 2500 = 2500 - \frac{10}{100} \times 2500 = 2500 - 250 = 2250 \text{ Rs}$

According to the question, it makes profit of 20%

⇒ So, Cost Price of suitcase = $\frac{100}{100+20} \times 2250 = \frac{100}{120} \times 2250$

⇒ Cost Price = $\frac{10}{12} \times 2250 = 10 \times 187.5 = \text{Rs}1875$

Hence, the cost price of a suitcase is Rs 1875

56. Answer: b

Explanation:

Calculation:

⇒ Sum of weight of 7 years and 8 years = $22 + 27 = 49 \text{ kg}$

⇒ Sum of weight of 8 years and 9 years = $27 + 25 = 52 \text{ kg}$

⇒ Sum of weight of 6 years and 7 years = $22 + 22 = 44 \text{ kg}$

⇒ Sum of weight of 6 years and 9 years = $22 + 25 = 47 \text{ kg}$

Hence, the sum of weight of kids which exceeds 50 kg is of 8 years and 9 years.

57. Answer: c

Explanation:

Given:

Number of days taken by X to complete the work = 6 days

Number of days taken by Y to complete the work = 12 days

Concept Used:

Work Efficiency = Total Work $\div$ Total Time Taken

Calculation:

Let the total units of work be 18 units

$$\Rightarrow \text{Work Efficiency for X} = \frac{18}{6} = 3 \text{ units / day}$$

$$\Rightarrow \text{Work Efficiency for Y} = \frac{18}{12} = 1.5 \text{ units / day}$$

According to the question, work starts with X

$$\Rightarrow \text{First day work by X} = 3 \text{ units}$$

$$\Rightarrow \text{Second day work by Y} = 1.5 \text{ units}$$

$$\Rightarrow \text{Same way, working alternatively number of days taken to complete the work} = \frac{18}{4.5} \times 2 = 8 \text{ days}$$

Hence, working alternatively starting with X, the total number of days taken to finish the work is 8 days.

58. Answer: b**Explanation:****Given:**

Dividend = 246837

Divisor = 13

Concept Used:

Divisibility Rule of 13 = For a given number, form alternating sums of blocks of three numbers from the right and move towards the left.

Calculation:

Applying the divisibility rule on 246837

$$\Rightarrow 837 - 246 = 591$$

$\Rightarrow$ Dividing 591 by 13 gives

$$\Rightarrow \text{Quotient} = 45 \text{ and Remainder} = 6$$

So, $591 - 6 = 585$ is divisible by 13

Hence, the number which should be subtracted from 246837 to make it divisible by 13 is 6

59. Answer: c

Explanation:

Concept Used:

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

Calculation:

$$\Rightarrow a = 14, b = 21, c = 28$$

$$\Rightarrow \text{Fourth proportional of these three numbers} = \frac{21 \times 28}{14}$$

$$\Rightarrow \text{Fourth proportional} = 42$$

Hence, the fourth proportional to 14, 21, 28 is 42

60. Answer: d

Explanation:

Given:

Percentage of salary spent on grocery = 20%

Percentage of salary spent of house rent = 30%

Left Amount = Rs 8400

Concept Used:

Monthly Salary = Expenditures + Savings

Calculation:

Let the monthly salary of man be Rs x

$$\Rightarrow \text{Amount left after spending on grocery} = x - 20\% \text{ of } x = x - \frac{20}{100} \times x = \frac{5x-x}{5} = \frac{4x}{5}$$

$$\Rightarrow \text{Now, Amount left after spending on house rent} = \frac{4x}{5} - \frac{30}{100} \times \frac{4x}{5} = \frac{4x}{5} - \frac{6x}{25}$$

$$\Rightarrow \text{Amount left after spending on house rent} = \frac{20x-6x}{25} = \frac{14x}{25}$$

According to question,

$$\Rightarrow \frac{14x}{25} = 8400$$

$$\Rightarrow x = \frac{8400 \times 25}{14} = 15000$$

Hence, the monthly salary of a man is Rs 15,000

61. Answer: a

Explanation:

Given:

Distances = 10 km, 20 km, 30 km

Speeds = 30 km/h, 40 km/h, 60 km/h

Concept Used:

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

Calculation:

$$\Rightarrow \text{Time taken for the distance of 10 km} = \frac{10}{30} = \frac{1}{3} \text{ hours}$$

$$\Rightarrow \text{Time taken for the distance of 20 km} = \frac{20}{40} = \frac{1}{2} \text{ hours}$$

$$\Rightarrow \text{Time taken for the distance of 30 km} = \frac{30}{60} = \frac{1}{2} \text{ hours}$$

$$\Rightarrow \text{Total Distance} = 10 + 20 + 30 = 60 \text{ km}$$

$$\Rightarrow \text{Average Speed of car} = \frac{60}{\frac{1}{3} + \frac{1}{2} + \frac{1}{2}} = \frac{60}{1 + \frac{1}{3}}$$

$$\Rightarrow \text{Average Speed of car} = \frac{60}{\frac{4}{3}} = \frac{60 \times 3}{4} = 45 \text{ km/h}$$

Hence, the average speed of the car is 45 km/h.

62. Answer: a

Explanation:

Given:

$$x = \sqrt{10} + \sqrt{11}$$

$$y = \sqrt{10} - \sqrt{11}$$

Concept Used:

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

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

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

Calculation:

$$\Rightarrow 7x^2 - 50xy + 7y^2 = 7(\sqrt{10} + \sqrt{11})^2 - 50(\sqrt{10} + \sqrt{11})(\sqrt{10} - \sqrt{11}) + 7(\sqrt{10} - \sqrt{11})^2$$

$$\Rightarrow 7[(\sqrt{10})^2 + (\sqrt{11})^2 + 2 \times \sqrt{10} \times \sqrt{11}] - 50[(\sqrt{10})^2 - (\sqrt{11})^2] + 7[(\sqrt{10})^2 + (\sqrt{11})^2 - 2 \times \sqrt{10} \times \sqrt{11}]$$

$$\Rightarrow 7(10 + 11 + 2\sqrt{110}) - 50(10 - 11) + 7(10 + 11 - 2\sqrt{110})$$

$$\Rightarrow 147 + 14\sqrt{110} + 50 + 147 - 14\sqrt{110}$$

$$\Rightarrow 344$$

Hence, the value of the given expression is 344

63. Answer: c

Explanation:

