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Your Personal Exams Guide

- NDA
- CDS
- SSC CGL
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- IBPS PO
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- SSC MTS
- SBI PO
- BPSC
- UPTET
- 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 (09-Jun-2022) (Shift 2)

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

Instructions

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

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

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

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

English Language

1. Select the most appropriate ANTONYM of the underlined word in the following sentence. **(+2, -0.5)**

   You have made only perfunctory attempts to understand me!

   a. adamant

   b. careful

   c. basic

   d. casual

---

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

   Be under a cloud

   a. To be untrustworthy

   b. To be gloomy

   c. To be very happy

   d. To have a hidden talent

---

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

   Imprisonment

   a. Incapacitation

   b. Incarceration

   c. Inarch

d. Imputation

---

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

Hit the sack

a. Hit the sack

b. Confirm the target

c. Complete the assignment

d. Go to sleep

---

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

a. Launderette

b. Hallucinate

c. Hiatus

d. Sacrilage

---

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

In queer street

a. Among scoundrels

b. In prison

c. Lost your way

d. In debt

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

When we got / to the train station, / the Rajdhani Express / had already been leaving.

a. When we got

b. to the train station

c. the Rajdhani Express

d. had already been leaving

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

The students / and the teachers / worked hardly / to make the event a success.

a. worked hardly

b. The students

c. to make the event a success

d. and the teachers

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

I guessed her feelings when she started crying.

a. estimated her emotions

b. estimated her rejoinders

c. estimated her reactions

d. estimated her ripostes

---

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

His friends arranged for the ambulance and took him immediately to the hospital.

a. His friends would have arranged for the ambulance and taken him immediately to the hospital.

b. His friends were arranged for the ambulance and taken him immediately to the hospital.

c. The ambulance was arranged for by his friends and he was immediately taken to the hospital.

d. The ambulance arranged for his friends and took him immediately to the hospital.

---

11. Complete the collocation. **(+2, -0.5)**

When we met first it was very difficult to _ _ _ _ _ _ the ice.

a. smash

b. burst

c. break

d. shatter

---

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

Tagore and Gandhi were undoubtedly the two outstanding and _ _ _ _ _ _ _ _ _ figures of India in the first half of twentieth century.

a. dominating

b. activating

c. resuming

d. appreciating

---

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

Raman is finding it difficult to adjust as he has come to a different country from his own country for settling.

a. Pilgrim

b. Immigrant

c. Globetrotter

d. Gypsy

---

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

a. Efficient

b. Scaleable

c. Unorganised

d. Effervescent

---

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

A. They also resolved to impose restrictions on the Russian central bank's ability to access and deploy the country's 'war chest' of an estimated $630 billion in foreign exchange reserves.

B. Saturday's announcement by the US, the UK and European allies, including France and Germany, of a raft of 'further restrictive economic measures' to increase the costs on Russia for its invasion of Ukraine has just raised the risks of a more widespread economic fallout from this war.

C. The immediate impact of these moves on Russia's economy and financial markets have manifested in a sharp depreciation in the value of the Rouble.

D. With a view to further isolating Russia from the international financial system, the Western allies decided to block 'selected' Russian banks from the SWIFT messaging system that banks and financial institutions use to validate and complete international payment transactions.

a. BDAC

b. BACD

c. ABCD

d. DBAC

---

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

Defile

a. Regularize

b. Labor

c. Particularize

d. Purify

---

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

Exorcise

a. Invent

b. Expel

c. Introduce

d. Expect

---

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

Who is talking in the phone?

a. with

b. on

c. at

d. for

---

19. Select the most appropriate ANTONYM of the underlined word in the following sentence. **(+2, -0.5)**

You can sleep here but this bed is squalid and wet.

a. disorderly

b. uncomfortable

c. clean

d. painful

---

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

a. Affluence

b. Intrepid

c. Athiest

d. Loquacity

---

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

The Union Budget, 2018-19, has proposed to treat school education holistically without (1) _ _ _ _ _ _ _ _ _ _ from pre-nursery to Class 12. Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, (2) _ _ _ _ _ _ with the broader goal of improving school effectiveness measured in terms of equal opportunities (3) _ _ _ _ _ _ _ schooling and equitable learning outcomes. The Goal SDG-4.1 states that, "By 2030, ensure

that all boys and girls complete free, equitable and quality primary and secondary education (4) _ _ _ _ _ _ _ to relevant and effective learning outcomes". Further the SDG 4.5 states that, "By 2030, eliminate gender (5) _ _ _ _ _ _ _ _ _ _ _ in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

Select the most appropriate option to fill blank 1.

a. attachment

b. segmentation

c. accord

d. agreement

---

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

The Union Budget, 2018-19, has proposed to treat school education holistically without (1) _ _ _ _ _ _ _ _ _ from pre-nursery to Class 12. Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, (2) _ _ _ _ _ _ with the broader goal of improving school effectiveness measured in terms of equal opportunities (3) _ _ _ _ _ _ _ schooling and equitable learning outcomes. The Goal SDG-4.1 states that, "By 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education (4) _ _ _ _ _ _ _ to relevant and effective learning outcomes". Further the SDG 4.5 states that, "By 2030, eliminate gender (5) _ _ _ _ _ _ _ _ _ _ _ in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

Select the most appropriate option to fill blank 2.

a. prepared

b. prepares

c. preparing

d. prepare

---

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

The Union Budget, 2018-19, has proposed to treat school education holistically without (1) _ _ _ _ _ _ _ _ _ _ from pre-nursery to Class 12. Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, (2) _ _ _ _ _ _ with the broader goal of improving school effectiveness measured in terms of equal opportunities (3) _ _ _ _ _ _ _ schooling and equitable learning outcomes. The Goal SDG-4.1 states that, "By 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education (4) _ _ _ _ _ _ _ to relevant and effective learning outcomes". Further the SDG 4.5 states that, "By 2030, eliminate gender (5) _ _ _ _ _ _ _ _ _ in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

Select the most appropriate option to fill blank 3.

a. for

b. to

c. on

d. at

---

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

The Union Budget, 2018-19, has proposed to treat school education holistically without (1)_ _ _ _ _ _ _ _ _ _ from pre-nursery to Class 12. Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, (2) _ _ _ _ _ _ with the broader goal of improving school effectiveness measured in terms of equal opportunities (3) _ _ _ _ _ _ _ schooling and equitable learning outcomes. The Goal SDG-4.1 states that, "By 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education (4) _ _ _ _ _ _ _ to relevant and effective learning outcomes". Further the SDG 4.5 states that, "By 2030, eliminate gender (5)_ _ _ _ _ _ _ _ _ _ _ in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

Select the most appropriate option to fill blank 4

a. to be leading

b. leading

c. leads

d. lead

---

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

The Union Budget, 2018-19, has proposed to treat school education holistically without (1)_ _ _ _ _ _ _ _ _ _ from pre-nursery to Class 12.

Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, (2) _ _ _ _ _ _ with the broader goal of improving school effectiveness measured in terms of equal opportunities (3) _ _ _ _ _ _ _ schooling and equitable learning outcomes. The Goal SDG-4.1 states that, "By 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education (4) _ _ _ _ _ _ _ to relevant and effective learning outcomes". Further the SDG 4.5 states that, "By 2030, eliminate gender (5) _ _ _ _ _ _ _ _ _ _ _ in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

Select the most appropriate option to fill blank 5.

a. agreement

b. harmony

c. similarity

d. disparities

General Intelligence

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

Statements:

All sparrows are peacocks.

Some peacocks are birds.

Conclusions:

I. All birds are sparrow.

II. Some sparrows are not birds.

a. Both conclusions I and II follow

b. Only conclusion I follows

c. Neither conclusion I nor II follows

d. Only conclusion II follows

---

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

PLANK : RMDOM :: TABLE : VBEMG :: ZEBRA : ?

a. BEFSC

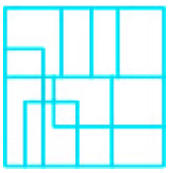
b. CFESC

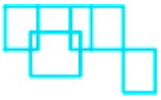
c. BFESC

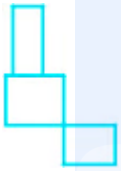
d. CEFSC

---

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



a. 

b. 

c. 

d. 

---

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

34 : 169 :: 42 : 209 :: 28 : ?

a. 119

b. 139

c. 109

d. 129

---

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

8 : 48 :: 19 : ? :: 16 : 112

a. 136

b. 142

c. 145

d. 138

---

31. If 31 August 2000 was Friday, then what was the day of the week on 31 August 2009? **(+2, -0.5)**

a. Monday

b. Tuesday

c. Wednesday

d. Friday

---

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

14 * 11 * 97 * 67 * 10

a. +, −, =, ×

b. ×, −, =, +

c. ×, −, =, −

d. +, =, −, ×

---

33. The different positions of the same dice are shown, the six faces of which are marked from U to Z. Select the letter that will be on the face opposite to the one showing 'X' . **(+2, -0.5)**

a. V

b. Z

c. Y

d. W

---

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

a. 

b. 

c. 

d. 

---

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

First row: 58, -28, -90

Second row: -17, 21, -12

Third row: -8, -7, ?

(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. 38

b. 45

c. -40

d. -35

---

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

a. 4328 : 8324

b. 2437 : 7342

c. 3569 : 9653

d. 1786 : 6871

---

37. In a certain code language, 'you can do' is written as 'mat hat pat', 'They can work' is written as 'rat pat ant' and 'they do think' is written as 'ant hat cat'. How will 'Think' be written in that language? **(+2, -0.5)**

a. mat

b. pat

c. cat

d. ant

---

38. In a certain code language, 'PIZZA' is written as 'PZZIA' and 'CHEESE' is written as 'CSEEHE'. How will 'PASTA' be written in that language? **(+2, -0.5)**

a. PTSTA

b. PTASA

c. PSTAA

d. PTSAA

---

39. Two different positions of the same dice are shown, the six faces of which are marked as P, Q, R, S, T, U. Select the letter that will be on the face opposite to the one showing 'T'. **(+2, -0.5)**

a. U

b. S

c. R

d. P

---

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

9, 12, 21, 36, 57, 84, ?

a. 171

b. 117

c. 172

d. 127

---

41. In a certain code language, "SUIT" is written as "SITU", and "CUTE" is written as "CTEU". How will "WASH" be written in that language? **(+2, -0.5)**

a. WHAS

b. WSHA

c. WSAH

d. HAWS

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

79 * 2 * 58 * 2 * 14 * 143

a. –, +, ÷, ×, =

b. ÷, ×, –, +, =

c. ×, –, ÷, +, =

d. ÷, ×, +, –, =

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

AXUV, ?, YZWT, XAXS, WBYR

a. ZYVU

b. CZSV

c. BZVW

d. XWUV

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

7689 : 120 :: 6178 : 88 :: 3284 : ?

a. 69

b. 70

c. 68

d. 75

---

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

p _ r _ p o _ p o r b _ o _ p o r b _ o r

a. o b p p o p

b. o b o p r p

c. o b r p r o

d. o b r p r p

---

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

a. 2834 : 18

b. 8671 : 22

c. 9876 : 30

d. 3427 : 16

---

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

First row: 32, 51, 33

Second row: 28, 33, 25

Third row: 16, 27, ?

(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. 17

b. 15

c. 18

d. 19

---

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

a. 

b. 

c. 

d. 

---

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

1. Hypocrisy

2. Hilarious

3. Humidity

4. Highlight

5. Hallucinate

a. 5, 2, 4, 3, 1

b. 5, 3, 4, 2, 1

c. 5, 4, 2, 3, 1

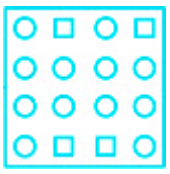
d. 5, 4, 3, 2, 1

---

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

a.

b.

c. 

d. 

