SSC CHSL Tier-1 2023: Official Paper (Held On: 10 Aug, 2023 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2023 • 100 questions • 60 minutes • Answer key and solutions

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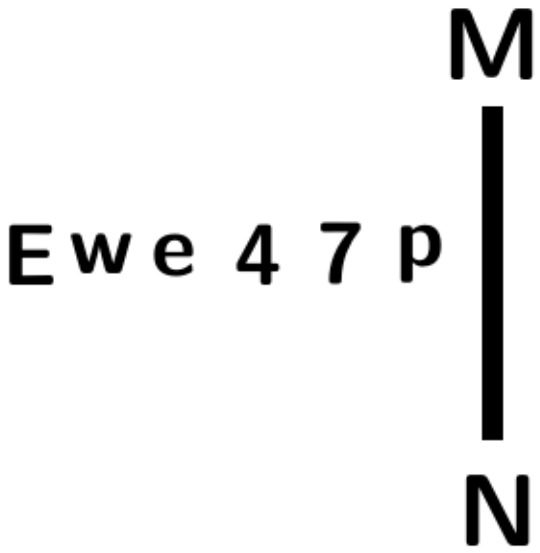
ENGLISH LANGUAGE

Q1. Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

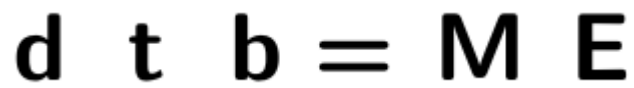
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding / subtracting / multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1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

(a) 18 - 37
(b) 33 - 67
(c) 29 - 59
(d) 27 - 53

Q2. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



(a)



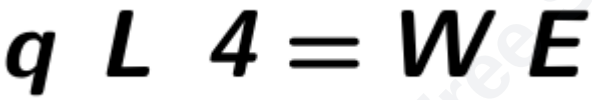
(b)



(c)



(d)

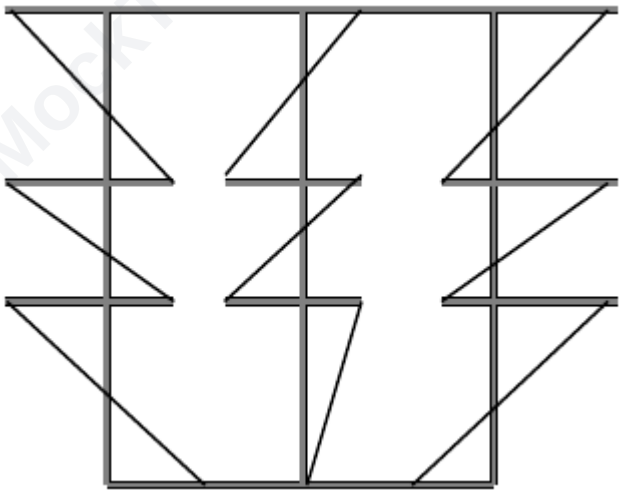


Q3. Find the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.

C _ _ C _ C _ T _ CT _ _ T _

(a) TCCTCCTC
(b) CTCCTTCT
(c) TCTCCCCC
(d) CCTTCTTT

Q4. How many triangles are there in the given figure?



(a) 16
(b) 17
(c) 20
(d) 18

Q5. Which of the following four options will replace the question mark (?) in the following series?

12, 36, ?, 102, 100, 300

(a) 68
(b) 34
(c) 52
(d) 76

Q6. Select the number from among the given options that can replace the question mark (?) in the following series.

20, 110, 200, 290, 380, ?

(a) 470
(b) 490
(c) 460
(d) 480

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Q7. 'LOQR' is related to 'GJLM' in a certain way based on the English alphabetical order. In the same way, 'SVXY' is related to 'NQST'. To which of the following is 'NQST' related, following the same logic?

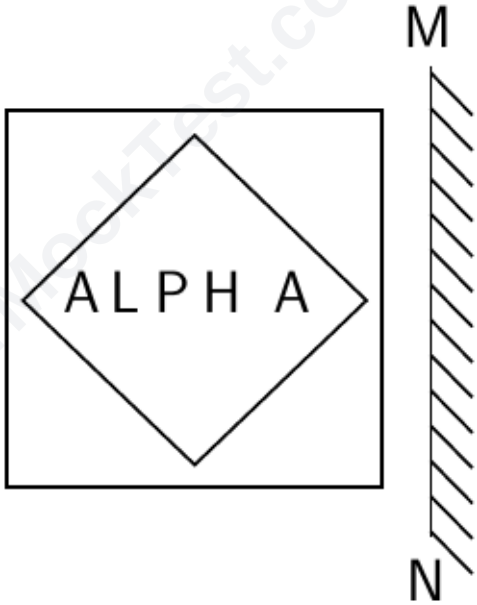
(a) INMO
(b) IMOQ
(c) ILNO
(d) IMNO

Q8. Which of the following four options will replace the question mark (?) in the following series?

149, ?, 114, 89, 59, 24

(a) 129
(b) 140
(c) 139
(d) 134

Q9. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.



(a)



(b)



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(c)



(d)



Q10. In a certain code language,

Z + B means 'Z is the mother of B',

Z - B means 'Z is the brother of B',

Z @ B means 'Z is the sister of B',

Z # B means 'Z is the father of B'.

If D - E # F - G, then how is D related to G?

(a) Father's father

(b) Father's brother

(c) Son

(d) Brother

Q11. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

All seeds are pots.

Some leaves are flowers.

No flowers are seeds.

Conclusions:

(I) Some seeds are leaves.

(II) No pots are flowers.

(a) Both conclusions (I) and (II) follow

(b) Neither conclusion (I) nor (II) follows

(c) Only conclusion (II) follows

(d) Only conclusion (I) follows

Q12. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding/subtracting/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.)

(17, 126, 7)

(31, 286, 9)

(a) (29, 270, 9)

(b) (36, 223, 6)

(c) (42, 173, 4)

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(d) (12, 117, 9)

Q13. In a certain code language, 'LED' is coded as '1587' and 'BAN' is coded as '5417'. What will be the code for 'HIT' in the given code language?

(a) 111223
(b) 101233
(c) 121144
(d) 101212

Q14. Based on the alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which of the following does NOT belong to that group?

(a) ZAX
(b) KLI
(c) VWT
(d) IJH

Q15. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

Z_XW_ZYXXW_YYXW_

(a) ZYWZ
(b) YWZZ
(c) ZZYY
(d) WYZY

Q16. 5 is related to 27 following a certain logic. Following the same logic, 7 is related to 51. To which of the following is 9 related to, following the same logic?