Given:

Distance between stations A and B = 778 km

Speed while going from A to B = 84 km/h

Speed while returning from B to A = 56 km/h

Concept Used:

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

Calculation:

$$\Rightarrow \text{Time taken for going from station A to B} = \frac{778}{84} = 9.26 \text{ hours}$$

$$\Rightarrow \text{Time taken for returning from B to A} = \frac{778}{56} = 13.89 \text{ hours}$$

$$\Rightarrow \text{Total Distance of travel} = 778 + 778 = 1556 \text{ km}$$

$$\Rightarrow \text{Average Speed throughout the journey} = \frac{1556}{9.26+13.89} = \frac{1556}{23.15} = 67.2 \text{ km/h}$$

Hence, the average speed of the train throughout the journey is 67.2 km/h

64. Answer: d

Explanation:

Given:

First Number = 30% less than the third number

Second Number = 37% less than the third number

Calculation:

Let the third number be 100

⇒ First number = $100 - 30\% \text{ of } 100$

⇒ First number = $100 - \frac{30}{100} \times 100 = 100 - 30 = 70$

⇒ Second number = $100 - 37\% \text{ of } 100$

⇒ Second Number = $100 - \frac{37}{100} \times 100 = 100 - 37 = 63$

⇒ Difference between first and second number = $70 - 63 = 7$

⇒ Percentage difference between first and second number = $\frac{7}{70} \times 100 = 10\%$

Hence, the second number is less than first number by 10%.

65. Answer: a

Explanation:

Given:

Cost Price of a house = Rs 2,00,000

Loss percentage after selling = 10%

Investment rate = 20% p.a.

Duration of investment = 2 years

Concept Used:

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

Calculation:

$$\Rightarrow \text{Selling price at a loss of 10\%} = \frac{100 - \text{Loss\%}}{100} \times CP = \frac{90}{100} \times 200000 = 180000 \text{ Rs}$$

$$\Rightarrow \text{Now, Principal} = 1,80,000 \text{ Rs}$$

$$\Rightarrow \text{Value of investment after 2 years} = 180000 \left(1 + \frac{20}{100}\right)^2$$

$$\Rightarrow \text{Value of investment after 2 years} = 180000 \times \frac{120}{100} \times \frac{120}{100} = 2,59,200 \text{ Rs}$$

Hence, the value of investment after 2 years would be Rs 2,59,200

66. Answer: d

Explanation:

Concept Used:

$$\tan(a + b) = \frac{\tan a + \tan b}{1 - \tan a \times \tan b}$$

Calculation:

$$\Rightarrow \tan(\pi + \theta) = \frac{\tan \pi + \tan \theta}{1 - \tan \pi \times \tan \theta}$$

$$\Rightarrow \text{We know the value of } \tan \pi = 0,$$

$$\Rightarrow \frac{\tan \pi + \tan \theta}{1 - \tan \pi \times \tan \theta} = \frac{0 + \tan \theta}{1 - 0} = \tan \theta$$

Hence, the value of $\tan(\pi + \theta)$ is $\tan \theta$

67. Answer: c

Explanation:

Given:

Value of C = 8085

Value of C = 22.5% more than B

Value of B = 17.5% less than A

Calculation:

As given, C = 8085

⇒ Let the value of B be x

⇒ Value of C = x + 22.5% of x

$$\Rightarrow x + \frac{22.5}{100} \times x = 8085$$

$$\Rightarrow 122.5x = 808500$$

$$\Rightarrow x = \frac{808500}{122.5} = 6600 \text{ Rs}$$

Now, let the value of A be y

⇒ Value of B = y - 17.5% of y

$$\Rightarrow 6600 = y - \frac{17.5}{100} \times y = \frac{82.5y}{100}$$

$$\Rightarrow y = \frac{6600 \times 100}{82.5} = 80 \times 100 = 8000 \text{ Rs}$$

Hence, the value of A is Rs 8,000

68. Answer: c

Explanation:

Given:

Surface area of sphere = $100\pi \text{ cm}^2$

Concept Used:

Surface Area of Sphere = $4\pi r^2$

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

Calculation:

$\Rightarrow$ Surface Area of spherical volleyball = $100\pi \text{ cm}^2$

$\Rightarrow 4\pi r^2 = 100\pi$

$\Rightarrow r^2 = \frac{100\pi}{4\pi} = 25$

$\Rightarrow r = \sqrt{25} = 5$

$\Rightarrow$ Now, Volume of air enclosed in the ball = $\frac{4}{3}\pi \times 5^3 = \frac{4}{3}\pi \times 125$

$\Rightarrow$ Volume of air enclosed in the ball = $\frac{500}{3}\pi \text{ cm}^3$

Hence, the volume of air enclosed in the ball is $\frac{500}{3}\pi \text{ cm}^3$.

69. Answer: a

Explanation:

Concept Used:

BODMAS = Bracket, Of, Division, Multiplication, Addition, Subtraction

Calculation:

$\Rightarrow 9 \times 4 \text{ of } 3 \div 2 - 5 \times Q + 2 \times 3 = 10$

$$\Rightarrow 9 \times 12 \div 2 - 5 \times Q + 2 \times 3 = 10$$

$$\Rightarrow 9 \times 6 - 5 \times Q + 2 \times 3 = 10$$

$$\Rightarrow 54 - 5Q + 6 = 10$$

$$\Rightarrow 5Q = 60 - 10 = 50$$

$$\Rightarrow Q = \frac{50}{5} = 10$$

Hence, the value of Q is 10

70. Answer: a

Explanation:

Given:

Average of four numbers = 48

Average of first three numbers = 42

Average of last three numbers = 50

Concept Used:

Average = Total Sum of Values $\div$ Total Number of Values

Calculation:

$\Rightarrow$ Let the four numbers be a, b, c, d.