Quantitative Aptitude

51. The difference between a discount of 35% and two successive discounts of 20% and 20% on a certain bill, was ₹22. Find the amount of the bill **(+2, -0.5)**

a. ₹2,000

b. ₹2,200

c. ₹2,800

d. ₹3,200

---

52. Riya runs 3/2 times as fast as Prerna. In a race, if Riya gives a lead of 100 m to Prerna, find the distance Riya has to run before both of them meet. **(+2, -0.5)**

a. 265 m

b. 300 m

c. 240 m

d. 315 m

---

53. Simplify the following: 50% of $[6 - \{15 - [6 + 8 \div (5 - 3)] + 2\}]$ **(+2, -0.5)**

a. −0.5

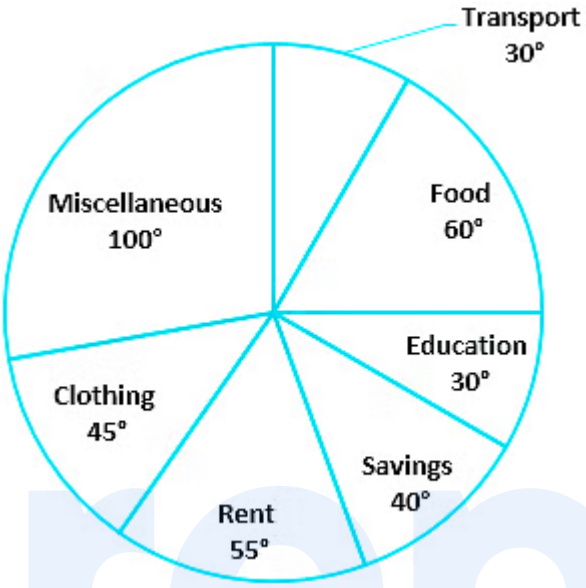
b. 4

c. 200

d. 12.5

---

54. The given pie chart presents the monthly expenses on the various heads and the savings of Mr. X's family, study the pie chart and answer the question that follows. **(+2, -0.5)**



If the total income of Mr. X is Rs.1,20,000, then how much does he pay for transport?

a. ₹10,000

b. ₹12,000

c. ₹15,000

d. ₹20,000

---

55. While selling to the retailer, a company allows 30% discount on the marked price of its products. If the retailer sells those products at marked price, his profit per cent will be _ _ _ _ _ _ _ _.

(+2, -0.5)

a. $42\frac{2}{7}\%$

b. $42\frac{6}{7}\%$

c. $42\frac{8}{7}\%$

d. $42\frac{4}{7}\%$

---

56. A shopkeeper sold an article for ₹1,326 after allowing a discount of 15% on its marked price. Find the marked price of the article. **(+2, -0.5)**

a. ₹1,525

b. ₹1,650

c. ₹1,153

d. ₹1,560

---

57. If (x + 2) and (x - 3) are the factors of $x^2 + k_1x + k_2$, then: **(+2, -0.5)**

a. $k_1 = 1$ and $k_2 = -6$

b. $k_1 = -1$ and $k_2 = -6$

c. $k_1 = -1$ and $k_2 = 6$

d. $k_1 = 1$ and $k_2 = 6$

---

58. In a right circular cone, the radius of the base is 14 cm and the height is 48 cm. A cross-section is made through the midpoint of the height parallel to the base. The volume of the upper portion is: (Take π = 22/7) **(+2, -0.5)**

a. 1120 cm^3

b. 1232 cm^3

c. 1442 cm^3

d. 1102 cm^3

---

59. On a sum of money, when invested for 2 years, compound interest and simple interest are ₹300 and ₹250, respectively. For both simple and compound interests the rate of interest per annum is the same, and for compound interest, interest is compounded annually. Find the rate of interest per annum. **(+2, -0.5)**

a. 10%

b. 20%

c. 40%

d. 30%

---

60. Find the greatest possible value of (a + b) for which the 8-digit number 143b203a is divisible by 15. **(+2, -0.5)**

a. 15

b. 17

c. 16

d. 14

---

61. Gopal travels from A to B at the speed of 5 km/h, from B to C at 10 km/h, and from C to D at 15 km/h. If AB = BC = CD, then find Gopal's average speed. **(+2, -0.5)**

a. $60\frac{2}{11}\text{km/h}$

b. $70\frac{2}{11}\text{km/h}$

c. $8\frac{2}{11}\text{km/h}$

d. $9\frac{2}{11}\text{km/h}$

---

62. P, Q and R are batsmen. The ratio of the runs scored by them in a certain match was P : Q = 16 : 17 and Q : R = 15 : 16. At the end of the match, they scored a total of 956 runs. The number of runs scored by R is (nearest to an integer): **(+2, -0.5)**

a. 339

b. 440

c. 430

d. 335

---

63. Study the given table and answer the question that follows. **(+2, -0.5)**

The following table gives the month-wise number of different types of scooters produced by a company during the first six months of 1992.

Types of Scooters	Months					
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
X	25	25	18	40	20	15
Y	25	27	50	45	30	20
Z	25	27	15	25	30	20
T	25	26	25	0	30	35
TOTAL	100	105	108	110	110	90

In which month, did the company produce an equal number of scooters of each type?

a. March

b. June

c. January

d. May

---

64. The average weight of 8 men is increased by 1.5 kg when one of the men who weighs 65 kg is replaced by a new man. The weight of the new man is: **(+2, -0.5)**

a. 87 kg

b. 71 kg

c. 81 kg

d. 77 kg

---

65. If $k+\left(\frac{1}{k}\right)=2$, find the value of 8k × k × k **(+2, -0.5)**

a. 8

b. 4

c. 2

d. 1

---

66. There is a continuous growth in the population of a village at the rate of 5% per annum. If its present population is 18522, what was the population of the village 3 years ago? **(+2, -0.5)**

a. 17500

b. 17200

c. 16000

d. 16400

---

67. If 15 boys earn ₹900 in 5 days, then how much will 20 boys earn in 7 days? **(+2, -0.5)**

a. ₹1,540

b. ₹1,650

c. ₹1,580

d. ₹1,680

---

68. In a circle, AB and CD are two diameters which are perpendicular to each other. Find the length of chord AC. **(+2, -0.5)**

a. $\frac{AB}{\sqrt{2}}$

b. $\sqrt{2}$ CD

c. 2 AB

d. $\frac{CD}{2}$

---

69. The expenditure of a company increases by 25%, then increases by 30%, then further decreases by 20%.The overall percentage change in expenditure is: **(+2, -0.5)**

a. 34

b. 22

c. 10

d. 30

---

70. The following table shows the marks (in percentages) obtained by six students in four different subjects in an examination. The maximum marks in each subjects is 100. **(+2, -0.5)**

Student	SUBJECT			
	Physics	Chemistry	Math	Geography
A	85	90	70	80
B	75	75	75	85
C	80	60	75	85
D	90	85	75	90
E	95	90	85	90
F	90	90	95	90

Answer the following questions based on the table.

In which of the following subjects is the average of the percentage marks obtained by the six students the highest?

a. Geography

b. Maths

c. Physics

d. Chemistry

71. Simplify $\frac{(r-s)^3+(s-t)^3+(t-r)^3}{6(r-s)(s-t)(t-r)}$ **(+2, -0.5)**

a. $\frac{1}{4}$

b. $\frac{1}{2}$

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

d. $\frac{1}{6}$

---

72. By using faulty weight, a shopkeeper cheats to the extent of 6% while buying and selling rice. Find his gain percentage (rounded to two decimal places). **(+2, -0.5)**

a. 13.65%

b. 11.25%

c. 14.66%

d. 12.77%

---

73. The radius of a roller is 14 cm and its length 20 cm. It takes 235 complete revolutions to move once over to level a playground. Find the area of the playground.(Use π = 22/7) **(+2, -0.5)**

a. 4136 cm^2

b. 4136×10^2 cm^2

c. 41360 cm^2

d. 4136×10^3 cm^2

---

74. If α is an acute angle, which of the following options will NOT necessarily be equal to the value of cosec α? **(+2, -0.5)**

a. $\frac{1}{\cos \alpha}$

b. $\sqrt{1+\cot^2 \alpha}$

c. $\frac{1}{\sin \alpha}$

d. $\frac{\cot \alpha}{\cos \alpha}$

---

75. Find the total surface area of a cylinder with diameter of base 28 cm and height 70 cm. (Take π = 22/7) **(+2, -0.5)**

a. 8000 cm^2

b. 7932 cm^2

c. 7300 cm^2

d. 7392 cm^2

General Awareness

76. M S Subbulakshmi, a legend in India is known for which of the following? **(+2, -0.5)**

a. Hindustani music

b. Sufi devotional music

c. Carnatic music

d. Ghazal music

---

77. Which term is used to describe all living communities on earth, including animals, plants, bacteria, fungi and photosynthetic microbes? **(+2, -0.5)**

a. Biosphere

b. Habitat

c. Biome

d. Community

---

78. 'Waiting for A Visa' is a famous autobiography of _____. **(+2, -0.5)**

a. Dr. B R Ambedkar

b. Swami Acchutanand

c. Babu Jagjivan Ram

d. M C Rajah

---

79. Who among the following personalities along with his sons played 'Raga for Peace' in the year 2014 at the 'Nobel Peace Prize Concert'? (+2, -0.5)

a. Pandit Ram Narayan

b. Ustad Bismillah Khan
×
something went wrong

c. Pandit Hariprasad Chaurasia

d. Ustad Amjad Ali Khan

---

80. Who is the author of the historical novel 'Twilight in Delhi'? (+2, -0.5)

a. Ahmed Ali

b. Amrita Pritam

c. Krishna Sobti

d. Khushwant Singh

---

81. Lalgudi Gopala Iyer Jayaraman used to play which of the following instruments? (+2, -0.5)

a. Harmonium

b. Violin

c. Mridangam

d. Flute

---

82. 'Sea of Poppies' is a novel written by which of the following writers? (+2, -0.5)

a. Manohar Malgonkar

b. Shashi Tharoor

c. Anuj Dhar

d. Amitav Ghosh

---

83. Which Article of the Indian Constitution deals with the definition of the Money Bill? (+2, -0.5)

a. Article 120

b. Article 100

c. Article 115

d. Article 110

---

84. _____ was established between informal groups (SHGs) and formal financial institutions (banks) for catering to the financial needs of the poor. (+2, -0.5)

a. SHG–NABARD linkage

b. SIDBI–MFI linkage

c. NABARD–Bank linkage

d. SHG–Bank linkage

---

85. Hydroelectric power stations generate electricity by using the force of water that falls into the turbines and spins the shaft. By rotating the shaft of the turbine, the potential energy of water is converted into _ _ _ _ _ _ _ _ energy. (+2, -0.5)

a. thermal

b. kinetic

c. gravitational

d. chemical

---

86. Which is the highest peak in peninsular India? (+2, -0.5)

a. Anamudi

b. K2

c. Kangchenjunga

d. Kamet

---

87. Padma Shri awardee Ileana Citaristi, an Italy born Indian dance exponent was conferred the award for her major contribution to which of the following dances? (+2, -0.5)

a. Odissi

b. Bharatanatyam

c. Manipuri

d. Kathak

88. In 1838, who published an article discussing the structure and origin of plant cells? (+2, -0.5)

a. Robert Brown

b. Rudolf Virchow

c. Matthias Schleiden

d. Albert von Kölliker

89. The famous singer Jagjit Singh is known for which of the following genres? (+2, -0.5)

a. Ghazal

b. Bhajan

c. Hindustani music

d. Carnatic music

90. The Men's World Boxing Championship 2023 will be hosted by which of the following countries? (+2, -0.5)

a. Turkmenistan

b. Uzbekistan

c. Tajikistan

d. Kyrgyzstan

91. _ _ _ _ _ _ _ _ _ _ _ was awarded the title of Hanjaba by the Maharaja of Manipur and the Sangit Natak Akademi Award in 1966. (+2, -0.5)

a. Guru Bipin Singh

b. Guru Amubi Singh

c. Sougaijam Thanil Singh

d. Rajkumar Singhajit Singh

---

92. In July 2021, Mangubhai Chhaganbhai Patel was appointed as the Governor of _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _. (+2, -0.5)

a. Maharashtra

b. Madhya Pradesh

c. Karnataka

d. Kerala

---

93. What is the name of the zone where trade winds converge? (+2, -0.5)

a. Inter-continental convergence zone

b. Inter-tropical convergence zone

c. Intra-terrestrial zone

d. Forest zone

---

94. _ _ _ _ _ _ _ _ _ was the first woman dancer to receive the Padma Vibhushan, the nation's second-highest civilian award. (+2, -0.5)

a. Tanjore Balasaraswati

b. Padma Subramaniyam

c. Alarmel Valli

d. Mrinalini Sarabhai

---

95. Who among the following was awarded the Dhyan Chand Award for Lifetime achievement in Sports and Games 2021 in Boxing discipline? (+2, -0.5)

a. Gurcharan Singh

b. Akhil Kumar

c. Lekha KC

d. Devendro Singh

---

96. Who found out the relationship between the current I flowing in a metallic wire and the potential difference across its terminals? (+2, -0.5)

a. Rutherford

b. Georg Simon Ohm

c. Niels Bohr

d. Albert Einstein

---

97. Which Indian state organises Qila Raipur Sports Festival, also known as India's Rural Olympics, annually? **(+2, -0.5)**

a. Punjab

b. Haryana

c. Gujarat

d. Rajasthan

---

98. In the early 1980s, an aspartic acid-containing dipeptide sweetener was discovered, that was about 2000 times sweeter than sucrose. What is the name of that sweetener? **(+2, -0.5)**

a. Alitame

b. Aspartame

c. Saccharin

d. Sucralose

---

99. US-based Bharatanatyam/Kuchipudi exponent _ _ _ _ _ _ _ _ _ has won the prestigious Abhinandan Saroja National Award 2021 by the National Institute of Indian Classical Dance at Samarpan on November 15 th 2021. **(+2, -0.5)**

a. Carol Kuruvilla

b. Sharan Lowen

c. Aparna Satheesan

d. Jeeno Joseph

---

100. In which sport is the equipment called antenna used? (+2, -0.5)

a. Base ball

b. Volleyball

c. Hockey

d. Basketball

Answers

1. **Answer: b**

Explanation:

The correct answer is **Careful** .