(a) 83
(b) 87
(c) 78
(d) 91

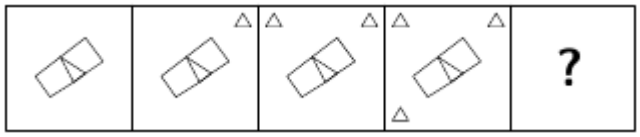
Q17. The position of how many letters will remain unchanged if each of the letters in the word ELASTIC is arranged in alphabetical order?

(a) Two
(b) Three
(c) One
(d) None

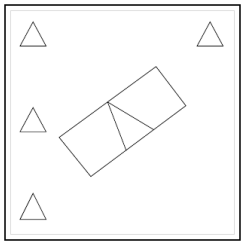
Q18. In a certain code language, 'doors grills windows woods clothes' is coded as 'kip dip lip sip tip', 'table woods chair stools' is coded as 'rip nip dip pip', 'chair grills stools' is coded as 'rip pip kip' and 'lock latch stools doors' is coded as 'gip tip cip pip'. How will 'table' be coded in that language?

(a) dip
(b) nip
(c) pip
(d) rip

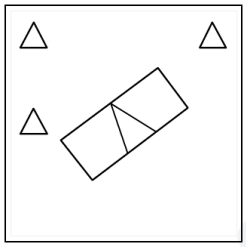
Q19. Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series.



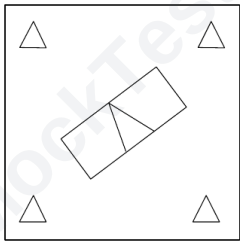
(a)



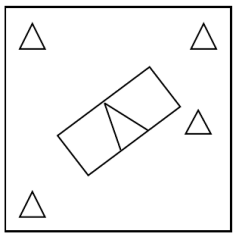
(b)



(c)



(d)



Q20. In a certain code language,

A + B means 'A is the wife of B',

A - B means 'A is the father of B',

A × B means 'A is the brother of B' and

A ÷ B means 'A is the sister of B'.

Based on the above, how is F related to S if 'F ÷ L × C + A - S'?

(a) Brother's daughter

(b) Mother's mother

(c) Mother's sister

(d) Father's sister

Q21. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusion/s logically follow/s from the given statements.

Statements:

Some tables are caps.

All caps are bikes.

All bikes are pins.

Conclusion (I): Some pins are tables.

Conclusion (II): Some caps are not pins.

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(a) Only conclusion (II) is true.
(b) Only conclusion (I) is true.
(c) Neither conclusion (I) nor (II) is true.
(d) Both conclusions (I) and (II) are true.

Q22. BDFC is related to IKMJ in a certain way based on the English alphabetical order. In the same way, KMOL is related to RTVS. To which of the following is HJLI related to, following the same logic?
(a) PRTQ
(b) OQSP
(c) OPSQ
(d) PROS

Q23. What will come in the place of the question mark (?) in the following equation if '+' and '-' are interchanged and '×' and '÷' are interchanged?
6 + 15 × 5 - 4 ÷ 3 = ?
(a) 12
(b) 21
(c) 18
(d) 15

Q24. What should come in place of ? in the given series based on the English alphabetical order?
RNZ VLD ZJH DHL ?
(a) JER
(b) IDQ
(c) HFP
(d) GEQ

Q25. What will come in the place of '?' in the following equation, if '+' and '-' are interchanged?
245 ÷ 7 × 12 + 46 - 59 = ?
(a) 418
(b) 395
(c) 433
(d) 404

GENERAL INTELLIGENCE

Q26. From which places did Lord Cornwallis start the permanent settlement system?
(a) Bengal and Bihar
(b) Madras and Bihar
(c) Bombay and Bihar
(d) Bengal and Madras

Q27. In the central budget 2023-24, the term 'Amrit Peedhi' refers to:
(a) youth power
(b) senior citizens
(c) super senior citizens
(d) children as the future of India

Q28. Which district of Madhya Pradesh is a leading producer of copper?
(a) Balaghat
(b) Jabalpur
(c) Bhopal
(d) Gwalior

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Q29. Which Indian Squash player won the girls under 15 title at the prestigious British Junior Open in January 2023?

(a) Anahat Singh
(b) Akanksha Salunke
(c) Tanvi Khanna
(d) Neha Singh

Q30. Kajari festival is celebrated in which of the following states?

(a) Punjab
(b) Jharkhand
(c) Chhattisgarh
(d) Karnataka

Q31. Indicative planning was adopted in India during the _____ Five-Year Plan.

(a) Sixth
(b) Fifth
(c) Eighth
(d) Fourth

Q32. India is a parliamentary democracy based on the Westminster model of _____.

(a) the United States of America
(b) South Africa
(c) France
(d) the United Kingdom

Q33. Who among the following personalities was awarded the Sangeet Natak Akademi Award 2020 for his/her contribution to contemporary dance?

(a) Bhushan Lakandri
(b) Sruti Bandopadhyay
(c) Bickram Ghosh
(d) Sumitra Guha

Q34. In which group of the Periodic Table will you put the elements with electronic configuration [He]2s² 2p^6?

(a) 8
(b) 6
(c) 18
(d) 10

Q35. What level of prevention is targeted by water defluoridation?

(a) Tertiary prevention
(b) Primordial prevention
(c) Primary prevention
(d) Secondary prevention

Q36. What is the name of the oceanic trench in the Indian Ocean with a maximum depth of 23,560 feet?

(a) Tonga Trench
(b) Amirante Trench
(c) Java Trench
(d) Diamantina Trench

Q37. Which of the following articles is related to the provision of Co-operative Societies in the Indian Constitution?

(a) 243 ZG to 243 ZJ
(b) 243 P to 243 ZG
(c) 243 ZH to 243 ZT
(d) 243 A to 243 O

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Q38. Which state is the largest in terms of the outstanding portfolio of microfinance loans, as per the MFIN Micrometer Q4 FY21-22?

(a) Karnataka
(b) Uttar Pradesh
(c) Maharashtra
(d) Tamil Nadu

Q39. The first Indian woman powerlifter who participated in the Tokyo Paralympics 2020 was _____.

(a) Arifa Bilal
(b) Sakina Khatun
(c) Manpreet Kaur
(d) Kunjrani Devi

Q40. Who was appointed by Hockey India as the new head coach of the Indian men's hockey team in 2023?

(a) Zak Jones
(b) Kim Sang-ryul
(c) Craig Fulton
(d) David Quinn

Q41. According to the Mukhyamantri Ladli Behna Yojana, which of the following is NOT the correct eligibility?