$\Rightarrow$ Average of four numbers = $\frac{a+b+c+d}{4}$

$$\Rightarrow \frac{a+b+c+d}{4} = 48$$

$$\Rightarrow a + b + c + d = 48 \times 4 = 192 \quad \rightarrow (1)$$

$\Rightarrow$ Average of first three numbers = $\frac{a+b+c}{3}$

$$\Rightarrow \frac{a+b+c}{3} = 42$$

$$\Rightarrow a + b + c = 42 \times 3 = 126 \quad \rightarrow (2)$$

$$\Rightarrow \text{Average of last three numbers} = \frac{b+c+d}{3} = 50$$

$$\Rightarrow b + c + d = 50 \times 3 = 150 \quad \rightarrow (3)$$

$\Rightarrow$ Putting the value of equation (2) into (1),

$$\Rightarrow 126 + d = 192$$

$$\Rightarrow d = 192 - 126 = 66$$

$\Rightarrow$ Putting the value of equation (3) into (1),

$$\Rightarrow a + 150 = 192$$

$$\Rightarrow a = 192 - 150 = 42$$

$$\Rightarrow \text{Average of first and fourth number} = \frac{a+d}{2} = \frac{66+42}{2}$$

$$\Rightarrow \text{Average of first and last number} = \frac{108}{2} = 54$$

Hence, the average of first and last number is 54

Your Personal Exams Guide

71. Answer: a

Explanation:

Given:

Weightage of assignments = 28%

Weightage of tests = 22%

Weightage of final exam = 50%

Grade in assignment = 80

Grade in test = 75

Grade in final exam = 86

Calculation:

⇒ Marks for overall grade from assignments = 28% of 80

⇒ Marks of overall grade from assignments = $\frac{28}{100} \times 80 = 22.4$

⇒ Marks for overall grade from tests = 22% of 75

⇒ Marks for overall grade from tests = $\frac{22}{100} \times 75 = 16.5$

⇒ Marks for overall grade from final exam = 50% of 86

⇒ Marks for overall grade from final exam = $\frac{50}{100} \times 86 = 43$

⇒ Overall grade for the year = $22.4 + 16.5 + 43 = 81.9$

Hence, the overall grade for the year is 81.9

72. Answer: c

Explanation:

Given:

Total surface area of hemisphere = 64.57 cm^2

Concept Used:

Total Surface Area of Hemisphere = $3\pi r^2$

Curved Surface Area of Hemisphere = $2\pi r^2$

Calculation:

Total Surface Area of hemisphere = 64.57

$$\Rightarrow 3\pi r^2 = 64.57$$

We take $\pi = 3.14$

$$\Rightarrow 3 \times 3.14 \times r^2 = 64.57$$

$$\Rightarrow r^2 = \frac{64.57}{9.42} = 6.854$$

$$\Rightarrow \text{Curved Surface Area of hemisphere} = 2 \times 3.14 \times 6.854 = 43.04 \text{ cm}^2$$

Hence, the curved surface area of the hemisphere is 43.04 cm^2 .

73. Answer: b

Explanation:

Concept Used:

A quadratic equation $ax^2 + bx + c$ is a perfect square only when $b^2 - 4ac = 0$

Calculation:

$$\Rightarrow x^4 - 8x^2 + m = (x^2)^2 - 8x^2 + m$$

$\Rightarrow$ Let the value of x^2 be y

$$\Rightarrow y^2 - 8y + m$$

$\Rightarrow$ On comparing with the standard equation, we get

$$\Rightarrow a = 1, b = -8, c = m$$

$\Rightarrow$ For perfect square, $b^2 - 4ac = 0$

$$\Rightarrow (-8)^2 - 4 \times 1 \times m = 0$$

$$\Rightarrow 64 - 4m = 0$$

$$\Rightarrow m = \frac{-64}{-4} = 16$$

Hence, the required value of m is 16

74. Answer: b

Explanation:

Given:

Length of wall = 10 m

Height of wall = 5 m

Width of wall = 20 cm

Dimensions of brick = 25 cm × 20 cm × 10 cm

Concept Used:

Volume of Cuboid = Length × Breadth × Height

Calculation:

Firstly, convert the wall dimensions from m to cm,

⇒ Length of wall = 10 m = $10 \times 100 = 1000$ cm

⇒ Height of wall = 5 m = $5 \times 100 = 500$ cm

⇒ Volume of wall = $1000 \times 500 \times 20 = 10,000,000 \text{ cm}^3$

⇒ Volume of each brick = $25 \times 20 \times 10 = 5000 \text{ cm}^3$

⇒ Number of bricks required to construct the wall = Volume of wall ÷ Volume of each brick

⇒ So, Number of bricks required = $\frac{10000000}{5000} = 2000$

Hence, the total number of bricks required to construct the wall is 2000

75. Answer: b

Explanation:

Concept Used:

Total Students = Number of Boys + Number of Girls

Calculation:

⇒ Total number of students in class V = $65 + 58 = 123$

⇒ Total number of students in class VI = $57 + 59 = 116$

⇒ Total number of students in class VII = $60 + 62 = 122$

⇒ Total number of students in class VIII = $61 + 59 = 120$

Hence, the least number of students taking boys and girls together is in class VI

76. Answer: b

Explanation:

The correct answer is 2023.

★ Key Points

- India will host the **15th Men's Hockey World Cup** in **2023**.
- 15th Men's Hockey World Cup will be held in **Rourkela and Bhubaneswar**.
- Kalinga Stadium in **Bhubaneswar** and Birsa Munda International Hockey Stadium in **Rourkela** will be the venue for the 15th Men's Hockey World cup.
- The state government has constructed the country's largest hockey stadium in **Rourkela** for the biggest hockey festival.
- The total capacity of the stadium will be **20,000** and once completed, it will be the largest hockey stadium in India.

- This will be the **fourth** time India will host this event and it will be the **second** time it will be hosted in Odisha.

★ Additional Information

- The Men's FIH Hockey World Cup is an international hockey competition organized by the **International Hockey Federation** (FIH).
- Men's FIH Hockey world cup is held once in **4 years**.
- FIH headquarters is in **Lausanne, Switzerland**.
- Egypt's **Seif Ahmed** is the acting president of International Hockey Federation.

77. Answer: a

Explanation:

The correct answer is Escheat.

★ Key Points

- Income of the state which arises out of the property left by the people without a legal heir is termed **Escheat**.
- **Escheat** refers to the right of a government to require ownership of estate assets or unclaimed property.
- It most ordinarily occurs when an individual **dies** with no will and no heirs.
- Escheat rights may be granted when **assets** are unclaimed for a proctored period of your time.
- These situations may also be mentioned to as **bona vacantia** or just unclaimed property.
- The concept of escheat maintains that property always includes a **recognized owner**, which might be the state or government if no other claimants to ownership exist or are readily identified.