⭐ Key Points

- **Perfunctory** refers to something done quickly and without regard or interest.
  - **Example:***She attended my birthday perfunctory.*
- **Careful** means paying close attention to what you're doing to avoid an accident, making a mistake, or damaging something.
  - **Example:***You need to be careful with the way you talk.*
- **Perfunctory** and **Careful** have different meanings.

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

⭐ Additional Information

- **Adamant** means something difficult to persuade or unwilling to change one's mind.
- **Basic** means simple and uncomplicated, and thus capable of providing a foundation or starting point from which something can develop.
- **Casual** means relaxed in style or manner; not formal.

---

2. **Answer: a**

Explanation:

The correct answer is **To be untrustworthy.**

⭐ Key Points

- The most appropriate meaning of the given idiom **"Be under a cloud"** is **"To be untrustworthy."**
- **Be under a cloud:** not being trusted or popular because others believe you have done something wrong.
    - **Example:***Accountant left the company under a cloud after a fraud scandal.*

Therefore, the correct answer is **To be untrustworthy.**

⭐ Additional Information

- The phrase dates back to the **Middle Ages** (14th or 15th century).
- Dark clouds were thought to bring misfortune and bad luck in the 14th and 15th centuries.

---

3. **Answer: b**

Explanation:

The correct answer is **Incarceration.**

⭐ Key Points

- **Imprisonment** means the process of locking someone up or the state of being locked up(किसी को बंद करने या बंद होने की स्थिति को बंद करने की प्रक्रिया).
    - **Example** :*The thief was sentenced to four years imprisonment.*
- **Incarceration** means locking or maintaining someone in a facility that serves as a prison(किसी ऐसी सुविधा में किसी को लॉक करना या बनाए रखना जो जेल के रूप में कार्य करता है).
    - **Example:***Numerous dissidents have been incarcerated and became subjected to interrogations.*
- **"Imprisonment"** and **"Incarceration"** are similar in meaning.

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

⭐ Additional Information

- **Incapacitation**describes the condition of lacking the essential capacity, competence, or strength to carry out a certain task or activity.(एक निश्चित कार्य या

गतिविधि को पूरा करने के लिए आवश्यक क्षमता, क्षमता या ताकत की कमी की स्थिति।)

- **Inarch**refers to the act of grafting a plant by joining a branch in growth without severing it from its original stock.(अपने मूल स्टॉक से इसे अलग किए बिना विकास में एक शाखा में शामिल करके एक पौधे को ग्राफ्ट करने का कार्य।)
- **Imputation**refers to the accusation or charges that someone has done something wrong(आरोप या आरोप है कि किसी ने कुछ गलत किया है।).

---

4. Answer: d

Explanation:

The correct meaning is **Go to sleep.**

⭐ Key Points

- The most appropriate meaning of the given idiom **"Hit the sack"** is **"Go to sleep."**
- **Hit the sack:** To go to bed in order to sleep.
  - **Example:***I have a very important meeting tomorrow, so I think I'll hit the sack.*

Therefore, the correct option is **"Go to sleep."**

⭐ Additional Information

- Let's look at the meaning and examples of some idioms of the word **"hit":**

Idiom	Meaning	Examples
Hit the nail on the head	To specify precisely what is producing a circumstance or issue.	*I think Mike hit the nail on the head when he told the qualities of the school.*
Hit the road	To depart somewhere or start a journey.	*I would love to stay at home but it's really time to hit the road.*

---

5. Answer: d

Explanation:

The correct answer is **Sacrilage** .

⭐ Key Points

- **"Sacrilage"** is an incorrect spelling.
- The spellings of other words are absolutely correct.
- **Sacrilege** is the act of not treating a sacred object or location with the respect it merits.
    - **Example:***Sikhs consider it sacrilege to not cover their heads in Gurudwaras.*

The correct spelling is **Sacrilege** .

⭐ Additional Information

- **Hallucination** refers to the tendency to perceive things that are not there, typically as a result of illness or drug use.
- **Hiatus** refers to a brief interval during which nothing occurs or is uttered, or to an empty area.
- **Launderette** refers to a location where you pay to use laundry and drying equipment.

---

6. **Answer: d**

Explanation:

The correct meaning is **In debt**.

⭐ Key Points

- The most appropriate meaning of the given idiom " **In queer street** " is "In debt."
- **In queer street:** in trouble, usually because of debt.
    - Example:*He will be in the queer street if he continues buying expensive things.*

Therefore, the correct option is "**In debt** ."

⭐ Additional Information

- Let's look at the meaning and examples of some idioms of the word **"street":**

Idioms	Meaning	Example
Be a two-way street	to be a circumstance where both parties must exert equal effort to attain the intended outcome.	*Efforts are a two-way street- you have to give them if you want to receive them.*
Back street	a location or region that is viewed as unimportant or inconsequential.	*You will not get profit in your business if you will open your shop in the back street.*

---

7. **Answer: d**

Explanation:

The correct answer is **Had already been leaving.**

⭐ Key Points

- **"Had already been leaving"** is grammatically incorrect in this sentence.
- The correct usage is **"Had already left"** instead of **"had already been leaving."**
- **The tense used in this sentence is Past Perfect tense, not Past Perfect Continuous tense.**
- Structure of Past Perfect tense: **Subject + had +V3 form + Object.**
  - **Example:***She had already left the party when I reached there.*

The correct sentence is: **When we got to the train station, the Rajdhani Express had already left.**

⭐ Additional Information

- **Past Perfect tense** is used to emphasize that an activity has been completed.

- **Example:***She had completed her homework.*

- **The past perfect continuoustense** is used to demonstrate that a past event or action was still in progress.
  - **Example:***She had been completing her homework.*

---

8. Answer: a

Explanation:

The correct answer is **Worked hardly.**

⭐ Key Points

- **"Worked hardly"** is grammatically incorrect.
- **"Worked hard"** should be used instead of **"worked hardly."**
- **Hard and hardly are adverbs** . They may sound similar but have completely different meanings.
- **Working Hard refers to someone who is exerting a lot of effort and uses the word "hard" to show it. In this sentence, the word "hard" is an adverb that indicates that the students and the teachers are concentrated and producing quality work.**
- **Hardly Working signifies that they are hardly working at all.**

The correct sentence is: **The students and the teachers worked hard to make the event a success.**

⭐ Additional Information

- **Adverbs** are words that typically alter verbs by limiting or restricting their meaning. Additionally, they can change verbs, adverbs, phrases, and even whole sentences.
  - **Example:***My cousins are coming **soon** .*

---

9. Answer: a

Explanation:

The correct answer is **Estimated her emotions.**

⭐ Key Points

- The sentence can be improved by replacing the **"guessed her feelings"** with **"estimated her emotions."**
- When one talks about emotions or feelings, the "guess" word should not be used as guess is very quick to judge. but estimation takes time.
- Thus, the correct option is **Estimated her emotions.**

The correct sentence is: **I estimated her emotions when she started crying.**

---

10. **Answer: c**

Explanation:

The correct answer is **The ambulance was arranged for by his friends and he was immediately taken to the hospital.**

⭐ Key Points

- The given sentence is in **Simple Past Tense and Active Voice.**
- The rule for changing a sentence of Simple Past tense from Active Voice to Passive voice:
  - Interchange the subject with the object with each other, i.e. object of the active sentence becomes the subject of the passive sentence.
  - Convert the verb into past participle or 3rd form of the verb.
  - Structure: **Subject + Verb[past form] + object (Active voice)**
  - **Object + was/were + Verb [past participle]+ by/to /with + Subject (Passive voice)**
    - **Example:** *Rohan helped him. (Active voice)*
      He was helped by Rohan. (Passive voice)

Therefore, the correct sentence is: **The ambulance was arranged for by his friends and he was immediately taken to the hospital.**

⭐ Additional Information

- In **Active Voice** , a sentence emphasizes the subject performing an action.
- In **Passive Voice** , the sentence emphasizes the action or the object of the sentence.
    - **Example:***He cooks the food. (Active Voice)*

The food is cooked by him. (Passive Voice)

---

11. Answer: c

Explanation:

The correct option is **Break** .

⭐ Key Points

- Among the given options, the correct option to be filled in the blank is **Break** .
- **Break the ice:** To say or do something that makes people feel more at ease, particularly at the start of a party or meeting.
    - **Example:***I tried to break the ice by talking to people about their occupations.*
- Thus, the correct option is **Break.**

The complete sentence is: **When we met first it was very difficult to break the ice.**

⭐ Additional Information

- **Collocation** is a word or phrase that is frequently combined with another word or phrase in a way that, while it may not be expected from the meaning, sounds correct to speakers of the language who have done so their entire lives.
- **Example** :*hard frost.*

---

12. **Answer: a**

Explanation:

The correct answer is **Dominating** .

⭐ Key Points

- In the given options the correct option to be filled in the blank is **Dominating.**
- **Dominating:** Someone who is more potent, significant, or prominent than others.
  - **Example:***Chess has always been a dominating aspect of my life.*
- Thus, the correct option is **Dominating.**

The correct sentence is: **Tagore and Gandhi were undoubtedly the two outstanding and dominating figures of India in the first half of the twentieth century.**

⭐ Additional Information

- **Gandhi** , also known as Mahatma, whose name means "great soul" or "saint" in Sanskrit, contributed to the independence of India by espousing a philosophy of **nonviolent conflict resolution.**
- **Rabindranath Tagore** wrote the **national anthem of India.**

---

13. **Answer: b**

Explanation:

The correct answer is **Immigrant** .

⭐ Key Points

- One-word substitute for **"has come to a different country from his own country for settling"** is **"Immigrant."**
- **Immigration:** A person who travels to another nation with the intention of settling there permanently.

- **Example:***My cousin immigrated to the United States in 2018.*

Thus, the correct option is **Immigrant.**

⭐ Additional Information

- **Pilgrim** refers to a person who travels to a special location for religious purposes, frequently one that is long and demanding.
- **Globetrotter** refers to someone who frequently visits a number of different nations.
- **Gypsy** refers to a member of a race that originated in northern India, used to frequently move, and today resides primarily in Europe and North America.

---

14. Answer: b

Explanation:

The correct answer is **Scaleable** .

⭐ Key Points

- "Scaleable" is an incorrect spelling.
- The spellings of other words are correct.
- Scalable means a system or enterprise that can expand or grow in size.
- Example: *They will need to show that their plan is scalable from the school level to the state level to be awarded funding.*

The correct spelling is **Scalable.**

⭐ Additional Information

- **Effervescent** means something or someone active, positive, and full of energy.
- **Unorganised** means something that is not in order or organized.
- **Efficient** refers to working or performing rapidly and effectively in an ordered fashion.

---

15. **Answer: a**

Explanation:

The correct answer is **BDAC.**

⭐ Key Points

- It is simpler to organise sentences by placing the first few in the correct order and then moving on to the rest.
- **The opening sentence or first two sentences usually serve as the paragraph's introduction.**
- In this paragraph, B introduces the paragraph and D tells us more about the result of the announcement by the US.
- That's how B comes first and in the second position D. So, **BD** becomes the correct order.
- This order is only shown by the option **BDAC** which is the full sequence.

The complete paragraph is:**Saturday's announcement by the US, the UK and European allies, including France and Germany, of a raft of 'further restrictive economic measures' to increase the costs on Russia for its invasion of Ukraine, has just raised the risks of a more widespread economic fallout from this war. With a view to further isolating Russia from the international financial system, the Western allies decided to block 'selected' Russian banks from the SWIFT messaging system that banks and financial institutions use to validate and complete international payment transactions. They also resolved to impose restrictions on the Russian central bank's ability to access and deploy the country's 'war chest' of an estimated $630 billion in foreign exchange reserves. The immediate impact of these moves on Russia's economy and financial markets has manifested in a sharp depreciation in the value of the Rouble.**

---

16. **Answer: d**

Explanation:

The correct answer is **Purify** .