(a) Should be belonging to Madhya Pradesh
(b) Age of 21-60
(c) Candidates can be married, widowed or divorced women
(d) Annual family income should be below Rs. 4.50 Lakh

Q42. Which of the following statements is/are correct with respect to the demand for money?

i. When the interest rate is high, the demand for money is low.
ii. When the interest rate is low, demand for money is also low.
iii. When the interest rate is high, demand for money is also high.
iv. When the interest rate is low, demand for money is high.

(a) Only ii and iv
(b) Only i and iv
(c) Only ii and iii
(d) Only i and ii

Q43. Ustad Zakir Hussain plays which of the following instruments?

(a) Sitar
(b) Tabla
(c) Flute
(d) Shehnai

Q44. Who was the Sultan of Delhi at the time of the establishment of Vijayanagara Empire?

(a) Nasiruddin Mahmud
(b) Iltutmish
(c) Mohammad bin Tughlaq
(d) Alauddin Khilji

Q45. Which of the following is named as Asia's largest slum?

(a) Orangi town
(b) Dharavi
(c) Niza
(d) Khayelitsha

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Q46. Identify the INCORRECT equation.

(a) Revenue receipts = Tax revenue (net of State's share) less non-tax revenue
(b) Gross fiscal deficit = Total expenditure - (Revenue receipts + Non-debt creating capital receipts)
(c) Gross primary deficit = Gross fiscal deficit - Net interest liabilities
(d) Revenue deficit = Revenue expenditure - revenue receipts

Q47. Which two cities of India are connected by the Grand Trunk Road?

(a) Amritsar-Kolkata
(b) Karachi-Kolkata
(c) Mumbai-Kolkata
(d) Amritsar-Peshawar

Q48. Who introduced permanent settlement policy in 1793 to fix the revenue between East India Company and landlords?

(a) Lord Ripon
(b) Lord William Bentinck
(c) Lord Wellesley
(d) Lord Cornwallis

Q49. When did Louis Pasteur discover molecular chirality and observe that crystals of some compounds exist as mirror images which laid the foundation for modern stereochemistry?

(a) 1848
(b) 1830
(c) 1875
(d) 1892

Q50. Ghurehi is the folk dance of which of the following Indian states?

(a) West Bengal
(b) Himachal Pradesh
(c) Karnataka
(d) Jharkhand

QUANTITATIVE APTITUDE

Q51. The following table gives the sales of TVs of different brands over the years (numbers in thousands).

TV Brands

Year	Brand 1	Brand 2	Brand 3	Brand 4
2015	80	150	116	112
2016	84	130	108	70
2017	98	124	80	110
2018	110	100	160	95
2019	196	180	159	190
2020	124	70	174	54
2021	128	90	180	150

Which TV brand is the highest sold in the year 2019?

(a) Brand 1
(b) Brand 4
(c) Brand 3
(d) Brand 2

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Q52. If $2x + 5y = 15$ and $xy = 6$, then the value of $4x^2 + 25y^2$ is _____.

(a) 105
(b) 95
(c) 100
(d) 90

Q53. A number first increased by 8% and then decreased by 3% to get 2619. What is 5% of that number?

(a) 125
(b) 135
(c) 130
(d) 140

Q54. A grocer mixes two varieties of tea priced at Rs. 80/kg and Rs. 85/kg in a certain ratio to produce a new variety priced at Rs. 82/kg. What is the ratio in which the two varieties were mixed to obtain the new variety?

(a) 1 : 3
(b) 2 : 5
(c) 4 : 4
(d) 3 : 2

Q55. The sides of a triangle are 20 cm, 21 cm and 29 cm. The area of the triangle formed by joining the mid points of the sides of triangle will be:

(a) 67 2/3 cm2
(b) 52 1/2 cm2
(c) 47 1/2 cm2
(d) 58 1/3 cm2

Q56. If $x^2 - \sqrt{9.76}\, x + 1 = 0$ and $x > 1$, the value of $(x^3 - 1/(x^3))$ is:

(a) 21.042
(b) 24.024
(c) 21.024
(d) 24.042

Q57. Find the smallest number to be added to 1000 so that 55 divides the sum exactly.

(a) 25
(b) 45
(c) 35
(d) 10

Q58. If the triangles ABC and PQR are similar and if angle A = 35°, angle B = 65° then angle R = _____.

(a) 80°
(b) 90°
(c) 35°
(d) 65°

Q59. A rides his bicycle at 15 km/h, while B starts his ride after 6 hours to catch A with a speed of 25 km/h. Time taken by B to catch A (in hours) is:

(a) 9
(b) 8
(c) 10
(d) 6

Q60. Evaluate the given expression: $\cos^2 36° + \cos 54° \,?\, \sin 36° + ((\tan 26°)/(\cot 64°))$

(a) 4
(b) 3
(c) 1

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(d) 2

Q61. The chord of a circle is equal to its radius. The angle (in degrees) subtended by this chord at any point on the minor arc of the circle is:

(a) 130
(b) 140
(c) 150
(d) 120

Q62. A manufacturer marked an item at Rs. 75 and sold it allowing a 14% discount. If his profit was 29%, then the cost price (in Rs.) of the item was:

(a) 64
(b) 57
(c) 45
(d) 50

Q63. ΔRMS is right-angled at M. The length of the base, RM = 4 cm and the length of perpendicular MS = 3 cm. Find the value of sec R.

(a) 3/4
(b) 5/4
(c) 4/5
(d) 2/5

Q64. What is the difference between the compound interest on Rs. 6,400 for 1 year at 5% per annum compounded yearly and half-yearly?

(a) Rs. 8
(b) Rs. 9
(c) Rs. 4
(d) Rs. 7

Q65. The perimeter of a sector of a circle of radius 7.4 cm is 20.6 cm. The area of this sector is:

(a) 42.92 cm2
(b) 5.8 cm2
(c) 10.73 cm2
(d) 21.46 cm2

Q66. A, B and C started a business by investing Rs. 9,000, Rs. 18,000 and Rs. 21,000, respectively. If B's share in the profit earned by them is Rs. 759, then the total profit earned by them together is:

(a) Rs. 2,808
(b) Rs. 2,024
(c) Rs. 2,504
(d) Rs. 2,208

Q67. If A = 60° and B = 30°, find the value of (tan A-tan B)/(1+tan A tan B).

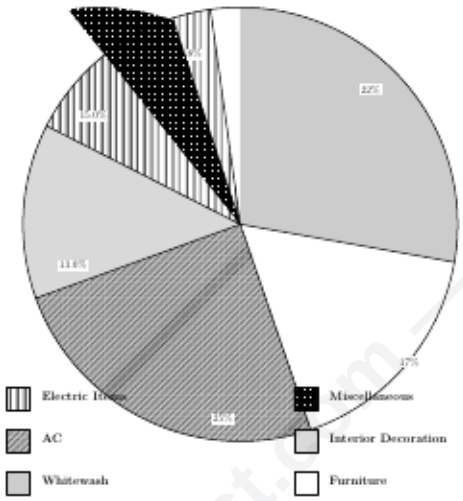
(a) 3
(b) 1/√3
(c) √3
(d) 1

Q68. Study the given pie chart and answer the question that follows.