★ Additional Information

- A **writ** is a formal written order issued by a body with administrative or judicial jurisdiction; in modern usage, this body is usually a court.

- “ **from the new** ” When a court hears a case **de novo** , it is deciding the problems without reference to any legal conclusion or assumption made by the previous court to listen to the case.
- A **felony** is traditionally considered a crime of high seriousness, whereas a misdemeanor is regarded as less serious.

78. Answer: c

Explanation:

The correct answer is tying rakhi.

★ Key Points

- In the case **Aparna Bhat vs. State of Madhya Pradesh** , the apex court held that the use of patriarchal and stereotypical reasoning/language which diminishes sexual crimes and tends to trivialize the survivor, is to be avoided under all circumstances.
- The **supreme court** was hearing an appeal against certain bail conditions within the case of Vikram vs State of Madhya Pradesh in Madhya Pradesh high court.
- In this case involving a sexual offence against a lady, the bench of Justice Rohit Arya ordered the bail for the accused on the condition that he visits the house of the complainant and requests her to tie the **Rakhi** band to him “with the promise to guard her to the most effective of his ability for all times to come back.”
- While condemning the MP High Court’s order directing ‘ **rakhi tying** ’ as a condition for bail, the judgement explains the term ‘judicial stereotyping’, which refers to the practice of judges perpetuating harmful stereotypes, particularly for lady victims and survivors of violence.
- The Supreme Court put aside the judgment of Madhya Pradesh High Court which prescribed “ **tying rakhi** ” as condition for bail.

★ Additional Information

- The **Supreme Court of India** is supreme judicial authority of India and is the highest court of the Republic of India under the constitution.
- It is the most foremost senior constitutional court, has the ultimate decision in all legal matters, and also has the ability of judicial review except for Personal law board.
- The Supreme Court of India consists of the **Chief Justice** and **30 other Judges** appointed by the President of India.
- Supreme Court Judges retire upon attaining the age of **65 years**.
- After the retirement of **N. V. Ramana** who is the current Chief Justice of India, Justice **U. U. Lalit** will take oath as the New Chief Justice of India on 27th August 2022.

79. Answer: b

Explanation:

The correct answer is Kalka Prasad.

★ Key Points

- **Kalka Prasad** is a 19th century exponent of the Kathak dance.
- Kalka Prasad was considered as the pillars of the **Lucknow Gharana**.
- Kalka Prasad Ji decided to live in Banaras and promoted **Kathak-style** dance and **Thumri** singing.
- He was responsible for promoting **Kathak** to a greater rank of art and beauty.
- Apart from dance, **tabla** and **pakhawaj** were the instrumental and expert singers, especially with a deep knowledge of Thumri.
- He was an expert in **Abhinaya** – expressing it in Thumri songs and performing Shringar Rasa.

★ Additional Information

- **Jatin Goswami** is an Indian dancer and choreographer, known as one of the prominent exponents of the classical dance form of Sattriya.
- **Sri Babhananda Barbayan** is dancer, choreographer, drummer, teacher and artistic-director.

- **Krishna Panicker** is a famous Mohiniyattam dancer from the 20th century.
-

80. Answer: c

Explanation:

The correct answer is Kalamandalam Kalyanikutty Amma.

★ Key Points

- 'Kalyani Krishna Fine Arts Academy- **Kerala Kalalayam** ', founded by Padma shri Kalamandalam Krishnan Nair and Kalamandalam Kalyani Kuttiyamma in 1952.
- Kalamandalam Kalyanikutty Amma was an epoch-making **Mohiniyattam** dance use from Kerala in southern India.
- A native of Thirunavaya in **Malappuram** district of the state, she was instrumental in resurrecting Mohiniyattam from a dismal, near-extinct state into a mainstream Indian classical dance.
- Of the 2 books Kalyanikutty Amma has authored, " **Mohiniyattam – History and Dance Structure** " is taken into account as an elaborate and only authentic documentation on Mohiniyattam.
- **Kalyanikutty Amma** has also been honored with the Kalidasa Samman in 1997–1998.
- Kalyanikutty Amma passed the art of Mohiniyattam beyond **India** .

★ Additional Information

- **Pallavi Krishnan** is a leading exponent of Mohiniyattam. She is known for her efforts to promote and preserve this style of Indian classical dance as a living tradition.
 - **Rema Shrikant** is an outstanding Bharatanatyam dancer, Choreographer and teacher of Vadodara.
 - **Sunanda Nair** is an Indian dancer trained in Mohiniyattam.
-

81. Answer: c

Explanation:

The correct answer is Sir JJ Thomson.

★ Key Points

- The **plum pudding model** is one of several historical scientific models of the atom.
- **Sir JJ Thomson** proposed the 'Plum pudding' theory of the divisible atom in which negatively charged electrons were scattered in a lump of positive charge like a raisin in plum pudding.
- The plum pudding model has electrons surrounded by a volume of positive charge, like negatively charged "**plums**" embedded in a positively charged "**pudding**".
- It is believed that atoms contain **negatively** charged subatomic particles.
- Thomson called them "**corpuscles**" (particles), but they were more commonly called "electrons", the name which G. J. Stoney had coined for the "fundamental unit quantity of electricity" in 1891.
- It had also been believed for many years that **atoms** have no net electric charge.
- Thomson proposed that atoms must also contain some positive charge that **cancels** out the negative charge of its electrons.

★ Additional Information

- **Robert Andrews Millikan** was an American experimental physicist honored with the Nobel Prize for Physics in 1923 for the measurement of the elementary electric charge and for his work on the photoelectric effect.
- **Ernest Rutherford**, was a New Zealand physicist who is known as the father of nuclear physics.
- Antoine **Henri Becquerel** was a French engineer, physicist, Nobel laureate, and the first person to discover evidence of radioactivity.

82. Answer: d

Explanation:

The correct answer is Over the Mediterranean Sea.