⭐ Key Points

- Defile refers to tainting something or someone in order to make them less lovely or pure.
  - Example:*Garbage has been defiled by the garbage.*
- Purify is the process of removing impurities from something in order to make it pure.
  - Example:*You need to be careful with the way you talk.*
- **Defile** and **Purify** have different meanings.

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

⭐ Additional Information

- **Regularize** means to make a situation or a system more law- and logic-based.
- **Labor** refers to p ractical work, especially anything requiring physical effort.
- **Particularize** means to handle specifically or in depth.

---

17. **Answer: b**

Explanation:

The correct answer is **Expel.**

⭐ Key Points

- **Exorcise** means the use of magic or prayer to drive an evil spirit away from a person or location.
  - Example :*The priest exorcised the spirit.*
- **Expel** means to compel someone to abandon a place of employment, a group, or a nation
  - Example:*The principal expelled Rohan from the school.*
- "Exorcise" and "Expel" are similar in meaning.

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

⭐ Additional Information

- **Invent** refers to something that has never been built before being designed or made.
- **Introduce** refers to beginning using, operating, or going somewhere for the first time
- **Expect** means to anticipate or assume that something will occur or that someone will show up.

---

18. **Answer: b**

Explanation:

The correct answer is **On** .

⭐ Key Points

- **"Who is talking in the phone"** is grammatically incorrect.
- **The preposition 'In' is used when something is located within a defined space.** It could be a two-dimensional space, such as a yard, or a three-dimensional space, such as a box, house, or car.
- **The preposition 'On' is used when something is touching the surface of something.** It could be a horizontal surface, such as a floor or beach, or it could be a vertical surface, such as a wall.
- "In my phone" refers to data content and chips such as memory cards and sim cards in your mobile. And "On my phone" refers to displaying content on your phone, such as 'call me on my phone'.

The correct sentence is: **Who is talking on the phone?**

---

19. **Answer: c**

Explanation:

The correct answer is Clean .

⭐ Key Points

- Squalid refers to places which are extremely filthy and unpleasant, frequently due to a lack of funds.
  - Example:*Prison is a very squalid place.*
- Clean refers to a place free of dirt, pollution, bacteria, and so on.
  - Example: *Her room is extremely clean.*
- **Squalid** and Clean have different meanings.

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

⭐ Additional Information

- **Disorderly** refers to something that is untidy and poorly organised.
- **Uncomfortable** means not feeling comfortable or pleasant, or failing to make you feel comfortable or pleasant.
- **Painful** refers to physical discomfort caused by an injury or illness.

---

20. Answer: c

Explanation:

The correct answer is **Athiest** .

⭐ Key Points

- "Athiest" is an incorrect spelling.
- The spellings of other words are correct.
- An **atheist** is a person who rejects all gods or holds the view that there is no such thing as a god or gods.
- Example: *Our literature lecturer is an atheist.*

The correct spelling is **Atheist**.

⭐ Additional Information

- **Loquacity** refers to the fact of talking a lot.
- **Intrepid** refers to someone who is highly courageous and displays no fear in the face of danger.
- **Affluence** refers to the condition of being wealthy or possessing a large number of goods.

---

21. **Answer: b**

Explanation:

The correct answer is **Segmentation** .

⭐ Key Points

- In the given options the correct option to fill in the blank is **Segmentation** .
- **Segmentation** refers to the division of something into smaller parts.
  - **Example:** *Market segmentation is the key to marketing success.*

The complete sentence is: **The Union Budget, 2018-19, has proposed to treat school education holistically without segmentation from pre-nursery to Class 12.**

⭐ Additional Information

- **Attachment** is defined as a strong bonding with someone or something.
- **Accord** refers to a formal agreement.
- **Agreement** refers to a situation in which people share the same viewpoint or approve of or accept something.

---

22. **Answer: a**

Explanation:

The correct answer is **Prepared.**

⭐ Key Points

- I n the given options the correct option to fill in the blank is **Prepared.**
- **Prepared:** Someone who is ready to deal with a situation.
  - **Example:** *He is prepared for his final exams.*

The complete sentence is: **Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, prepared with the broader goal of improving school effectiveness measured in terms of equal opportunities.**

---

23. **Answer: a**

Explanation:

The correct answer is **For.**

⭐ Key Points

- I n the given options the correct option to fill in the blank is **For.**
- We use **"for" to refer to a reason or purpose for something.**
  - **Example:** *I am going for an interview for my job.*

The complete sentence is: **Samagra Shiksha - an overarching programme for the school education sector extending from pre-school to class 12 has been, therefore, prepared with the broader goal of improving school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes.**

---

24. **Answer: b**

Explanation:

The correct answer is **Leading.**

⭐ Key Points

- I n the given options the correct option to fill in the blank is **Leading.**
- **Leading:** Resulting to
  - **Example:***Her talking to that girl led to the permanence of her job.*

The complete sentence is: **The Goal SDG-4.1 states that "By 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes".**

---

25. **Answer: d**

Explanation:

The correct answer is **Disparities.**

⭐ Key Points

- I n the given options the correct option to fill in the blank is **Disparities.**
- **Disparities:** lack of equality or similarity, especially in an unfair way
  - Example: *The disparity is growing between rich and poor.*

The complete sentence is: **Further SDG 4.5 states that "By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".**

⭐ Additional Information

- **Agreement** refers to a situation in which people share the same viewpoint or approve of or accept something.
- **Harmony** refers to a pleasing musical sound produced when several notes are performed or sung simultaneously.
- **Similarity** refers to the uniformity of how things or people appear or function.

26. **Answer: c**

Explanation:

Statements:

All sparrows are peacocks.

Some peacocks are birds.

Venn diagram:

Conclusions:

I. All birds are sparrows: This does not follow → As because all sparrows are peacocks and only some peacocks are birds, there is no direct connection between birds and sparrows, so it is not possible that all birds are sparrows. {It is a doubtful positive statement}

II. Some sparrows are not birds: This also d oes not follow→ As because all sparrows are peacocks and only some peacocks are birds, so some sparrows can be birds. {It is a doubtful negative statement}

Hence, "**Neither conclusion I nor II follows**". As none of the statements are appropriate.

27. **Answer: c**

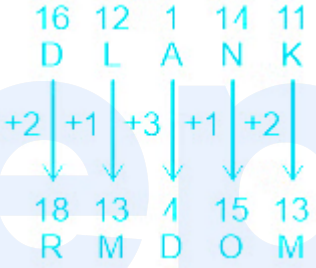
Explanation:

The pattern 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

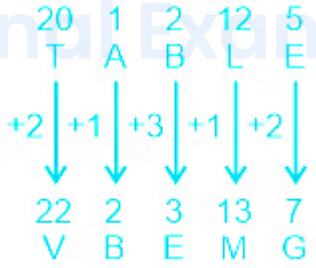
Following logic is used here,

PLANK : RMDOM



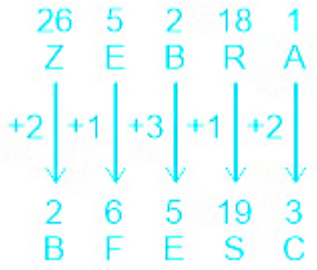
And,

TABLE : VBEMG



Similarly,

ZEBRA : ?



ZEBRA : BFESC

Therefore, ? will be replaced by**BFESC.**

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

---

28. Answer: b

Explanation:

The pattern followed here is:

Therefore, only option (2) figure is embedded in the given figure.

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

---

29. Answer: b

Explanation:

Here, the following logic is followed

Second number = First number × 5 − 1

First pair

Second number = First number × 5 - 1

169 = 34 × 5 - 1 = 170 - 1 = 169

Second pair

Fourth number = Third number × 5 - 1

209 = 42 × 5 - 1 = 210 - 1 = 209

Third pair

Sixth number = Fifth number × 5 - 1

= 28 × 5 - 1 = 140 - 1

= 139

Therefore, **?**will be replaced by **139**

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

---

30. **Answer: a**

Explanation:

Here, the following relationship is between first and second number, third and fourth number and fifth and sixth number.

Logic: (First number - 2) × 8 = Second number

First pair = (8 -2) × 8 = 48

Second pair = (19 - 2) × 8 = 136

Third pair = (16 - 2) × 8 = 112

Therefore, **'?'** will be replaced by ' **136'**

Hence, the correct answer is **option(1)**

31. **Answer: b**

Explanation:

The pattern followed here is:

If an **ordinary year comes immediately after a leap** year, then the day on a certain date of the ordinary year will be **1 days ahead** of the same date of the leap year **from March to December** .

31 August 2000 = Friday

In any **two consecutive ordinary year** s, date of the next year will be **one day ahead** of the same date of the previous year.

31 August 2001 = Saturday

31 August 2002 = Sunday

31 August 2003 = Monday

If a **leap year comes immediately after an ordinary year,** then the day on a certain date of the leap year will be**2 days ahead** of the same date on the ordinary year **from March to December.**

31 August 2004 = Wednesday

31 August 2005 = Thursday

31 August 2006 = Friday

31 August 2007 = Saturday

31 August 2008 = Monday (leap year)

31 August 2009 = Tuesday

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

32. **Answer: c**

Explanation:

Given equation:- 14 * 11 * 97 * 67 * 10

Interchanging * with signs

Option(1) +, -, =, ×

⇒14 + 11- 97 =67 × 10

⇒25 - 97= 670

⇒ -72 ≠ 670

LHS ≠ RHS

Option(2) ×, -, =, +

⇒14 × 11- 97 = 67 + 10

⇒154 - 97= 77

⇒ 57 ≠ 77

LHS ≠ RHS

Option(3) ×, -, =, -

⇒14 × 11- 97 = 67 -10

⇒154 - 97= 57

⇒ 57 = 57

LHS = RHS

Option(4) +, =, -, ×

$\Rightarrow \frac{14+11}{} = 97 - \frac{67 \times 10}{}$

$\Rightarrow 25 = \frac{97 - 670}{}$

$\Rightarrow 25 \neq -573$

LHS ≠ RHS

Therefore, only option(3) satisfies the above equation

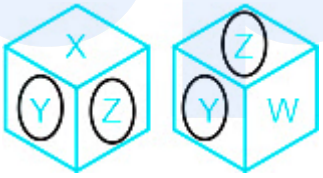
Hence, the correct answer is **option(3)**

---

33. Answer: d

Explanation:

When two same dice, having 2 common digits/alphabets showing on the two faces, then the third (different)faces are opposite to each other.



Therefore, **'W' will be on the face opposite to 'X'**

Hence, the correct answer is **option(4)**

---

34. Answer: b

Explanation:

When a mirror is placed horizontally to the object, the image so formed will change their top and bottom

The upside and downside will interchange their position, while top left and right remain same.

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

---

35. Answer: b

Explanation:

The following logic is followed here,

Logic: Third number = (Sum of first and second number) × (-3)

First row = {58 + (-28)}× (-3) = {58 -28} × (-3) = 30 × (-3) = -90

Second row = {-17 + 21} × (-3) = 4 × (-3) = -12

Third row = {- 8 + (-7)} × (-3) = - 15 × - 3 = 45

Therefore, **'?'** will be replaced by **'45'**

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

---

36. Answer: a

Explanation:

The logic followed here is:

The second number is first number written backwards.

1) **4328 : 8324** → 4328 → backwards → 8234 ≠ **8324**

2) 2437 : 7342 → 2437 → backwards → 7342

3) 3569 : 9653 → 3569 → backwards → 9653

4) 1786 : 6871 → 1786 → backwards → 6871

Hence, **option 1)** is the odd one.

---

37. Answer: c

Explanation:

Here, the logic is as follows,

you can do ⟶ mat hat pat

they can work ⟶ rat pat ant

'can ' = 'pat'

they can work ⟶ rat pat ant

they do think ⟶ ant hat cat

'they ' = 'ant'

you can do ⟶ mat hat pat

they do think ⟶ ant hat cat

you can do - mat, hat, pat

they do think - ant, hat, cat

'do' = 'hat'

they do think - ant, hat, cat

they - ant

do - hat

think - cat

'they' = 'ant', 'do' = 'hat', 'think' = 'cat'

Therefore, **'cat' code is used for 'think'**

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

---

38. Answer: d

Explanation:

The pattern followed here is:

Logic: First, last and middle letters remain at the same place whereas second interchange with second last letter.