Ravi decides to renovate his old house. His percentage expenditure on different renovating items is given by the pie chart.

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Total renovation cost = Rs. 2,00,000



Ravi gets a discount of 10% and 8% on the cash payment for Furniture and Electric items, respectively. What is the total amount (in Rs.) paid by him for Furniture and Electric items?

(a) 56,000
(b) 58,200
(c) 30,200
(d) 28,000

Q69. What is a single discount equivalent to the three successive discounts of 20%, 25% and 20%?

(a) 38%
(b) 42%
(c) 52%
(d) 58%

Q70. George can do 35% of the total work in 6 days. Jim and George together completed a piece of work in 12 days. In how many days could Jim, working alone, complete the entire task?

(a) 36
(b) 40
(c) 42
(d) 45

Q71. A blended tea in a barrel contains Assam, Darjeeling and Nilgiri Hills in the ratio 2 : 3 : 1. Another barrel contains Darjeeling, Nilgiri Hills and Kangra Valley in the ratio 5 : 4 : 3. If equal weights of both blended tea mix together to make a new brand, then the weight of Kangra Valley per kilogram in the new brand is:

(a) 500 gm
(b) 100 gm
(c) 250 gm
(d) 125 gm

Q72. The following table shows the heights of six students. Study the table carefully and answer the following question.

Name	Height (in cm)
Vanaja	117
Sailaja	125
Uma	133
Sudha	140
Amala	132

Leela	121

How many students are there whose height is between that of Vanaja and Uma?

(a) One
(b) Two
(c) Three
(d) Four

Q73. At what annual rate (rounded off to the nearest integer) of simple interest will a sum of money become five times its initial value in 18 years?

(a) 18%
(b) 20%
(c) 22%
(d) 24%

Q74. If one diagonal of a rhombus is equal to its side, then the diagonals of the rhombus are in the ratio of:

(a) √3 : √6
(b) √2 : 1
(c) √2 : √3
(d) 1 : √3

Q75. The cost of 12 apples and 15 oranges is Rs. 660. The cost of 15 apples and 21 oranges is Rs. 870. Find the cost of one apple.

(a) Rs. 25
(b) Rs. 15
(c) Rs. 30
(d) Rs. 20

GENERAL AWARENESS

Q76. Select the most appropriate synonym of the underlined word in the given sentence.

Despite the professor's best efforts to explain the complex theory, it took me a while to decipher the meaning of the text.

(a) interpret
(b) predict
(c) conceal
(d) foresee

Q77. Select the most appropriate option that can substitute the underlined segment in the given sentence.

The doctor knew that Ravindra would recover from dengue soon and do the kind of work he was doing before.

(a) would do
(b) had been done
(c) would have been doing
(d) had been doing

Q78. The following sentence has been divided into four parts. One of them contains an error. Select the part that contains the error from the given options.

The English / often / fought / French.

(a) French
(b) often
(c) fought
(d) The English

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Q79. Select the option that expresses the following sentence in active voice.

Why is the rotten apple being eaten by you?

(a) Why were you eating the rotten apple?
(b) Why you are eating the rotten apple?
(c) Why have you eaten the rotten apple?
(d) Why are you eating the rotten apple?

Q80. Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.

A. dictators may rise to power and inaugurate
B. a new regime with dramatic suddenness
C. and success under suitable conditions
D. democracy is always a slow growth

(a) DCAB
(b) ACBD
(c) DABC
(d) ABCD

Q81. Select the most appropriate synonym of the bracketed word in the following sentence to fill in the blank.

Happiness is not something you _____ (adjourn) for the future. It is something you design for the present.

(a) decimate
(b) rejuvenate
(c) constitute
(d) postpone

Q82. Select the most appropriate option that can substitute the underlined segment in the given sentence.

The fields are full of crops existing in large quantities.

(a) that are sufficient
(b) that are limited
(c) that are customized
(d) that are abundant

Q83. Select the INCORRECTLY spelt word.

(a) Fulfilling
(b) Fulfil
(c) Fulfilled
(d) Fullfil

Q84. Select the most appropriate synonym of the given word.

Hesitate

(a) Haste
(b) Stumble
(c) Dither
(d) Hassle

Q85. Select the most appropriate option that can substitute the underlined segment in the given sentence.

As it is a rainy season, it is raining cats and mice.

(a) it is raining tigers and lions
(b) it is raining cats and dogs
(c) it is raining dogs and wolves
(d) it is raining birds and beats

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Q86. Select the most appropriate synonym of the underlined word.

The COVID-19 outbreak has caused a global education crisis.

(a) legacy
(b) catastrophe
(c) inhibition
(d) hoard

Q87. Select the option that can be used as a one-word substitute for the given group of words.

A royal ceremony in which a crown is placed on the head of a new King or a Queen.

(a) Corroboration
(b) Unseating
(c) Ousting
(d) Coronation

Q88. Select the most appropriate synonym of the given word.

Unique

(a) General
(b) Ordinary
(c) Exclusive
(d) Usual

Q89. Select the most appropriate idiom for the underlined segment in the following sentence.

The proud people forget the fact that the world is tangible.

(a) Hobson's choice
(b) Head and shoulders
(c) High and mighty
(d) Hard-nosed attitude

Q90. Select the option that expresses the following sentence in positive degree of comparison. Istanbul is a beautiful city.

(a) The city of Istanbul is as beautiful as other cities.
(b) Istanbul is a very beautiful city.
(c) Beautiful city is the Istanbul.
(d) No other place I have seen is as beautiful as Istanbul.

Q91. Select the meaningful and correctly spelt word from the given options to fill in the blank.

The colourful procession was the last item to be performed in the _____.

(a) peasantry
(b) pegentry
(c) pageantry
(d) pegeantri

Q92. Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.

A. agenda for sustainable development
B. as the world faces cascading and
C. interlinked global crises and conflicts
D. the aspirations set out in the 2030
E. are in jeopardy

(a) ABEDC
(b) CBADE
(c) BCDAE
(d) AEDCB

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Q93. Select the most appropriate ANTONYM of the given word.

Profit

(a) Earnings
(b) Amount
(c) Sale
(d) Expense

Q94. Select the option that expresses the following sentence in active voice.

The meeting was called off.