★ Key Points

- In India, from **Mediterranean Sea**, the tropical cyclones, enters the Indian subcontinent from the west and the northwest during the winter months, originate.
- The increase within the prevailing night temperature generally indicates an advance with the arrival of these **cyclones disturbances**.
- The frequency, intensity and coastal impact of **cyclones** varies from region to region.
- The **frequency** of tropical cyclones is the lowest in the north Indian Ocean regions of the Bay of Bengal and the Arabian Sea, they are also of moderate intensities.
- **Tropical cyclones** originate from the Bay of Bengal and the Indian ocean.
- Most of these cyclones are very **destructive** due to high wind velocity and torrential rain that come along with it.

★ Additional Information

- The **Gulf of Khambhat**, known as the Gulf of Cambay, is a bay on the Arabian Sea coast of India, bordering the state of Gujarat just north of Mumbai and Diu Island.
- The **Arabian Sea** is a region of the northern Indian Ocean bounded on the north by Pakistan, Iran and the Gulf of Oman, on the west by the Gulf of Aden, Guardafui Channel and the Arabian Peninsula, on the southeast by the Laccadive Sea and the Maldives, on the southwest by Somalia, and on the east by India.
- The **Gulf of Mannar** is a large shallow bay forming part of the Laccadive Sea in the Indian Ocean with an average depth of 5.8 m. It lies between the southeastern tip of India and the west coast of Sri Lanka, in the Coromandel Coast region

83. Answer: d

Explanation:

The correct answer is Virat Kohli.

★ Key Points

- **Virat Kohli** was named as 'Wisden Almanack's ODI Cricketer of 2010s in the 2021 edition of the Wisden Cricketers' Almanack in April 2021.
- During the overall period, nobody has scored more runs than Virat Kohli's 11556; no batter has notched up more hundreds and more fifties than him.
- He hit his **maiden World Cup** hundred in his debut game in 2011 and won the trophy for India.
- Virat Kohli top-scored in the **2013 Champions Trophy** final against England.
- In the next two World Cups, he had major contributions for **India** to reach the semi-final.
- He has cemented his name as the greatest run-chaser in the game with over **6000** runs batting second at 69.08; that average catapults to 95.64 in victories while chasing.

★ Additional Information

- **Sachin Tendulkar** is the ODI Cricketer of the 1990s.
- **Kapil Dev** was named as the ODI Cricketer for the 1980s.
- England all-rounder **Ben Stokes** is 'Leading Cricketer of the Year'.
- Australia's **Beth Mooney** is 'Leading Women's Cricketer in the World'.
- West Indies all-rounder **Kieron Pollard** was adjudged the 'Leading T20 Cricketer in the World'.
- **Jason Holder, Mohammed Rizwan, Dom Sibley, Zak Crawley**, and **Darren Stevens** have been awarded the Wisden Cricketers of the Year 2021.

84. Answer: a

Explanation:

The correct answer is Australia.

★ Key Points

- **Australia** was crowned the winners of the 7th ICC T20 World Cup.
- It was the second time that **Australia** had qualified for the final of the T20 World Cup, after reaching the final of the 2010 tournament.
- In the final, **Australia** beat New Zealand by 8 wickets to win their first T20 World Cup.
- **Mitchell Marsh** was named the Player of the Match, with **David Warner** being named the Player of the Tournament.
- Originally the event was scheduled to be held in **Australia** from 18 October to 15 November 2020, but in July 2020, the International Cricket Council (ICC) postponed the tournament, due to the COVID-19 pandemic.
- In August 2020, the ICC confirmed that India would host the 2021 tournament as planned, with Australia being named as the host for the succeeding 2022 tournament.
- In June 2021, the ICC announced that the tournament had been shifted to the **United Arab Emirates**.

★ Additional Information

- The **International Cricket Council** (ICC) is the world governing body of cricket.
- It was founded as the Imperial Cricket Conference in **1909** by representatives from Australia, England and South Africa.
- **Greg Barclay** is the chairman of International Cricket Council.
- ICC is headquartered in **Dubai, UAE**.

85. Answer: c

Explanation:

The correct answer is Antoine Lavoisier.

★ Key Points

- In 1787, four prominent French chemists – Louis Bernard Guyton de Morveau, Antoine-Laurent Lavoisier, Claude Louis Berthollet, and Antoine François Fourcroy – published a book with the title **Méthode de nomenclature chimique**.
- In this book, they proposed a **new nomenclature** of chemical substances, explicated their principles of methodically constructing chemical names, and further presented a taxonomic table of chemical substances.
- Historians of chemistry have unanimously praised the Method as a key document of eighteenth-century chemistry, particularly of **Lavoisier's epoch**.
- Since the nomenclatural and the taxonomic proposals of the **Méthode** were constructed in accordance with Lavoisier's antiphlogistic chemical system, most historians have regarded it as a fruit and manifestation of this chemical system.

★ Additional Information

- **Jacob Berzelius** was one of the founders of modern chemistry. He measured accurate atomic weights for the elements, which led to confirmation of Dalton's Atomic Theory and was the basis of Mendeleev's periodic table.
- **Georg Brandt** was a Swedish chemist and mineralogist who discovered cobalt. He was the first person to discover a metal unknown in ancient times.
- Friedrich **Wilhelm Ostwald** was a Baltic German chemist and philosopher. Ostwald is credited with being one of the founders of the field of physical chemistry, with Jacobus Henricus van 't Hoff, Walther Nernst, and Svante Arrhenius

86. Answer: b

Explanation:

The correct answer is Madhya Pradesh.

★ Key Points

- The **Lata Mangeshkar Award** is a national-level award instituted to honor works in the field of **music** .
- Many state governments of India present awards with her name.
- The Madhya Pradesh government started this award in **1984** .
- Noted singer **Suman Kalyanpur** and music composer **Kuldeep Singh** were awarded the Madhya Pradesh government's National Lata Mangeshkar Samman.
- While Suman Kalyanpur got the award for the year **2017** , Kuldeep Singh received it for **2018** .
- The award carries a cash prize of **Rs 2 lakh** and a **citation** .
- Music legends **Naushad, Kishore Kumar, and Asha Bhosle** are among the earlier recipients of the National Lata Mangeshkar Samman.