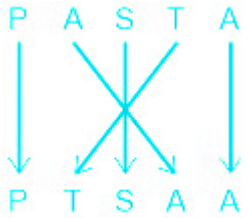
'PIZZA' is written as 'PZZIA'

And,

'CHEESE' is written as 'CSEEHE'

Similarly,

'PASTA' be written as '?'



Therefore, the code for **'PASTA'** will be **'PTSAA'**

Hence, the correct answer is the **option(4)**

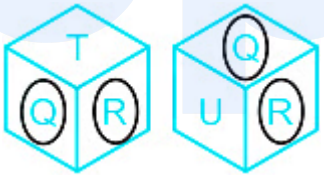
---

39. Answer: a

Explanation:

The pattern followed here is:

When 2 faces are common in the 2 dice, then the uncommon faces are opposite to each other.



Therefore, U will be opposite to T

Hence, the correct answer will be **option(1)**

---

40. Answer: b

Explanation:

Here the following pattern is followed

In the above series, the very next number is the addition of multiplication of 3 and the odd number in the series.

Therefore, '?' will be replaced the 117.

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

---

41. Answer: b

Explanation:

In the above question, alphabets interchange their positions.

1st alphabet remains at the same place.

2nd alphabet is at last.

3rd alphabet is at second position.

4th alphabet is at third position.

"SUIT" is written as "SITU"

And,

"CUTE" is written as "CTEU"

Similarly,

"WASH" be written as '?'

Therefore, "WASH" be written as '' WSHA"

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

---

42. Answer: c

Explanation:

Given Equation:- 79 * 2 * 58 * 2 * 14 * 143

Interchanging * with signs

Option(1) –, +, ÷, ×, =

⇒ 79 - 2 + **58 ÷ 2**× 14 = 143

⇒ 79 - 2 +**29 × 14**=143

⇒**79**- 2**+ 406**= 143

⇒ 485 - 2 = 143

⇒ 483 ≠ 143

LHS ≠ RHS

Option(2) ÷, ×, –, +, =

⇒ 79 ÷ 2 × 58 – 2 + 14 = 143

⇒ 39.5 × 58 – 2 + 14 = 143

⇒ 2291 – 2 + 14 = 143

⇒ 2305 – 2 = 143

⇒ 2303 ≠ 143

LHS ≠ RHS

Option(3) ×, –, ÷, +, =

⇒ 79 × 2 – 58 ÷ 2 + 14 = 143

⇒ 79 × 2 – 29 + 14 = 143

⇒ 158 – 29 + 14 = 143

⇒ 172 – 29 = 143

⇒ 143 = 143

LHS = RHS

Option(4) ÷, ×, +, –, =

⇒ 79 ÷ 2 × 58 + 2 – 14 = 143

⇒ 39.5 × 58 + 2 – 14 = 143

⇒ 2291 + 2 – 14 = 143

⇒ 2293 – 14 = 143

⇒ 2279 ≠ 143

LHS ≠ RHS

Therefore, only option(3) satisfies the above equation

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

---

43. Answer: a

Explanation:

The table showing positional value of the alphabets 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

Given series: AXUV, ?, YZWT, XAXS, WBYR

Here, the logic followed is that the second and third letter is changed by the very next letter of it in the alphabetical order whereas the first and fourth letter is changed by the letter which comes before it in the alphabetical order.

$$A\,(1) \xrightarrow{-1} Z\,(26) \xrightarrow{-1} Y\,(25) \xrightarrow{-1} X\,(24) \xrightarrow{-1} W\,(23)$$

$$X\,(24) \xrightarrow{+1} Y\,(25) \xrightarrow{+1} Z\,(26) \xrightarrow{+1} A\,(1) \xrightarrow{+1} B\,(2)$$

$$U\,(21) \xrightarrow{+1} V\,(22) \xrightarrow{+1} W\,(23) \xrightarrow{+1} X\,(24) \xrightarrow{+1} Y\,(25)$$

$$V\,(22) \xrightarrow{-1} U\,(21) \xrightarrow{-1} T\,(20) \xrightarrow{-1} S\,(19) \xrightarrow{-1} R\,(18)$$

Therefore, **'?'** will be replaced by **'ZYVU'**

Hence, the correct answer is **option(1)**

---

44. Answer: c

Explanation:

The pattern in the given series is:

Logic: (Sum of all the digits of first term) × 4 = Second term

Let's apply the pattern:
7689 : 120 :: 6178 : 88 :: 3284 : ?
(Sum of all the digits of first term) × 4 = Second term
(7 + 6 + 8 + 9) × 4 = 120
30 × 4 = 120
120 = 120

7689 : 120 :: 6178 : 88 :: 3284 : ?
(Sum of all the digits of first term) × 4 = Second term
(6 + 1 + 7 + 8) × 4 = 88
22 × 4 = 88
88 = 88

7689 : 120 :: 6178 : 88 :: 3284 : ?
(Sum of all the digits of first term) × 4 = Second term
(3 + 2 + 8 + 4) × 4 = Second term
17 × 4 = Second term
68 = Second term

Hence **the correct answer is 68.**

---

45. Answer: d

Explanation:

Given: p _ r _ p o _ p o r b _ o _ p o r b _ o r

Let's check each option:

1) o b p p o p → p o r b p o p - p o r b p o o - p o r b p o r

2) o b o p r p → p o r bp o o - p o r b p or - p o r b p o r

3) o b r p r o →p o r bp o r - p o r b p o r - p o r b o o r

4) **o b r p r p**→ po r bp o r - p o r b p o r - p o r b p o r

So, In option 4 "p o r b p o r" is repeating itself.

Hence, '**o b r p r p**' is the correct answer.

---

46. Answer: a

Explanation:

The mathematical operation used is:

Logic: Sum of all the digits of first number = Second number

Let's apply on each option:

Option 1) 2834 : 18
⇒ 2 + 8 + 3 + 4 = 18
⇒17 ≠ 18
LHS ≠ RHS

Option 2) 8671 : 22
⇒ 8 + 6 + 7 + 1 = 22
⇒ 22 = 22
LHS = RHS

Option 3) 9876 : 30
⇒ 9 + 8 + 7 + 6 = 30
⇒ 30 = 30
LHS = RHS

Option 4) 3427 : 16
⇒ 3 + 4 + 2 + 7 = 16
⇒ 16 = 16
LHS = RHS

Hence **the correct answer is option 1)**

---

47. Answer: a

Explanation:

The pattern in the given series is:

Logic: (First term ÷ 2) + (Second ÷ 3) = Third term

Let's apply the pattern in each row:

First row: 32, 51, 33
(First term ÷ 2) + (Second ÷ 3) = Third term
(32 ÷ 2) + (51 ÷ 3) = 33
16 + 17 = 33
33 = 33

Second row: 28, 33, 25
(First term ÷ 2) + (Second ÷ 3) = Third term
(28 ÷ 2) + (33 ÷ 3) = 25
14 + 11 = 25
25 = 25

Third row: 16, 27, ?
(First term ÷ 2) + (Second ÷ 3) = Third term
(16 ÷ 2) + (27 ÷ 3) = Third term
8 + 9 = Third t erm
17 = Third t erm

Hence **the correct answer is 17.**

48. **Answer: b**

Explanation:

The mirror image of given combination is:

On comparing the mirror image with the given options we get:
Option 1)

The combination does not match.

Option 2)

The combination matches completely.

Option 3)

The combination does not match.

Option 4)

The combination does not match.

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

---

49. Answer: c

Explanation:

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

5.Hallucinate

4.Highlight

2. Hilarious

3.Humidity

1.Hypocrisy

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

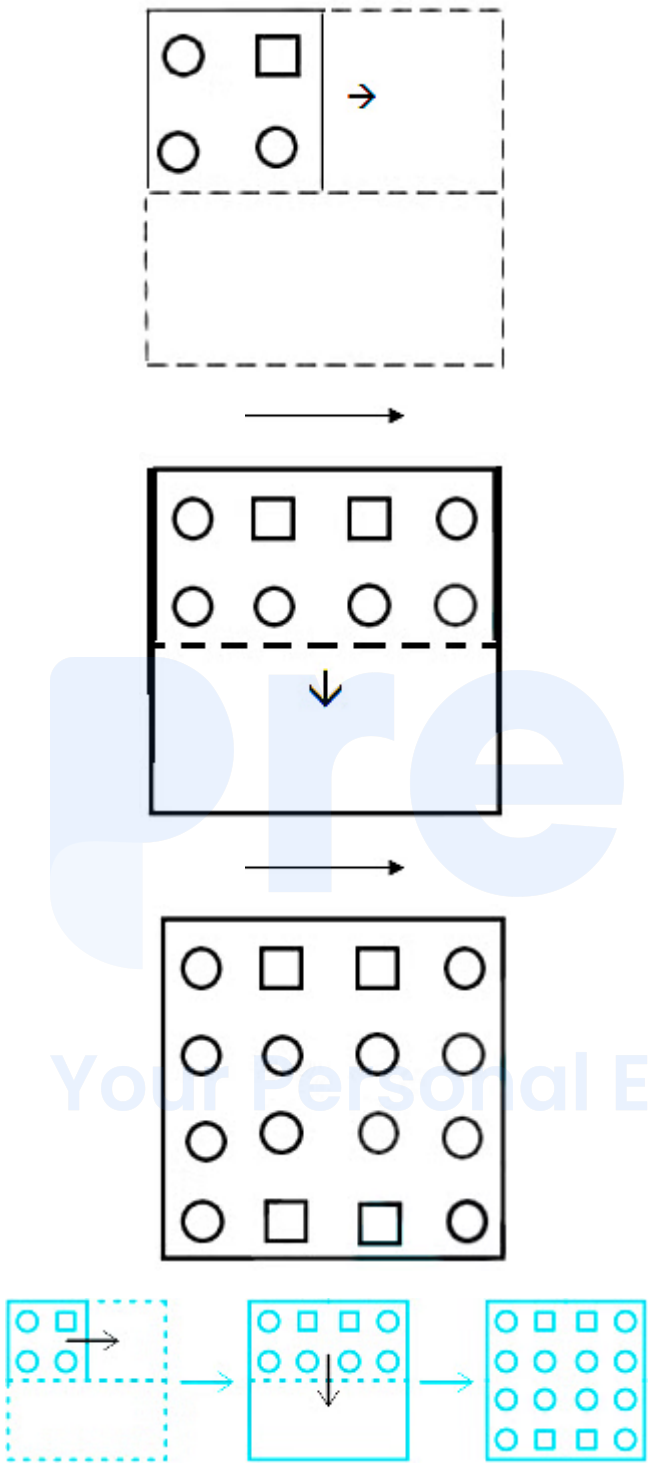
Hence **the correct answer is option (3)**

---

50. Answer: d

Explanation:

When we unfold the folds step by step we get:



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

---

51. Answer: b

Explanation:

GIVEN:

Difference between discount and successive discounts on bill = Rs.22

FORMULA USED:

S.P. = (1 - d1/100) × (1 - d2/100) × M.P.

Where S.P. = Selling price, M.P. = Marked price , d1 and d2 = successive discounts % respectively

Discount = (M.P. - S.P.)

Discount% = (Discount/M.P.) × 100

CALCULATION:

Let us assume Marked price be Rs.100

Here , we have discount % = 35

Discount % = (Discount / M.P.) × 100

⇒ 35 = (Discount/100)× 100

Discount = Rs. 35.

Now, we have d1 = 20% , d2 =20%

S.P. = (1 - 20/100) × (1 - 20/100) × 100

⇒ (1 - 1/5) × (1 - 1/5) × 100

S.P. = 4/5 × 4/5 × 100 = Rs. 64.

Hence, Discount = (M.P.- S.P.) = (100 - 64) = Rs. 36.

Now, Difference = (36 -35) = Rs. 1.

But According to the given question the Difference = Rs. 22.

Hence,

⇒ 1 unit = Rs. 22

⇒ 100 = Rs. 2,200.

Hence, the amount of the bill is Rs. 2,200.

---

52. Answer: b

Explanation:

GIVEN:

Riya runs 3/2 times as fast as Prerna.

Riya gives a lead of 100m.

FORMULA USED:

Speed = Distance/Time.

CALCULATION:

Riya runs 3/2 times as fast as Prerna.

Riya = 3/2 Prerna.

Riya/Prerna = 3/2.

So, the ratio of speeds of Riya and Prerna = 3 : 2

Let the speed be 3x and 2x

Let the distance covered by Prerna be 'L'

Then , distance covered by Riya = 'L' + 100

Since, they both will meet , hence time is same.

⇒ L /2x =(L+100) /3x

⇒ 3L = 2L + 200

⇒ L = 200 m.