(a) The meeting had been called off.
(b) The meeting was calling off.
(c) Someone called off the meeting.
(d) They were calling off the meeting.

Q95. Select the most appropriate option that can substitute the underlined words in the given sentence.

I have think tomorrow I will take my belongings to the new apartment.

(a) I think
(b) I will think
(c) I had think
(d) I am think

Directions

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

On an unfortunate accident, first aid experts stress that (1)____ what to do for an (2)__ victim until a doctor or other trained person gets to the accident scene can (3)____ a life, especially in cases of stoppage of breathing, severe bleeding, and shock. People with special problems such as diabetes, epilepsy, or allergy are (4)____ to wear some sort of emblem identifying the problem, as a safeguard against administration of medication that might be injurious or even (5)_____.

Q96. Select the most appropriate option to fill in blank number 1.

(a) knowing
(b) regarding
(c) attempting
(d) before

Q97. Select the most appropriate option to fill in blank number 2.

(a) injured
(b) efficient
(c) inquiring
(d) accidental

Q98. Select the most appropriate option to fill in blank number 3.

(a) soothe
(b) save
(c) harm
(d) take

Q99. Select the most appropriate option to fill in blank number 4.

(a) benefitted
(b) urged
(c) invited
(d) allowed

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Q100. Select the most appropriate option to fill in blank number 5.

(a) appropriate
(b) beneficial
(c) fatal
(d) remedial

ANSWER KEY

1	d	2	c	3	c	4	b	5	b	6	a	7	c	8	d	9	b	10	b
11	b	12	b	13	a	14	d	15	b	16	a	17	d	18	b	19	c	20	c
21	b	22	b	23	d	24	c	25	c	26	a	27	a	28	a	29	a	30	c
31	c	32	d	33	a	34	c	35	c	36	c	37	c	38	d	39	b	40	c
41	d	42	b	43	b	44	c	45	b	46	a	47	a	48	d	49	a	50	b
51	a	52	a	53	a	54	d	55	b	56	c	57	b	58	a	59	a	60	d
61	c	62	d	63	b	64	c	65	d	66	b	67	b	68	b	69	c	70	b
71	d	72	c	73	c	74	d	75	c	76	a	77	d	78	a	79	d	80	c
81	d	82	d	83	d	84	c	85	b	86	b	87	d	88	c	89	c	90	d
91	c	92	c	93	d	94	c	95	a	96	a	97	a	98	b	99	b	100	c

SOLUTIONS

Q1. Answer: (d) 27 - 53

The logic followed here is,
Logic: Second Number = (First Number × 2) + 1
Let's check each option as per the logic,
1) 18 - 37
→ 37 = (18 × 2) + 1
→ 37 = 36 + 1
2) 33 - 67
→ 67 = (33 × 2) + 1
→ 67 = 66 + 1
3) 29 - 59
→ 59 = (29 × 2) + 1
→ 59 = 58 + 1
4) 27 - 53
→ 53 = (27 × 2) + 1
→ 53 ≠ 54 + 1 → Doesn't satisfy the logic.
Hence, the correct answer is "27 - 53".

Q2. Answer: (c) [figure]

The mirror image of the given figure is shown below,
Hence, the correct answer is "Option 3".

Q3. Answer: (c) TCTCCCCC

Let's check each option,

1	C	T	C	C	C	C	T	T	C	C	T	C	T	T	C
2	C	C	T	C	C	C	C	T	T	C	T	T	C	T	T
3	C	T	C	C	T	C	C	T	C	C	T	C	C	T	C
4	C	C	C	C	T	C	T	T	C	C	T	T	T	T	T

Here, we can see that Option 3 follows a repeating pattern of "CTC".
Hence, the correct answer is "TCTCCCCC".

Q4. Answer: (b) 17

Let's check,
Here, we can see that there are 17 triangles.
Hence, the correct answer is "17".

Q5. Answer: (b) 34

The pattern followed here is,
Hence, the correct answer is "34".

Q6. Answer: (a) 470

The pattern followed here is,
Hence, the correct answer is "470".

Q7. Answer: (c) ILNO

LOQR: GJLM
SVXY: NQST
Similarly,
NQST: ?
Hence, the correct answer is "ILNO".

Q8. Answer: (d) 134

The pattern followed here is,
Hence, the correct answer is "134".

Q9. Answer: (b) [figure]

The mirror image of the given figure is shown below,
Hence, the correct answer is "Option 2".

Q10. Answer: (b) Father's brother

The family tree can be drawn using the given information,
Here, we can see that D is the father's brother of G.
Hence, the correct answer is "Father's brother".

Q11. Answer: (b) Neither conclusion (I) nor (II) follows

The least possible venn diagram is shown below:
Conclusions:
(I) Some seeds are leaves → Not follows (Because it is possible but not definite).
(II) No pots are flowers → Not follows (Because it is possible but not definite).
Hence, the correct answer is "Neither conclusion (I) nor (II) follows".

Q12. Answer: (b) (36, 223, 6)

The logic followed here is,
Logic: Second Number = (First Number × Third Number) + 7
(17, 126, 7)
→ 126 = (17 × 7) + 7
→ 126 = 119 + 7
(31, 286, 9)
→ 286 = (31 × 9) + 7
→ 286 = 279 + 7
Let's check each option,
1) (29, 270, 9)
→ 270 = (29 × 9) + 7

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→ 270 ≠ 261 + 7

2) (36, 223, 6)

→ 223 = (36 × 6) + 7

→ 223 = 216 + 7 → Follows the logic.

3) (42, 173, 4)

→ 173 = (42 × 4) + 7

→ 173 ≠ 168 + 7

4) (12, 117, 9)

→ 117 = (12 × 9) + 7

→ 117 ≠ 108 + 7

Hence, the correct answer is "(36, 223, 6)".

Q13. Answer: (a) 111223

LED: 1587

BAN: 5417

Similarly,

HIT: ?

Hence, the correct answer is "111223".

Q14. Answer: (d) IJH

Let's check each option,

1) ZAX

2) KLI

3) VWT

4) IJH

Here, we can see that Option 4 is different from the others.

hence, the correct answer is "IJH".

Q15. Answer: (b) YWZZ

Let's check each option,

1	**Z**	**Z**	**X**	**W**	**Y**	**Z**	**Y**	**X**	**X**	**W**	**W**	**Y**	**Y**	**X**	**W**	**Z**
2	Z	Y	X	W	W	Z	Y	X	X	W	Z	Y	Y	X	W	Z
3	Z	Z	X	W	Z	Z	Y	X	X	W	Y	Y	Y	X	W	Y
4	Z	W	X	W	Y	Z	Y	X	X	W	Z	Y	Y	X	W	Y

Here, we can see that Option 2 completes the series.