★ Additional Information

- **Lata Mangeshkar** was an Indian playback singer and music composer.
- She is considered to have been one of the greatest and most influential singers in **India** .
- Her contribution to the Indian music industry in a career spanning eight decades gained her honorific titles such as the " **Queen of Melody** ", " **Nightingale of India** ", and " **Voice of the Millennium** " .
- **Lata Mangeshkar** won several awards and honours, including the Bharat Ratna, India's highest civilian award, Padma Bhushan, Padma Vibhushan, Zee Cine Award for Lifetime Achievements, Dadasaheb Phalke Award, Maharashtra Bhushan Award, NTR National Award, Legion of Honour, ANR National Award, three National Film Awards, and 15 Bengal Film Journalists' Association Awards.
- In 2009, she was awarded the title of Officer of the **French Legion of Honour** , France's highest order.

87. Answer: d

Explanation:

The correct answer is Sadhir.

★ Key Points

- In the year 2022, Govt of India honored Muthukannammal by conferring the Padma Shri award for her contributions to the **Sadhir** dance form.
- R Muthukannammal is a seventh-generation veteran **Sadhir** dancer from the Indian State of Tamil Nadu.
- She is the only surviving person among the **32 Devadasis** who served the deity at the Viralimalai Murugan temple and she is the last woman to have the ceremony pottukkattutal of dedicating oneself to God performed at the Viralimalai temple.
- The dance form Sadir, variously called **Sadiraattam** or **Parathaiyar Aattam** or **Thevarattam**, is a classical Indian dance which was reinvented, modified, and rechristened as Bharatanatyam through the efforts of E Krishna Iyer and Rukmini Devi Arundale in 1932.
- However, Muthukannammal has chosen to call her art form **Sadhir**, making her the only Sadir exponent today.

★ Additional Information

- **Jhora** dance belongs to the state of Uttarakhand. It originated in the Kumaon region. This magical folk dance form binds people of all castes.
- The **Khor** dance is a variant of the Jhumar dance and is exclusively performed by women. This dance is very popular in certain parts of central Haryana.
- **Daph** dance is also a seasonal dance. But this dance is performed in Haryana when the crop is ready to get harvested.

88. Answer: d

Explanation:

The correct answer is producers.

★ Key Points

- A **pyramid** of biomass is a graphical representation that shows the population at each level of the food chain.

- **Producers** occupy the base with the highest biomass.
- The relationship between numbers, biomass, energy, or bio productivity of an ecosystem can be represented by a pyramid known as the **ecological pyramid**.
- **The trophic level** is the place that a living organism occupies in a food chain.
- In a biomass pyramid, **producers** are at the base, followed by **herbivores** and then **carnivores** at the top.
- The **pyramid** of biomass shows the flow of energy from producers to consumers.
- **10 percent** of the energy gets transferred to the next trophic level and the rest is either utilized for metabolic processes or excreted out.

★ Additional Information

- Carnivores that eat herbivores are called **secondary consumers**.
- A separate trophic level, the **decomposers** or transformers, consists of organisms such as bacteria and fungi that break down dead organisms and waste materials into nutrients usable by the producers.
- **Primary consumers** make up the second trophic level. They are also called herbivores.

89. Answer: b

Explanation:

The correct answer is Dr. Narthaki Nataraj.

★ Key Points

- **Narthaki Nataraj** is a Bharatanatyam dancer. In 2019, she was awarded the Padma Shri, making her the first transgender woman to be awarded India's fourth-highest civilian award.
- Narthaki Nataraj was awarded with the **Padma Shri**.
- She is the first **transgender** to be felicitated with the award.
- Narthaki Nataraj is active in preserving the compositions of Kittappa Pillai's ancestors, **the Tanjore Quartets**.

- Narthaki has also started her own school, **Valliambalam School of Dance** .
- The school has some branches in the US, UK, and Canada.
- She is a Bharatanatyam exponent and specialises in the Thanjavur-based **Nayaki Bhava tradition** .

★ Additional Information

- **Pandit Birju Maharaj** was an Indian dancer, composer, singer, and exponent of the Lucknow "Kalka-Bindadin" Gharana of Kathak dance in India.
- **Kelucharan Mohapatra** was a legendary Indian classical dancer, guru, and exponent of Odissi dance, who is credited with the revival and popularizing of this classical dance form in the 20th century.
- **Guru Bipin Singh** was a director, choreographer, and teacher of Manipuri dance.

90. Answer: d

Explanation:

The correct answer is Chloroethane.

★ Key Points

- **Chloroethane** with the chemical formula $\text{CH}_3\text{CH}_2\text{Cl}$ is used as a blowing agent in foamed plastics.
- It was used as a promoter chemical in the aluminum chloride catalyzed process to produce **ethylbenzene**. Now, it is not widely used in any of these roles.
- **Foam** products are manufactured with **chemical blowing agents** that expand the **plastic** matrix before it solidifies.
- Chloroethane is produced by hydrochlorination of ethylene: $\text{C}_2\text{H}_4 + \text{HCl} \rightarrow \text{C}_2\text{H}_5\text{Cl}$.
- Earlier **chloroethane** has been produced from ethanol and hydrochloric acid, from ethane and chlorine, or from ethanol and phosphorus trichloride, but these methods are no longer economical

★ Additional Information

- The chemical formula of 3-Chlorohexane is **C₆H₁₃Cl**.
- n-Propyl chloride (also 1-propyl chloride or 1-chloropropane) is a colorless, flammable chemical compound. It has the chemical formula **C₃H₇Cl**.
- Chloromethane, also called methyl chloride, Refrigerant-40, R-40 or HCC 40, is an organic compound with the chemical formula **CH₃Cl**.

91. Answer: d

Explanation:

The correct answer is Rahul Dev Burman.

★ Key Points

- Rahul Dev Burman was popularly known as **Pancham Da**.
- Rahul Dev Burman was an Indian music director. From the 1960s to the 1990s, Burman composed musical scores for **331 films**.
- Rahul Dev Burman did major work with his wife, **Asha Bhosle**, and **Kishore Kumar** and scored many of the songs that made these singers famous.
- He also worked extensively and scored approximately **331 songs** including some of the most memorable numbers in his career for his sister-in-law, **Lata Mangeshkar**.
- Nicknamed **Pancham**, he was the only son of the composer Sachin Dev Burman.
- Rahul Dev Burman laid the foundation for numerous Hindi film music directors to pave the path for the future of music in **Hindi** language cinema.
- On the anniversary of his 77th birthday on 27 June 2016, **Google** had a Doodle of R.D Burman on its Indian Home Page.