Riya will cover the distance = (200 +100) = 300m.

Hence, Riya has to run 300m before meet.

Calculation:

⭐ **Shortcut Trick**

If time is constant, then

Ratio of s peed = Ratio of distance

Ratio of speed = 3 : 2

Ratio of distance = 3 : 2

So,

1 unit = 100 m

3 units = 300 m

∴ The correct answer is 300 m.

---

53. Answer: a

Explanation:

Given:

50% of [6 – {15 – [6 + 8 ÷ (5 – 3)] + 2}]

Calculation:

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

⇒ 50% of [6 – {15 – [6 + 8 ÷ (5 – 3)] + 2}]

⇒ 50% of [6 – {15 – [6 + 8 ÷ 2] + 2}]

⇒ 50% of [6 – {15 – 10 + 2}]

⇒ 50% of [6 – 7] = 50% of (–1)

⇒ $\frac{50}{100} \times -1 = -0.5$

∴ The simplified value of the expression is –0.5

---

54. Answer: a

Explanation:

GIVEN:

Total income of Mr. X = Rs. 120000.

CALCULATION:

According to the given question, spending on transport = 30°

⇒ 360° = Rs. 120000

⇒ $30° = \frac{120000}{360°} \times 30° = Rs.\ 10{,}000.$

∴ **Mr. X has to pay Rs. 10,000 for the transport.**

---

55. Answer: b

Explanation:

GIVEN:

Discount = 30%

FORMULA USED:

Profit = (S.P. - C.P.)

Where S.P. = Selling price, C.P. = Cost price

Profit% = (Profit/C.P.) × 100

CALCULATION:

Let the Marked price be Rs100.

30% Discount on marked price =(30/100)× 100 = Rs30.

Hence, Discount = Rs30.

Now, C.P. of retailer = S.P of company = (M.P. - Discount)

⇒ (100 - 30) = Rs 70.

Now, According to the given Question ,

S.P. of retailer = M.P.

Hence, S.P. of retailer = Rs100. and C.P. = Rs70.

Hence, Profit = (S.P.- C.P.) = (100 -70) = Rs30.

⇒ Profit% = (Profit/C.P.) × 100

⇒ (30/70) × 100 = (300/7) % = $42\frac{6}{7}$ %.

∴ **Profit% is** $42\frac{6}{7}$ % .

---

56. Answer: d

Explanation:

GIVEN:

S.P. = Rs 1,326.

Discount % = 15%

FORMULA USED:

Discount% = (Discount/M.P.) × 100

S.P. = (M.P.- Discount)

CALCULATION:

Let the Marked price be X

Now, as Discount% = 15

⇒ Discount% = (Discount/M.P.) × 100

⇒ 15 =(Discount/ X) × 100

⇒ (15 × X) /100 = Discount

Discount = 0.15 X

Now, S.P. = Rs 1326

⇒ MP. = (discount + S.P.)

⇒ x = 0.15 X + 1326

⇒ 0.85 X = 1326

⇒ X = 1560.

Hence, Marked price of the article is Rs.1,560.

Calculation:

⭐ **Shortcut Trick**

Discount = 15 %

So M.P = (1326/85) × 100

⇒ M.P = Rs. 1560

∴ The correct answer is Rs. 1560.

---

57. Answer: b

Explanation:

GIVEN:

(x +2) and (x-3) are the factors of x 2 + k 1 x + k 2

CONCEPT USED:

If (x -a) is a factor of the equation then 'a' is the root of that equation.

CALCULATION:

It is given that (x +2) and (x -3) are the factors of the equation that means root of the equations are -2 and 3.

Now, on putting the value of the roots we will get two equations as follows:

⇒ $(-2)^2 + k_1(-2) + k_2 = 0$ ------(1)

$\Rightarrow (3)^2 + k_1(3) + k_2 = 0$ -------(2)

On solving these two equations we get,

$\Rightarrow 4 - 2k_1 + k_2 = 0.$

$\Rightarrow 9 + 3k_1 + k_2 = 0.$

Hence, we get $k_1 = -1$ and $k_2 = -6$.

Hence, the value of $k_1 = -1$ and $k_2 = -6$.

Concept used:

⭐ Alternate Method

Basic form of a quadratic equation = $ax^2 + (\alpha + \beta)x + \alpha\beta$

Where α and β are the roots of the equation.

Calculation:

$(x + 2)$ and $(x - 3)$ are the two roots of the given equation.

So, the two roots $\alpha = -2$ and $\beta = 3$

Now, $x^2 + k_1 x + k_2$

$-k_1 = (\alpha + \beta) = (-2 + 3) = 1$

$k_1 = -1$

$k_2 = (\alpha \times \beta) = (-2 \times 3) = -6$

∴ The correct answer is option 2.

---

58. **Answer: b**

Explanation:

GIVEN:

Radius = 14 cm

Height = 48 cm

FORMULA USED:

Volume = $1/3 \times \pi r^2 h$.

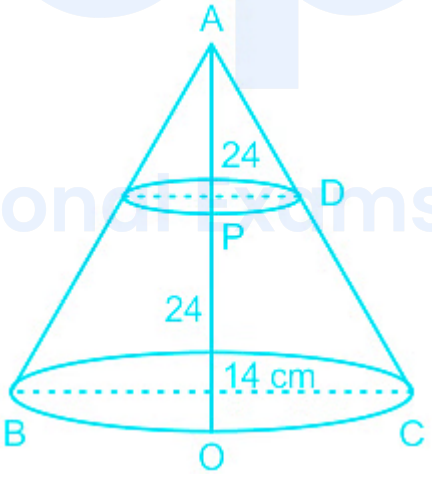
When the cone is cut in between, then ratio of volume of smaller cone to the bigger one = ratio of cubes of their heights or radii.

CALCULATION:

As cross- section is made from mid- point

Hence, two cones are formed i.e.cone APD ,which is a smaller cone

And cone ABC , which is a bigger one.



Let the height of smaller cone be h and that of bigger one be H

Volume of bigger cone = $1/3 \times \pi r\ 2 \times H$.

Here, r = 14 cm, H = 48 cm

Volume = $1/3 \times 22/7 \times (14)^2 \times 48 = 9856\ cm^3$.

Now, as cone is cut from mid its height for smaller cone = 48/2 = 24 cm

Volume of smaller cone : Volume of bigger cone = $h^3 : H^3$

Volume of smaller cone : $(24)^3 : (48)^3$

Volume of smaller cone = (13824 /110592) × 9856 = 1232 cm^3

Hence, volume of the upper portion is 1232 cm^3.

---

59. Answer: c

Explanation:

GIVEN:

C.I. for 2 years = Rs300

S.I. for 2 years = Rs250.

Where C.I. = Compound Interest , S.I. = Simple interest

CALCULATION:

S.I. for 2 years = Rs250

Hence, S.I. for 1 year = 250/2 = Rs125.

Now, C.I. for 2 years = Rs300.

Difference between C.I. and S.I. for 2 years = (300 -250) = Rs50.

Hence, Required Rate of Interest =(50/ 125) × 100 = 40%.

∴ The required rate of interest is 40%.

---

60. Answer: d

Explanation:

GIVEN:

8 digit number 143b203a is divisible by 15

CONCEPT USED:

Divisibility of 3 = if sum of its digits is divisible by 3.

Divisibility of 5 = if the last number is either 0 or 5 , the entire no. is divisible by 5.

CALCULATION:

Factors of 15 = (3 × 5) Hence, the number should be divisible by both 3 and 5.

Possible values of a are 0 and 5,

Now,

1 + 4 + 3 +b +2 +0 +3 +0 = 13 + b

Here b can be 2,5, 8

For greatest, we need to take 8 .

So, (a + b) = (0 +8) = 8 , which is not present in the option.

Now, take a =5

1 +4 +3 +b +2 +0 +3 + 5 = 18 +b

Here b can be 0, 3, 6, 9 .

For greatest , we need to take b = 9

So, (a + b) = (5 +9) = 14, which is in the option as well.

Hence, greatest possible value of (a + b) is 14.

61. **Answer: c**

Explanation:

GIVEN:

AB = BC = CD

A to B speed = 5km/h

B to C speed = 10 km/h

C to D speed = 15 km/h

FORMULA USED :

Average speed = Total distance covered/ Total time taken.

Distance = Speed × Time

CALCULATION:

Here , AB = BC = CD = x

Now, Time to travel A to B = Distance/ Speed = x/5 h.

⇒ Time to travel B to C = x/ 10 h.

⇒ Time to travel C to D = x/15 h

Now, Total Distance travelled = AB + BC + CD = (x + x + x) = 3x.km

Total Time taken = (x/5 + x/10 +x/15) = 11x/30 hours

⇒ Average Speed = Total Distance / Total time = 3x/(11x /30) = (3x × 30/11x) = 90/11 km/h = $8\frac{2}{11}$ km/h

Hence, the Average Speed is $8\frac{2}{11}$ km/h.

62. **Answer: a**

Explanation:

GIVEN:

Total runs = 956

P: Q = 16 :17 , Q:R = 15:16.

CALCULATION:

Here

P: Q = 16:17 .....(1)

Q: R = 15 :16.....(2)

Now, to make Q equal in both the equations multiply (1) by 15 and (2) by 17 we get,

P :Q = (16 × 15) : (17 × 15) = 240 : 255

Q :R = (15 × 17) : (16 × 17) = 255 : 272

Now, P:Q :R = 240 : 255 : 272

Let runs secured by P = 240x , Q = 255x , R = 272x

Now , According to the Question ,

⇒ 240x + 255x + 272x = 956

⇒767 x = 956

⇒ x = 1.246

Now, Runs secured by R = 272x = 272 × 1.246 = 338.912 ≈ 339.

Hence, Runs secured by R is 339.

63. **Answer: c**

Explanation:

GIVEN:

Different types of scooters produced by a company in first 6 months of 1992.

CALCULATION:

As, According to the data given in the question,

Types of scooters produced in the month of May

x = 20, y = 30, z = 30 , T = 30

Types of scooter produced in the month of January ,

x = 25 , y = 25 , z = 25 , T = 25

Types of scooter produced in March,

x = 18, y = 50 ,z = 15 T = 25.

Types of scooter produced in June,

x = 15, y = 20 , z = 20 , T = 35

As, x = y = z = T = 25 i.e. company produced same no. of scooters in January.

Hence, same number of scooters are produced in the month of January.

---

64. **Answer: d**

Explanation:

GIVEN:

65 Kg man is replaced by a new man

Average weight of 8 men increased by 1.5 kg

FORMULA USED:

Average = Sum of values/ Number of values.

CALCULATION:

Let the average of 8 men initially be x

Sum of 8 men initially = (8 × x) = 8x

Now, according to the given question,

when 65 kg man is replaced by a new man then

Sum = (8x - 65 + weight of new man)

Also, Average becomes = (x +1.5) kg

⇒(8x - 65 + new man's weight) / 8 = (x + 1.5)

⇒ 8x - 65 + new man's weight = 8x +12

⇒ new man's weight = (65 +12) = 77 kg.

Hence, the weight of the new man is 77 kg.

Calculation:

⭐ **Shortcut Trick**

Total average weight change = 1.5 × 8 = 12 kg

So, new member = 65 + 12 = 77 kg

∴ The correct answer is 77 kg.

---

65. **Answer: a**

Explanation:

1GIVEN:

k + (1/k) = 2

CALCULATION:

We have,

k + (1/ k) = 2

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

$\Rightarrow$ k^2 - 2k + 1 = 0.

$\Rightarrow$ k^2 -k -k +1 = 0.

$\Rightarrow$ k (k -1) - (k -1) =0.

$\Rightarrow$ (k -1) (k -1) = 0.

Hence, k = 1

Now ,

8 k× k × k = 8 × 1 × 1 × 1 = 8.

Hence, the required value is 8.

Calculation:

⭐ <u>Shortcut Trick</u>

k + (1/k) = 2

If we put k = 1, then it satisfies the equation

So k = 1

Now,

$8k \times k \times k = 8 \times 1 = 8$

∴ The correct answer is 8.

---

66. Answer: c

Explanation:

GIVEN:

Rate of increment = 5%

Present population = 18522

FORMULA USED:

Present Population = $P \times \frac{(100+R)^t}{100}$

Where P = initial Population , t = time in years R = Rate of increment .

CALCULATION :

Here t = 3 years R = 5% Present population = 18522

$\Rightarrow 18522 = P \times \frac{(100+5)^3}{100}$

$\Rightarrow 18522 = P \times 105/100 \times 105/100 \times 105/100$

$\Rightarrow P = 16{,}000.$

Hence, population of village 3 years ago was 16,000.