Hence, the correct answer is "YWZZ".

Q16. Answer: (a) 83

The logic followed here is,

5: 27

→ 27 = $(5)^2$ + 2

→ 27 = 25 + 2

7: 51

→ 51 = (7)2 + 2

→ 51 = 49 + 2

Similarly,

9: ?

→ ? = (9)2 + 2

→ ? = 81 + 2 = 83

Hence, the correct answer is "83".

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Q17. Answer: (d) None

According to the question,

Given Letter	E	L	A	S	T	I	C
In alphabetical order	A	C	E	I	L	S	T

Here, we can see that none of the letter's position remains unchanged.

Hence, the correct answer is "None".

Q18. Answer: (b) nip

As per the given information,

Hence, the correct answer is "nip".

Q19. Answer: (c) [figure]

The logic followed here is,

Logic: The number of triangles along the corner is increasing by 1 in subsequent terms of the series.

Hence, the correct answer is "Option 3".

Q20. Answer: (c) Mother's sister

The family tree can be drawn using the given information,

Here, we can see that F is the mother's sister of S.

hence, the correct answer is "Mother's sister".

Q21. Answer: (b) Only conclusion (I) is true.

The least possible venn diagram is shown below,

Conclusion (I): Some pins are tables → Follows (Because Some tables are caps, all caps are bikes, and all bikes are pins).

Conclusion (II): Some caps are not pins → Not follows (Because all caps are bikes, and all bikes are pins).

Hence, the correct answer is "Only conclusion (I) is true".

Q22. Answer: (b) OQSP

BDFC: IKMJ

KMOL: RTVS

Similarly,

HJLI: ?

Hence, the correct answer is "OQSP".

Q23. Answer: (d) 15

Sign	•	×
Interchange with	•	÷

The equation we get after interchanging the signs:

→ 6 - 15 ÷ 5 + 4 × 3 = ?

→ 6 - 3 + 4 × 3 = ?

→ 6 - 3 + 12 = ?

→ 18 - 3 = ?

→ 15 = ?

Hence, the correct answer is "15".

Q24. Answer: (c) HFP

The pattern followed here is,

Hence, the correct answer is "HFP".

Q25. Answer: (c) 433

Sign	•

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Interchange with	•

The equation we get after interchanging the signs:

→ 245 ÷ 7 × 12 - 46 + 59 = ?

→ 35 × 12 - 46 + 59 = ?

→ 420 - 46 + 59 = ?

→ 479 - 46 = ?

→ 433 = ?

Hence, the correct answer is "433".

Q26. Answer: (a) Bengal and Bihar

The correct answer is Bengal and Bihar.

Key Points

• Permanent Settlement:-

• Lord Cornwallis started the Permanent Settlement system from Bengal, Bihar, and Orissa in 1793.

• It was later extended to other parts of India, including Varanasi and the south district of Madras.

• The Permanent Settlement system was a land revenue system that fixed the amount of land revenue that zamindars, or landlords, had to pay to the British East India Company.

• This system was designed to provide a stable source of revenue for the company and to create a class of loyal landlords who would support British rule.

• However, the Permanent Settlement system had a number of negative consequences. It led to a concentration of land ownership in the hands of a small number of zamindars, and it made it difficult for the government to collect taxes from peasants.

• The system also discouraged investment in agriculture and led to widespread poverty.

Q27. Answer: (a) youth power

The correct answer is youth.

Key Points

Union Budget 2023-24:-

• It was presented by Finance Minister Nirmala Sitharaman on February 1, 2023.

• The budget had a strong focus on empowering the youth, especially the Amrit Peedhi, through education, skill development, and job creation.

• In the central budget 2023-24, the term 'Amrit Peedhi' refers to the generation that will be responsible for building India in the next 25 years. It is a Hindi term that literally means 'Nectar Generation'.

• The term was first used by Prime Minister Narendra Modi in 2021 to refer to the generation of Indians who will be born after the country's 75th anniversary of independence in 2022.

• This generation will be tasked with carrying India forward into its next phase of development, which is known as the 'Amrit Kaal' (Nectar Age).

• Some of the key highlights of the Union Budget 2023-24:

• Education:

• Establishment of a National Digital University to provide high-quality education to students across India.

• Increase in the number of Eklavya Model Residential Schools for tribal students.

• Launch of a new scheme to provide scholarships to students from Scheduled Castes and Scheduled Tribes for studying abroad.

• Skill development:

• Launch of Pradhan Mantri Kaushal Vikas Yojana 4.0 to skill lakhs of youth within the next three years.

• Setting up of 30 Skill India International Centres across different states to skill the youth for international opportunities.

• Job creation:

• Increase in the capital expenditure outlay by 33% to Rs 10 lakh crore, which will create jobs and boost economic growth.

• Launch of a new scheme to provide financial assistance to startups and MSMEs.

• Extension of the Production Linked Incentive (PLI) scheme to new sectors, such as textiles and food processing.

Q28. Answer: (a) Balaghat

The correct answer is Balaghat

Key Points

• Balaghat:-

• The Balaghat district of Madhya Pradesh is the leading producer of copper in the state.

• It is home to the Malanjkhand Copper Project, which is the largest copper mine in India.

• The Malanjkhand mine accounts for nearly 70% of the country's copper reserves and contributes around 80% to Hindustan Copper Limited's (HCL) total copper production.

• In addition to the Malanjkhand mine, there are several other copper mines in the Balaghat district, including the Shitalpani, Gidhri Dhorli, Jatta, and Garhi Dongri mines.

• The Balaghat district accounts for over 40% of India's total copper production.

Additional Information

• Jabalpur district:-

• It has several copper mines, including the Bagalkot, Rajarampahar, and Sonakhan mines.

• These mines are operated by Hindustan Copper Limited (HCL). The Jabalpur district accounts for around 10% of Madhya Pradesh's total copper production.

• Bhopal district:-

• It has a few copper mines, including the Baijnath and Narsinghgarh mines.

• These mines are also operated by HCL.

• The Bhopal district accounts for around 5% of Madhya Pradesh's total copper production

• Gwalior district:-

• It has a few copper mines, including the Khaniyadhana and Morar mines.

• These mines are operated by private companies.

• The Gwalior district accounts for around 2% of Madhya Pradesh's total copper production.

Q29. Answer: (a) Anahat Singh

The correct answer is Anahat Singh.

Key Points

• Anahat Singh:-

• Anahat Singh is an Indian squash player who was born on March 13, 2008.

• She is the top-ranked player in Asia in the Girls U17 category.

• At the age of 14, she was the youngest athlete to represent India at the 2022 Commonwealth Games.