★ Additional Information

- **Salil Chowdhury** was an Indian songwriter, music director, lyricist, writer, and poet who predominantly composed for Bengali, Hindi, and Malayalam films. He composed music for films in 13 languages.

- **K. Vijaya Bhaskar** is an Indian film director who works mainly in the Telugu film industry. He won the National Film Award for Best Feature Film in Telugu for Nuvve Kavali.
- **Omkar Prasad Nayyar** was an Indian film music composer, singer-songwriter, music producer, and musician. He is considered to be one of the most rhythmic and melodious music directors in the Hindi film industry.

92. Answer: b

Explanation:

The correct answer is Otto von Guericke.

★ Key Points

- **Otto von Guericke** was famous for the invention of the vacuum pump in the 17th century and also pioneered the concept of the absolute vacuum of space, measuring the weight of air and using air pressure to predict the weather.
- In 1650 von Guericke invented the **vacuum pump**. His model consisted of a piston and an air gun cylinder with two-way flaps designed to pull air out of whatever vessel it was connected to, and used to investigate the properties of the vacuum in many experiments.
- A particular and repeated target of his criticism is the manner in which the " **nature abhors a vacuum** " principle had migrated from simply a matter of experiment to a high principle of physics which could be invoked to explain phenomena such as suction but which itself was above question.
- **Von Guericke** was a very pious man in the Dionysian tradition and attributed the vacuum of space to the creations and designs of an infinite divinity.
- Otto von Guericke showed that substances were not pulled by a **vacuum** , but were pushed by the pressure of the surrounding fluids.

★ Additional Information

- **Sir John Douglas Cockcroft** was a British physicist who shared with Ernest Walton the Nobel Prize in Physics in 1951 for splitting the atomic nucleus and was instrumental in the development of nuclear power.

- **Enrico Fermi** was an Italian physicist and the creator of the world's first nuclear reactor, the Chicago Pile-1. He has been called the "architect of the nuclear age" and the "architect of the atomic bomb".
- **Valerianus Magnus** was an Italian Capuchin, missionary preacher in Central Europe, polemicist and author.

93. Answer: c

Explanation:

The correct answer is Brown algae.

★ Key Points

- **Brown algae** are the common name of the members of the family **Phaeophyceae**.
- Brown algae are a large group of **multicellular algae** within the Northern Hemisphere.
- Brown algae are the major **seaweeds** of the temperate and polar regions.
- They are present on **rocky shores** all around cooler areas of the world.
- Most brown algae live in **marine environments**, where they play an important role both as food and as potential habitats.
- **Macrocystis**, a kelp of the order Laminariales, may reach 60 m (200 ft) in length and forms prominent underwater kelp forests..

★ Additional Information

- **The green algae** are a group consisting of the Prasinodermophyta and its unnamed sister which contains the Chlorophyta and Charophyta/Streptophyta.
- **Red algae**, or Rhodophyta, are one of the oldest groups of eukaryotic algae. The Rhodophyta also comprises one of the largest phyla of algae, containing over 7,000 currently recognized species with taxonomic revisions ongoing.
- **Blue-green algae**, also called cyanobacteria, any of a large, heterogeneous group of prokaryotic, principally photosynthetic organisms.

94. Answer: c

Explanation:

The correct answer is Satyajit Ray.

★ Key Points

- ' **Jakhan Choto Chilam** ' is an autobiography written in the Bengali language by **Satyajit Ray** .
- In this book, Satyajit Ray discusses his childhood days in the city of **Kolkata** (then Calcutta), India from the eyes of an everyday boy.
- **Satyajit Ray** was an Indian director, screenwriter, documentary filmmaker, author, essayist, lyricist, magazine editor, illustrator, calligrapher, and music composer.
- **Satyajit Ray** received many major awards in his career, including 36 Indian National Film Awards, a Golden Lion, a Golden Bear, 2 Silver Bears, many additional awards at international film festivals and ceremonies, and an Academy Honorary Award in **1992** .
- In 1978, he was awarded an honorary degree by **Oxford University** .
- In 1992, Government of India honored him the **Bharat Ratna** Award.

★ Additional Information

- **Rituparno Ghosh** was an Indian film director, actor, writer, and lyricist. After pursuing a degree in economics, he started his career as a creative artist at an advertising agency.
- **Mrinal Sen** was an Indian film director of Bengali heritage and a nominated Member of the Indian parliament.
- **Tapan Sinha** was one of the most prominent Indian film directors of his time forming a legendary quartet with Satyajit Ray, Ritwik Ghatak, and Mrinal Sen.

95. Answer: d

Explanation:

The correct answer is Ram Sahay Pandey.

★ Key Points

- **Ram Sahay Pandey** was awarded the Padma Shri for his contribution to Bundeli Folk Dance in 2022.
- Ram Sahay Pandey is a Rai dancer from Madhya Pradesh's sagar district.
- **The Rai** dance was traditionally associated with the Bedia community.
- Though he was not the member of the community he devoted his whole life practicing and performing the **Rai dance** and to secure acceptance and respectability for the dance form.
- His efforts helped him obtain national and international recognition of **Rai dance** form.
- The dance form Raai (or Rai) is basically a folk dance of the **Bundelkhand region**.
- In the year 2022, Govt of India honoured Ram Sahay Pandey by conferring the **Padma Shri** award for his contributions to art.

★ Additional Information

- **Ravi Shankar Sharma**, often referred to mononymously as Ravi, was an Indian music director, who composed music for several Hindi and Malayalam films.
- **Dinesh Kumar Barkesia** is an Indian choreographer working with South Indian films, including Tamil films. He won the 2011 National Film Award for Best Choreography for his work in Aadukalam.

96. Answer: a

Explanation:

The correct answer is Sitar.

★ Key Points

- **Pandit Ravi Shankar** was an Indian musician and composer.
- He was known for popularizing the Indian classical instrument **Sitar** all over the world.
- He became the world's best-known exponent of **North Indian classical music** in the 2nd half of the 20th century.
- In 1999, Pandit Ravi Shankar was awarded India's highest civilian honour, the Bharat Ratna.
- He even collaborated with the famous band ' **The Beatles** '.
- Pandit Ravi Shankar was honored with **three** highest Indian civilian awards.
- The song ' **Saare Jahan Se Acha** ' was set to tune by Ravi Shankar.