---

67. Answer: d

Explanation:

GIVEN:

15 boys earn Rs900 in 5 days.

FORMULA USED:

M1 × D1 × W2 = M2 × D2 × W1

Where M1, M2 = no. of persons respectively

D1, D2 = No. of days respectively

W1, W2 = Wages earn respectively

CALCULATIONS:

Here , we have

M1 = 15 . D1 = 5 , W1 = 900

M2 = 20 , D2 = 7 , W2 = ?

⇒ M1 × D1 × W2 = M2 × D2 × W1

⇒ 15 × 5 × W2 = 20 × 7 × 900

⇒ W2 = Rs1680.

Hence, 20 boys will earn Rs1,680 in 7 days.

---

68. **Answer: a**

Explanation:

GIVEN:

Diameters = AB and CD

Diameters are perpendicular to each other.

CONCEPT USED:

Diameters are perpendicular = they make 90 degree angle with each other

Radius = Diameter/2 and radius of the circle are always equal.

In a right angled triangle ,

$H^2 = P^2 + B^2$

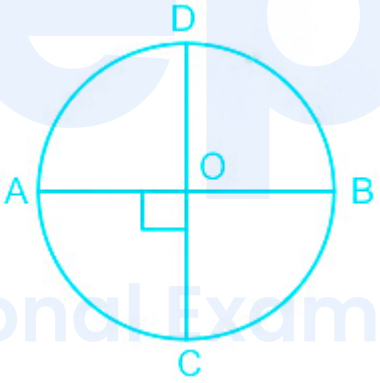
Where, H = Hypotenuse, P = perpendicular, B = Base.

CALCULATIONS :

Now, we are given a circle with centre O and two perpendicular diameters AB and CD respectively.

We , need to find the length of chord i.e. AC

We have the following corresponding figure as following,



Since AB = CD (Diameters of the same circle are equal)

Also, $\angle$ AOC = 90° and AO = AB/2

Here AO = OC (As both are radius)

Now, Join A and C, so that Right triangle AOC is formed.

Now, in triangle AOC with $\angle$ AOC = 90 degree

$AC^2 = OA^2 + OC^2$

$\Rightarrow AC^2 = OA^2 + OA^2$

$\Rightarrow AC^2 = (AB/2)^2 + (AB/2)^2$

$\Rightarrow AC^2 = AB^2/2$

$\Rightarrow AC = \frac{AB}{\sqrt{2}}$

Hence, Length of the chord is $\frac{AB}{\sqrt{2}}$.

---

69. **Answer: d**

Explanation:

GIVEN:

Company expenditure increases first = 25%

again increases = 30%

further decreases = 20%

FORMULA USED:

% change = (Final value - Initial value)/ Initial value × 100.

CALCULATION:

Let the initial expenditure be Rs100

Now, condition first, increment of 25%

Hence, (100 + 100 × 25/100) = 125.

Now, again increment of 30%

Hence, (125 + 125 × 30/100) = 162.5

Now, further decrement of 20 %

Hence, (162.5 - 162.5 × 20/100) = 130.

Hence, Initial expenditure = Rs100

Final expenditure = Rs130

⇒ Overall % change = (130 -100)/100 × 100 = (130 -100) = 30%

Hence, overall percentage is 30.

Calculation:

⭐ Alternate Method

Increment (+ 25%)	4	5
increment (+ 30%)	10	13
decrement (- 20%)	5	4
Overall %	10	13

So,

Overall % change = (3/10) × 100 = 30%

∴ The correct answer is 30%.

---

70. Answer: a

Explanation:

GIVEN:

Maximum marks in each subject = 100.

FORMULA USED:

Average = Sum of values/ Number of values.

CALCULATION:

Sum of marks obtained by six students in Physics = (85 + 75 + 80 + 90 + 95 + 90) = 515.

Total number of students = 6

Average =(515/ 6) = 85.83.

Sum of marks in Chemistry = (90 + 75 + 60 + 85 + 90 + 90)= 490.

Total number of students = 6

Average = 490/6 = 81.67

Sum of marks in Maths = (70 + 75 + 75 + 75 + 85 + 95) = 475

Average = 475/6 = 79.17

Sum of marks in Geography = (80 + 85 + 85 + 90 + 90 + 90) = 520

Total number of students = 6

Average = 520/6 = 86.67

Since 86.67 is the highest average among all four subjects.

Hence, in Geography (86.67) average marks is highest marks obtained by the six students.

---

71. Answer: b

Explanation:

Given:

$\frac{(r-s)^3+(s-t)^3+(t-r)^3}{6(r-s)(s-t)(t-r)}$

Concept used:

If a + b + c = 0, then $a^3 + b^3 + c^3 - 3abc = 0$.

Calculations:

According to question,

$\Rightarrow$ (r - s) + (s - t) + (t - r) = 0

So, $\frac{(r-s)^3+(s-t)^3+(t-r)^3}{6(r-s)(s-t)(t-r)}$

$\Rightarrow \frac{3(r-s)(s-t)(t-r)}{6(r-s)(s-t)(t-r)} = \frac{1}{2}$

$\therefore$ **The value of** $\frac{(r-s)^3+(s-t)^3+(t-r)^3}{6(r-s)(s-t)(t-r)}$ **is** $\frac{1}{2}$.

---

72. Answer: d

Explanation:

Given:

Cheating percent while buying and selling = 6%

Formula Used:

Profit % = [(S.P - C.P)/C.P × 100]

Calculation:

Shopkeeper buy 106 gm goods instead of 100 gm by cheating

And he sells 94 gm instead of 100 gm

According to the question

SP/CP = (106 × 100)/(100 × 94) = $\frac{53}{47}$

Profit = SP - CP

Profit = 53 - 47 = 6

Profit Percentage = ($\frac{6}{47}$) × 100% = 12.77%

∴ The shopkeeper earned 12.77% profit.

---

73. Answer: b

Explanation:

Given:

Radius of roller = 14 cm

Length = 20 cm

Concept used:

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

Calculations:

According to question,

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

$\Rightarrow 2 \times \left(\frac{22}{7}\right) \times (14) \times (20) = 1760\ cm^2$.

Now, area of the playground

$= 235 \times 1760$

$= 4136 \times 10^2\ cm^2$

∴ The area of the playground is $4136 \times 10^2\ cm^2$.

---

74. Answer: a

Explanation:

Given:

α is an acute angle.

Calculations:

Let us check the options one by one till we found the right one:

Option 1 : $\frac{1}{cos\alpha}$ = secα, hence it is not equal to cosecα.

Since it is the option we wanted to figure out so we don't need to check other options.

∴ cosecα is not equal to $\frac{1}{cos\alpha}$.

---

75. Answer: d

Explanation:

Given:

Radius of base of Cylinder = diameter/2 = 28/2 = 14 cm

Height of cylinder = 70 cm

Concept used:

Total surface area of cylinder = $2\pi rh + 2\pi r^2$

Calculations:

According to question,

Total surface area of the cylinder is

$\Rightarrow 2\pi rh + 2\pi r^2$

$\Rightarrow 2 \times \left(\frac{22}{7}\right) \times (14) \times (70) + 2 \times \left(\frac{22}{7}\right) \times (14)^2$

$\Rightarrow 6160 + 1232$

$\Rightarrow 7392$

∴ Total surface area of Cylinder is 7392 cm^2.

---

76. Answer: c

Explanation:

The correct answer is**Carnatic music**.

⭐ Key Points

- **Madurai Shanmukhavadivu Subbulakshmi** was an Indian Carnatic singer from Madurai, Tamil Nadu.
- She was the first musician ever to be awarded the **Bharat Ratna, India's highest civilian honor.**
- Her particular shade of **blue Kanjeevaram** made her a style icon.

⭐ Additional Information

- **The ghazal**form is ancient, tracing its origins to 7th-century Arabic poetry.
- **Hindustani classical music**is the classical music of the northern regions of the Indian subcontinent.
- **Sufi music refers to the devotional music of the Sufis,** inspired by the works of Sufi poets like Rumi, Hafiz, Bulleh Shah, Amir Khusrow, and Khwaja Ghulam Farid.

---

77. Answer: a

Explanation:

The correct answer is**Biosphere** .

⭐ Key Points

- **The biosphere** is made up of the parts of Earth where life exists.
- The biosphere extends from the **deepest root system of trees to the dark environment of ocean trenches, to lush rain forests and high mountaintops.**

- The biosphere is also known as the **ecosphere.**

⭐ Additional Information

- **A community** is a social unit with commonalities such as **place, norms, religion, values, customs, or identity.**
- In ecology, the term habitat summarises the array of **resources and physical and biotic factors** that are present in an area, such as to support the survival and reproduction of a particular species.
- **A biome** is a distinct **biogeographical unit** consisting of a biological community that has formed in response to a shared regional climate.

---

78. **Answer: a**

Explanation:

The correct answer is**Dr. BR Ambedkar** .

⭐ Key Points

- Waiting for a Visa is a **20-page autobiographical life story of B.R. Ambedkar.**
- It was written in the **period 1935-36.**
- It consists of reminiscences drawn by **Ambedkar.**

⭐ Additional Information

- **Swami Acchutanand was a poet, critic, dramatist, historian, social reformer, former Arya Samajist,** and **founder of the Adi Hindu** movement.
- **Babu Jagjivan Ram**was an **Indian Independence activist and politician from Bihar.**
- **MC Rajah**was an **Indian politician.**

---

79. **Answer: d**

Explanation:

The correct answer is**Ustad Amjad Ali Khan** .

⭐ **Key Points**

- **Amjad Ali, Amaan, and Ayaan** took to the staging post the felicitation of Malala and Satyarthi to perform their **' Raga For Peace'.**
- The Nobel Peace Prize is one of the **five Nobel Prizes established** by the will of **Swedish industrialists, inventors, and armaments.**
- Manufacturer Alfred Nobel, along with the prizes in **Chemistry, Physics, Physiology or Medicine and Literature.**

⭐ **Additional Information**

- **Ustad Bismillah Khan** , often referred to by the title Ustad, was an Indian musician credited with **popularizing the shehnai.**
- **Pandit Ram Narayan** is an Indian musician who **popularised the bowed instrument sarangi.**
- **Pandit Hariprasad Chaurasia** is an Indian music director and classical flutist, who plays the flute.

---

80. **Answer: a**

Explanation:

The correct answer is**Ahmed Ali** .

⭐ **Key Points**

- **Ahmed Ali was a Pakistani novelist,**poet, critic, translator, diplomat, and scholar.
- The novel is also about the **domestic life of Muslims.**
- Twilight in Delhi is Ahmed Ali's **first novel.**

⭐ **Additional Information**

- **Amrita Pritam** was an Indian novelist, essayist, and poet, who wrote in Punjabi and Hindi. Amrita Pritam is most remembered for her poignant poem **"Ajj**

Aakhaan Waris Shah Nu".

- **Khushwant Singh** was an Indian author, lawyer, diplomat, journalist, and politician. The most popular novel written by Khushwant Singh is **"Train to Pakistan".**
- **Krishna Sobti** was an Indian Hindi-language fiction writer and essayist. **Zindaginama is written by Krishna Sobti.**

---

81. Answer: b

Explanation:

The correct answer is**Violin** .

⭐ **Key Point**

- **Lalgudi Gopala Iyer Jayaraman** was an Indian Carnatic violinist, vocalist and composer.
- He is commonly grouped with **M.S. Gopalakrishnan and T.N. Krishnan** as part of the violin-trinity of Carnatic Music.
- **The violin** is sometimes known as a fiddle.
- **Violin** is a wooden chordophone in the violin family.
- Most **violins** have a hollow wooden body.
- It is the smallest and thus **highest-pitched instrument** in the family in regular use.

⭐ **Additional Information**

- **Harmonium** is a modified version of the reed organ, with keys like the piano and bellows to pump air into the instrument.
- The standard concert **flute has a range of about 3 octaves.**
- **Mridangam** is the main percussion instrument of the South Indian or Carnatic form of music.

---

82. Answer: d

Explanation:

The correct answer is**Amitav Ghosh** .

⭐ Key Points

- Sea of Poppies is a novel by Indian novelist **Amitav Ghosh which was shortlisted for the Man Booker Prize in 2008.**
- It is the first volume of the **Ibis trilogy.**
- In the words of **Rajnish Mishra, "the Ibis trilogy is Ghosh's most vehement indictment of the source of imperialism and colonialism".**

⭐ Additional Information

- **Shashi Tharoor** has been serving as a Member of Parliament.
- **Manohar Malgonkar** was an Indian author.
- **Anuj Dhar** is an Indian author and former journalist.