• Anahat started playing badminton when she was six years old, but she switched to squash at the age of eight.

• She quickly rose through the ranks of junior squash, and in 2019, she won the under-11 girls' category gold medal at the prestigious British Open squash tournament, a first-ever for India.

• She also won a bronze at the Asian junior championships later that year.

• She won the girls under 15 title at the prestigious British Junior Open in January 2023,

Additional Information

• Tanvi Khanna:-

• She is an Indian female professional squash player and is a regular member of the Indian squash team.

• She is currently ranked 69 in International rankings and is regarded as one of the finest squash players to have emerged from India.

• She was ranked as women's no.1 squash player in September 2023.

• Neha Singh:-

• She is a young Indian professional squash player.

• She is currently ranked 73 in the world by the Professional Squash Association (PSA).

• She is the highest ranked Indian female squash player after Tanvi Khanna.

Q30. Answer: (c) Chhattisgarh

The correct answer is Chhattisgarh.

Key Points

• Kajari festival:-

• The Kajari festival in Chhattisgarh is a monsoon festival that is celebrated by the farmers of the state.

• It is a time to bid farewell to the monsoons and to start the preparations for a fresh harvest.

• The festival is also associated with the sowing season for wheat and barley.

• The Kajari festival begins on the ninth day after the Shravan Amavasya and continues till the Kajari Purnima, which is the full moon day in the month of Bhadrapada.

• The festival is particularly important to the women of Chhattisgarh, who perform a variety of rituals and customs to seek the blessings of the goddess Bhagwati for a good harvest and the well-being of their families.

Additional Information

• Festivals celebrated in Punjab:-

• Baisakhi

• Lohri

• Hola Mohalla

• Guru Purab

• Teeyan

• Festivals celebrated in Jharkhand:-

• Karam

• Sarhul

• Sohrai

• Pawl Kut

• Magha Mela

• Festivals celebrated in Karnataka:-

• Dasara

• Ugadi

• Diwali

• Makara Sankranti

• Hampi Festival

Q31. Answer: (c) Eighth

The correct answer is Eighth.

Key Points

• Indicative Planning in India was first introduced in the eighth Five-Year Plan.

• Eighth Five-Year Plan (1992 - 1997):

• It adopted Indicative Planning in India.

• A form of economic planning, Indicative planning is implemented by a state to solve the issue of imperfect information in the market and mixed economies.

• This is done to increase economic performance.

• Indicative Planning was first attempted in France.

• India's Eighth Five-Year Plan mentions that planning would have to be reoriented so as to make it indicative.

Additional Information

• Five-year plans :

Plan	Period
First Five year Plan	1951-1956
Second Five year Plan	1956-1961
Third Five year Plan	1961-1966
Plan Holidays – Annual Plans	1966-1969
Fourth Five year Plan	1969-1974
Fifth Five year Plan	1974-1979
Sixth Five year Plan	1980-1985
Seventh Five year Plan	1985-1990
Annual Plans	1989-1991
Eighth Five year Plan	1992-1997
Ninth Five year Plan	1997-2002
Tenth Five year Plan	2002-2007

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Eleventh Five year Plan	2007-2012
Twelfth Five year Plan	2012-2017

Q32. Answer: (d) the United Kingdom

The correct answer is the United Kingdom.

Key Points

• Westminster Model:-

• It is a system of parliamentary government that originated in the United Kingdom.

• India is a parliamentary democracy based on the Westminster model of government.

• It is characterized by the following features:

• A head of state who is a constitutional monarch or president, with largely ceremonial powers.

• A head of government, usually the prime minister, who is the leader of the political party or coalition with the majority of seats in the lower house of parliament.

• A cabinet of ministers who are appointed by the prime minister and are responsible to parliament.

• A bicameral parliament, consisting of a lower house and an upper house.

• A strong tradition of parliamentary sovereignty, meaning that parliament is the supreme lawmaking body.

Additional Information

Various Borrowings of the Indian Constitution are:-

• Australia

• Concurrent List

• Freedom of trade

• Commerce and intercourse

• The joint sitting of the two Houses of Parliament

• Government of India Act of 1935

• Federal Scheme

• Office of governor

• Judiciary

• Public Service Commissions

• Emergency provisions

• Administrative details

• Britain

• Parliamentary government

• Rule of Law

• Legislative procedure

• Single citizenship

• Cabinet system

• Prerogative writs

• Parliamentary privileges

• Bicameralism

• Ireland

• Directive Principles of State Policy

• The nomination of members to the Rajya Sabha

• Method of election of the president

• Unites the States of America

• Impeachment of the president

• Functions of president and vice-president

• Removal of Supreme Court and High court judges

• Fundamental Rights

• Judicial review

• Independence of judiciary

• The preamble of the constitution

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• Canada
• Federation with a strong Centre
• Vesting of residuary powers in the Centre
• Appointment of state governors by the Centre
• Advisory jurisdiction of the Supreme Court
• Soviet Constitution (USSR, now Russia)
• Fundamental duties
• The ideal of justice (social, economic and political) in the Preamble
• France
• The ideals of the Republic in the Preamble
• The ideals of liberty in the Preamble
• The ideals of equality in the Preamble
• The ideals of fraternity in the Preamble
• Weimar Constitution of Germany
• Suspension of Fundamental Rights during Emergency
• South African Constitution
• Procedure for amendment of the Constitution
• Election of members of Rajya Sabha
• Japan
• Concept of “procedure established by Law”

Q33. Answer: (a) Bhushan Lakandri

The correct answer is Bhushan Lakandri

Key Points

• Bhushan Lakandri:-
• He is an Indian film choreographer born on December 11.
• He has done most of his work in Bollywood.
• He is not only a renowned choreographer but also an actor who has worked in Ramayana, a TV serial.
• He made his Bollywood debut as a choreographer in the film Ab Aayega Maza(1984). After that, he did many famous Bollywood films like Parinda(1989), Prem(1995), Hum Dil De Chuke Sanam(1999), The Blue Umbrella(2005), Saheb Biwi Aur Gangster(2011), and Naam(2022).
• Not only in Bollywood, but he has also choreographed many famous plays like Divine Radha and Ganga: A Dance Ballet starring Hema Malini as the main lead.
• He was awarded the Sangeet Natak Akademi Award 2020 for his/her contribution to contemporary dance

Additional Information

• Bickram Ghosh:-
• He is an Indian classical tabla player, film composer, and fusion artist.
• He is the son and disciple of the illustrious tabla maestro Pandit Shankar Ghosh.
• Ghosh is widely considered to be one of India's most versatile artists, excelling in three musical fields simultaneously: Indian Classical, Fusion, and Film Scoring.
• Sruti Bandopadhyay:-
• Sruti Bandopadhyay is a Bengali singer, composer, and songwriter.
• She is the daughter of the renowned tabla player Bickram Ghosh and the granddaughter of the legendary tabla maestro Pandit Shankar Ghosh.
• Sumitra Guha:-
• She is an Indian classical vocalist, known for her expertise in the Carnatic and Hindustani schools of classical music.
• She is a Senior-Top grade artist of All India Radio and has received numerous awards and accolades, including the Padma Shri, India's fourth highest civilian award.