★ Additional Information

- The **sarangi** is a bowed, short-necked string instrument played in traditional music from India – Punjabi folk music, Rajasthani folk music, and Boro folk music – also in Pakistan and Bangladesh.
- The **sarod** is a stringed instrument, used mainly in Hindustani music on the Indian subcontinent. Along with the sitar, it is among the most popular and prominent instruments.
- A **tabla** is a pair of twin hand drums from the Indian subcontinent. Since the 18th century, it has been the principal percussion instrument in Hindustani classical music, where it may be played solo, as an accompaniment with other instruments and vocals, and as a part of larger ensembles.

97. Answer: b

Explanation:

The correct answer is 2017.

★ Key Points

- In **2017**, the Fifteenth Finance Commission was constituted.
- The Fifteenth Finance Commission is an Indian Finance Commission constituted in **November 2017** and is to give recommendations for devolution of taxes and other fiscal matters for **five** fiscal years.
- The commission was chaired by **Nand Kishore Singh**, a senior member of the Bharatiya Janata Party, with its full-time members Ajay Narayan Jha, Ashok Lahiri, and Anoop Singh.
- The commission also has a part-time member in **Ramesh Chand**.
- **Shaktikanta Das** served as a member of the commission from November 2017 to December 2018.
- The Fifteenth Finance Commission was constituted by the **Government of India**.

★ Additional Information

- The **Finance Commissions** are commissions periodically constituted by the President of India under Article 280 of the Indian Constitution to define the financial relations between the central government of India and the individual state governments.
- The First Commission was established in 1951 under **The Finance Commission Act, 1951**.
- Fifteen Finance Commissions have been constituted since the promulgation of the Indian Constitution in **1950**.
- Individual commissions operate under the terms of reference which are different for every commission, and they define the terms of qualification, appointment, and disqualification, the term, eligibility, and powers of the **Finance Commission**.
- As per the constitution, the commission is appointed every **five years** and consists of a chairman and four other members.

98. Answer: b

Explanation:

The correct answer is **49 Kg**.

★ Key Points

- Mirabai Chanu won a silver medal in the women's **49 kg** weightlifting competition to open India's counter at the Tokyo 2020 Olympics.
- The Manipuri athlete lifted a total weight of **202 kg** to win the medal.
- Mirabai Chanu picked a total of **87 kg** in the snatch part of the event and ended with a lift of **115 kg** in clean and jerk.
- She is the second Indian weightlifter after **Karnam Malleswari** to win an Olympic medal.
- Mirabai Chanu has been a world champion in the past when she won the gold medal in the **48 kg** category in Anaheim.
- She is the reigning Commonwealth Games **gold medallist** in the 48kg category.

★ Additional Information

- The 2020 Summer Olympics also known as **Tokyo 2020**, was an international multi-sport event held from 23 July to 8 August 2021 in Tokyo, Japan.
- India has won **7 medals** in Tokyo Olympics 2021 for far. These 7 medals include 1 Gold Medal, 2 Silver medals and 4 Bronze medals.
- **Neeraj Chopra** became only the second Indian individual Olympic champion.
- **PV Sindhu** won her second Olympic medal while the men's hockey team won an Olympic medal after 41 years.

99. Answer: d

Explanation:

The correct answer is The Heart Has its Reasons.

★ Key Points

- **The Heart Has its Reasons** by Krishna Sobti was originally published as 'Dil-o-Danish'.
- In 2005, **Dil-o-Danish**, translated into The Heart Has Its Reasons in English by Reema Anand and Meenakshi Swami of Katha Books, won the Crossword Award in the Indian Language Fiction Translation category.
- Krishna Sobti's books have been translated to Indian and foreign languages.
- **Krishna Sobti** was an Indian Hindi-language fiction writer and essayist.
- She won the **Sahitya Akademi Award** in 1980 for her novel Zindaginama and in 1996, was awarded the **Sahitya Akademi Fellowship**, the highest award of the Akademi.
- she received the **Jnanpith Award** for her contribution to Indian literature in 2017.

★ Additional Information

- Krishna Sobti's pathbreaking first novel, **Memory's Daughter** follows in young Pasho's footsteps as she is bought and sold like cattle in the strife-torn climate of the Afghan and Anglo-Sikh wars of the 19th century Punjab.
- **The music of solitude** written by Krishna sobti is a collection of musings and ramblings about life, with no definitive start or end.
- **A Gujarat Here, A Gujarat There** written by Krishna Sobti is not only a powerful tale of Partition loss and dislocation but also charts the odyssey of a spirited young woman determined to build a new identity for herself on her own terms.

100. Answer: a

Explanation:

The correct answer is Sahitya Akademi Award.

★ Key Points

- **Krishna Sobti** was an Indian Hindi-language fiction writer and essayist.

- She won the Sahitya Akademi Award in 1980 for her novel **Zindaginama** and in 1996, was awarded the Sahitya Akademi Fellowship.
- She also received the **Jnanpith Award** for her contribution to Indian literature.
- Her publications have been translated into multiple Indian and foreign languages such as **Swedish, Russian and English** .
- Krishna Sobti is best known for her 1966 novel **Mitro Marajani** , an unapologetic portrayal of a married woman's sexuality.
- **Krishna Sobti** was also the recipient of the first Katha Chudamani Award, in 1999, for Lifetime Literary Achievement, apart from winning the Shiromani Award in 1981, Hindi Academy Award in 1982, Shalaka Award of the Hindi Academy Delhi, and in 2008, her novel Samay Sargam was selected for Vyas Samman, instituted by the K. K. Birla Foundation.

★ Additional Information

- The **Sahitya Akademi Award** is a literary honour in India, which the Sahitya Akademi, India's National Academy of Letters, annually confers on writers of the most outstanding books of literary merit published in any of the 24 major Indian languages.
- The **Saraswati Samman** is an annual award for outstanding prose or poetry literary works in any of the 22 languages of India listed in Schedule VIII of the Constitution of India. It is named after an Indian goddess of knowledge.
- The **Jnanpith Award** is the oldest and the highest Indian literary award presented annually by the Bharatiya Jnanpith to an author for their "outstanding contribution towards literature.
- The **Vyas Samman** is a literary award in India, first awarded in 1991. It is awarded annually by the K.K. Birla Foundation and includes a cash payout of Rs 4,00,000.