---

83. **Answer: d**

Explanation:

The correct answer is**Article 110** .

⭐ Key Points

- **A money bill** is deemed to have passed both houses with any recommended **amendments the Lok Sabha** chooses to accept, and without any that it chooses to decline.
- The definition of **"Money Bill"** is given in **Article 110 of The Constitution of India.**
- It cannot be passed by either house of the **Parliament unless the President has recommended** them for consideration of the bill.

⭐ Additional Information

Article	Details
120	Language to be used in Parliament
100	Voting in Houses, power of Houses to act not with standing vacancies and quorum
115	Supplementary, additional or excess grants

---

84. Answer: d

Explanation:

The correct answer is**SHG-Bank linkage** .

⭐ **Key Points**

- Based on the observations of various research studies and an **action research project carried out by NABARD.**
- The model of **'SHG-Bank linkage'** has evolved as a cost-effective mechanism for **providing financial services to unreached and underserved poor households.**
- Bank credits to members of SHGs are eligible for the **priority sector** .

⭐ **Additional Information**

- It is considered to be an effective strategy to ensure financial inclusion.
- SBLP was initiated as action research by the **NABARD in 1989.**
- **It was subsequently crystallized into a pilot project in 1992.**

---

85. Answer: b

Explanation:

The correct answer is**Kinetic** .

⭐ Key Points

- The **kinetic energy** of an object is the energy that it possesses due to its motion.
- It is defined as the work needed to **accelerate a body of a given mass from rest to its stated velocity.**
- **A hydroelectric generating** station is a plant that produces electricity by using water to propel the turbines, which, in turn, drive the generators.

⭐ Additional Information

- **Chemical energy** is the energy of chemical substances that are released when they undergo a chemical reaction and transform into **other substances** .
- The term **"thermal energy"** is used loosely in various contexts in physics and engineering.
- **Gravitational energy**is the potential energy a massive object has about another massive object due to gravity.

---

86. **Answer: a**

Explanation:

The correct answer is**Anai Mudi** .

⭐ Key Points

- **Anamudi**is a mountain located in **Ernakulam district** and the **Idukki district** of the Indian state of **Kerala.**
- It is the highest peak in the **Western Ghats and South India.**
- Anamudi ,The Pride of The State of **Kerala.**

⭐ Additional Information

- **K2 is the second highest mountain on Earth** , after Mount Everest.
- **Kangchenjunga,** also spelled Kanchenjunga, is the third highest mountain in the world.
- **Kamet** is the second highest mountain in the Garhwal region of Uttarakhand, India, after Nanda Devi.

87. **Answer: a**

Explanation:

The correct answer is**Odissi**.

⭐ Key Points

- **Ileana Citaristi** is an Odissi and Chhau dancer from Italy.
- Indian dance teacher **headquartered in Bhubaneswar.**
- She won the **Best Choreography prize at the 1995 43rd National Film Awards for Yugant.**
- **Odissi** is often a type of performance art that combines dance and theatre. **The Maharis and Gotipua dance** traditions are both highly influenced by Odissi.

⭐ Additional Information

- **The Manipuri Raas Leela** is another name for the Manipuri Dance. The well-known Rasleela dances of **Manipur** date back to the reign of **King Bhagyachandra**.
- A significant type of Indian classical dance that has its roots in **Tamil Nadu is bharatanatyam**.
- One of the eight primary styles of Indian classical dance is **kathak.** The birthplace of Kathak, one of India's six most revered classical dances, is **Uttar Pradesh.**

88. **Answer: c**

Explanation:

The correct answer is**Matthias Schleiden**.

⭐ Key Points

- **Matthias Schleiden** was a German botanist and **co-founder of cell theory.**
- In **1838 Schleiden** defined the cell as the basic unit of plant structure.
- Initially discovered by **Robert Hooke** in 1665.

⭐ Additional Information

- Robert Brown **published his research findings and gave speeches.**
- **Virchow's** many discoveries include **finding cells in bone and connective tissue** and **describing substances such as myelin** .
- **Kolliker's** investigations covered such diverse subjects as the development of cephalopods.

---

89. **Answer: a**

Explanation:

The correct answer is**Ghazal** .

⭐ Key Points

- **Jagjit Singh** was an Indian composer, singer, and musician.
- He composed and sang in **numerous languages and is credited for the revival and popularity of ghazal.**
- **Jagjit Singh**was born Jagmohan Singh in Rajasthan's Sri Ganganagar.
- A ghazal is a form of amatory poem or ode, originating in Arabic poetry.
- A ghazal may be understood as a poetic expression .
- The ghazal form is **ancient.**

⭐ Additional Information

- **Bhajan** refers to any devotional song with a religious theme or spiritual ideas.
- **Carnatic music** is taught and learned through compositions.
- **Hindustani classical music** is primarily vocal-centric.

---

90. **Answer: b**

Explanation:

The correct answer is**Uzbekistan** .

⭐ Key Points

- The **2023 Men's Boxing World Championships will be held in Uzbekistan's capital Tashkent.**
- International Boxing Association (AIBA) President Umar Kremlev has confirmed **Tashkent as the host city.**
- Uzbekistan is a **Central Asian nation and a former Soviet republic.**

⭐ Additional Information

- The 22nd edition of the competition will be the first time when **Uzbekistan will be hosting it.**
- **Muhammad Ali** is the best boxer of all time.
- **Samarkand** is a major city on the route.

---

91. **Answer: a**

Explanation:

The correct answer is**Guru Bipin Singh** .

⭐ Key Points

- The name **Guru Bipin Singh** is synonymous with Manipuri dance.
- **Guru Bipin Singh** was a director, choreographer, and teacher of Manipuri dance.
- **Guru Bipin Singh** who is regarded as the father of modern Manipuri dance and style belonged to the Bishnupriya Manipuri community.
- **Sangeet Natak Akademi Award** is an award given by the Sangeet Natak Akademi.
- It is the **highest Indian recognition** given to practicing artists.

⭐ Additional Information

- **Guru Amubi Singh** was credited with pioneering solo dance in Manipuri.
- **Rajkumar Singhajit Singh** is a leading exponent, and choreographer.
- **Sougaijam Thanil Singh** is an Indian classical dancer.

---

92. **Answer: b**

Explanation:

The correct answer is **Madhya Pradesh** .

⭐ Key Points

- **Mangubhai Chhaganbhai Patel** is an Indian statesman who is the current and **19th Governor of Madhya Pradesh.**
- He is a leader of the**BJP from Gujarat.**
- He served as the officiating speaker of the **Gujarat Legislative Assembly in 2014.**

⭐ Additional Information

- He has earlier served as a **cabinet minister in the Government of Gujarat.**
- The **primary function** of the governor is to **preserve, protect and defend the constitution.**
- The **law is incorporated** in their oath of **office under Article 159.**

---

93. **Answer: b**

Explanation:

The correct answer is**Inter-tropical convergence zone** .

⭐ Key Points

- In the **northern hemisphere** the northeast trade winds from the Southern Hemisphere.
- The point at which the forces the trade winds convergently blow air up into the atmosphere, **forming the ITCZ.**
- The trade winds are winds that are east to west just **north and south of the equator.**

⭐ Additional Information

- In **West Africa, the forest zone** refers to the southern part of the region once covered by **tropical rainforest.**
- **Solar radiation** is the term that is used to describe visibly.
- Nearly visible radiation is emitted by the **sun.**

---

94. Answer: a

Explanation:

The correct answer is **Tanjore Balasaraswati**.

⭐ Key Points

- Dancer **Tanjore Balasaraswati** was from India.
- **Bharatanatyam**, a traditional dance, as performed by Balasaraswati.
- **Balasaraswati:** The dancer who introduced the world to Bharatanatyam.
- The third and second highest civilian honours bestowed by the Indian government, the **Padma Bhushan and Padma Vibhushan,** respectively, were conferred to her in **1957 and 1977.**
- In Chennai, she established The **Dipasikha Dance Foundation, where she now teaches Bharatanatyam.**

⭐ Additional Information

- Indian classical dancer, choreographer, and teacher **Mrinalini Vikram Sarabhai.**
- Indian traditional Bharatanatyam dancer **Padma Subramaniyam** performs. She is well-known both domestically and overseas.

- Leading Indian classical dancer and choreographer **Alarmel Valli** is the most prominent practitioner of the Pandanallur style.

---

95. Answer: c

Explanation:

The correct answer is**Lekha KC.**

⭐ **Key Points**

- The Major Dhyan Chand Award, officially known as **Major Dhyan Chand Award for Lifetime Achievement in Sports and Games** .
- It is the lifetime achievement sporting **honor of the Republic of India.**
- The Khel Ratna Award, officially known as the Major Dhyan Chand Khel Ratna Award is the **highest sporting honor in India.**
- Lekha K.C. represented Indian Women's Amateur boxing in the 75 kg category.
- She won a Gold medal in the 2006 Women's World Amateur Boxing Championships.
- K.C. Lekha has been awarded the Dhyan Chand award for lifetime achievement.

⭐ **Additional Information**

- **Gurcharan Singh** is an Indian cricket coach and former first-class cricketer.
- **Akhil Kumar** is an Indian boxer who has won several international and national boxing awards.
- **Devendro Singh** is an Indian boxer from Imphal, West district.

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96. Answer: b

Explanation:

The correct answer is**Georg Simon Ohm** .

⭐ Key Points

- Georg Simon Ohm was a **German physicist and mathematician.**
- **Georg Simon Ohm discovered Ohm's law.**
- Ohm's Law is vitally important in describing **electric circuits.**

⭐ Additional Information

- **German-born Albert Einstein** was a theoretical physicist. The creation of Albert Einstein's **theory of relativity** has earned him widespread fame.
- The father of **nuclear physics, Ernest Rutherford,** was a New Zealander by nationality. With his well-known **gold foil experiment** , in which he proved that the atom had a small and heavy nucleus, **Rutherford improved Thomson's model in 1911.**
- **Dane Niels Bohr** was a physicist. In the atom model that Niels Bohr postulated, the electron could only occupy specific **orbits around the nucleus.**

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97. **Answer: a**

Explanation:

The correct answer is**Punjab** .

⭐ Key Points

- **Qila Raipur Sports Festival,** popularly known as the **Rural Olympics.**
- Qila Raipur Sports Festival is held annually in **Qila Raipur, in Punjab, India.**
- Competitions are held for major **Punjabi rural sports** , including cart races, athletic events, and rope pulling.

⭐ Additional Information

- **They come to Qila Raipur** to see the special breed of bullocks, camels, dogs, mules, and other animals competing in competitive events.
- The **most prestigious** winners have attended.
- **Punjabis,** after all, are known to be **sports-loving people** who take great pride in their achievements on the field.

98. **Answer: a**

Explanation:

The correct answer is **Alitame**.

⭐ **Key Points**

- **Alitame is an aspartic acid-containing dipeptide sweetener**.
- It was developed by **Pfizer.**
- Currently marketed in some countries under the **brand name Aclame**.

⭐ **Additional Information**

- **Saccharin** is an **artificial sweetener.**
- **Aspartame** is an artificial **non-saccharide sweetener**.
- **Sucralose** is an **artificial sweetener** and **sugar substitute**.

99. **Answer: c**

Explanation:

The correct answer is **Aparna Satheesan**.

⭐ **Key Point**

- **Aparna Satheesan** won the Prestigious **National Nritya Shiromani Award 2022.**
- **Aparna** is among India's most dynamic and technically brilliant dancers.
- Aparna is an outstanding representative of the **Kuchipudi dance form.**
- **Kuchipudi** is one of the eight major Indian classical dances.
- It originates from a village named **Kuchipudi in the Indian state of Andhra Pradesh.**
- Kuchipudi originated in the **17th century.**

⭐ **Additional Information**

- **Jeeno Joseph** is a Bharatanatyam dancer from New York City.
- **Carol Kuruvilla** is a religion reporter at Huff Post. Carol was previously a reporter at the New York Daily News covering a range of topics.
- **Sharan Lowen** is an Odissi dancer, trained since 1975.

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100. Answer: b

Explanation:

The correct answer is **Volleyball.**

⭐ Key Points

- The Volleyball Net Antenna gives **volleyball players** .
- **Referees** a visual aid to judge whether or not a ball is in play or out of bounds as it **travels over the net.**
- The volleyball Net Antenna features **transaction to clamps** that fasten firmly to the top and bottom cables.

⭐ Additional Information

- **Baseball is a bat and ball sport played between two teams of nine players each.**
- Basketball is a team sport in which **two teams** .
- The first organized indoor hockey game was played in **Montreal in 1875.**