Q34. Answer: (c) 18

The correct answer is 18.

Key Points

• Group 18:-

• The elements with electronic configuration [He]2s² 2p^6 will be in group 18 of the Periodic Table.
• This group is also known as the noble gases.
• The group number of an element is determined by the number of valence electrons it has.
• The valence electrons are the outermost electrons in an atom's shell.
• The elements in group 18 all have 8 valence electrons, which is a full outer shell.
• This full outer shell makes them very stable and unreactive.
• The elements in group 18 are:
• Helium (He)
• Neon (Ne)
• Argon (Ar)
• Krypton (Kr)
• Xenon (Xe)
• Radon (Rn)
• These elements are all colorless and odorless gases at room temperature.
• They are also very non-toxic.

Q35. Answer: (c) Primary prevention

The correct answer is Primary prevention.

Key Points

• Primary prevention:-
• Water defluoridation is a primary level of prevention.
• Primary prevention is aimed at preventing the occurrence of a disease or condition before it even begins.
• In the case of water defluoridation, the goal is to prevent dental and skeletal fluorosis by removing excess fluoride from drinking water.
• Dental fluorosis is a condition that causes discoloration and pitting of the teeth.
• Skeletal fluorosis is a more serious condition that can cause bone pain, stiffness, and deformities.
• Both dental and skeletal fluorosis can be caused by consuming excessive amounts of fluoride, especially during childhood.

Additional Information

• Tertiary prevention:-
• It reduces the severity of a disease or condition and improve quality of life after it has already occurred.
• Secondary prevention:-
• It detects and treat a disease or condition early, before it causes serious harm.
• Primordial prevention:-
• It prevents the development of a disease or condition before it even begins.

Q36. Answer: (c) Java Trench

The correct answer is Java Trench

Key Points

• Java Trench:-
• The oceanic trench in the Indian Ocean with a maximum depth of 23,560 feet is the Java Trench.
• It is located south of the Indonesian island of Java, and is the deepest point in the Indian Ocean.
• The Java Trench is a subduction zone, where the Indo-Australian Plate is sliding underneath the Eurasian Plate.
• This process creates intense heat and pressure, which can lead to earthquakes and volcanic eruptions.

Additional Information

• Tonga Trench:-
• It is the deepest oceanic trench in the Southern Hemisphere, with a maximum depth of 35,853 feet (10,932 meters).
• It is located in the South Pacific Ocean, east of the Tonga archipelago.
• The Tonga Trench is a subduction zone, where the Pacific Plate is sliding underneath the Indo-Australian Plate.
• Amirante Trench:-
• It is the deepest oceanic trench in the Indian Ocean, with a maximum depth of 21,959 feet (6,695 meters).
• It is located in the western Indian Ocean, south of the Amirante Islands.
• The Amirante Trench is a transform fault, where two tectonic plates are sliding past each other. This process creates intense friction, which can lead to earthquakes.

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• Diamantina Trench:-

• It is a fracture zone in the Indian Ocean, extending westward from the southwest coast of Australia.

• It is not a true oceanic trench, as it does not have the same depth or structure as other trenches such as the Tonga Trench or the Amirante Trench.

Q37. Answer: (c) 243 ZH to 243 ZT

The correct answer is 243 ZH to 243 ZT.

Key Points

• Co-operative Societies:

• The 97th Constitutional Amendment Act of 2011 gave constitutional status and protection to cooperative societies.

• In this context, it made the following three changes in the constitution:

• It made the right to form cooperative societies a fundamental right (Article 191).

• It included a new Directive Principle of State Policy on the promotion of cooperative societies (Article 43-B2).

• It added a new Part IX-B in the Constitution which is entitled “The Cooperative Societies” (Articles 243-ZH to 243-ZT).

Q38. Answer: (d) Tamil Nadu

The correct answer is Tamil Nadu.

Key Points

• MFIN Micrometer Q4 FY21-22 Report:-

• According to the MFIN Micrometer Q4 FY21-22 report, Tamil Nadu is the largest state in terms of the outstanding portfolio of microfinance loans.

• It has a portfolio outstanding of Rs. 36,806 crore, followed by Bihar (Rs. 35,941 crore) and West Bengal (Rs. 34,016 crore).

Additional Information

Top 5 list of states with the largest outstanding portfolio of microfinance loans, as per the MFIN Micrometer Q4 FY21-22 report:

Rank	State	Outstanding Portfolio (Rs. crore)
1	Tamil Nadu	36,806
2	Bihar	35,941
3	West Bengal	34,016
4	Uttar Pradesh	33,577
5	Maharashtra	32,922

Q39. Answer: (b) Sakina Khatun

The correct answer is Sakina Khatun.

Key Points

• Sakina Khatun:-

• She is a native of West Bengal, India. She started powerlifting in 2013 and has since won several medals at the national and international levels.

• She won a gold medal at the 2019 Asian Para Powerlifting Championships and a silver medal at the 2019 World Para Powerlifting Championships.

• The first Indian woman powerlifter who participated in the Tokyo Paralympics 2020 was Sakina Khatun.

• She competed in the women's 50 kg category and finished in sixth place.

Additional Information

• Tokyo Paralympics 2020:-

• The Tokyo 2020 Paralympic Games were held from August 24 to September 5, 2021, in Tokyo, Japan.

• They were the 16th Summer Paralympic Games as organized by the International Paralympic Committee (IPC).

• Despite the challenges of the COVID-19 pandemic, the Tokyo Paralympics were a resounding success, with over 4,400 athletes from 162 countries competing in 539 medal events across 22 sports.

Q40. Answer: (c) Craig Fulton

The correct answer is Craig Fulton.

Key Points

• Craig Fulton:-

• Fulton is a South African who has over 25 years of coaching experience.

• He has previously coached the Irish men's hockey team, the Belgian men's hockey team, and the Belgian women's hockey team.

• He has also worked as an assistant coach for the Dutch men's hockey team.

• Hockey India appointed Craig Fulton as the new head coach of the Indian men's hockey team on March 3, 2023.

• He succeeded Graham Reid, who stepped down after India's disappointing performance at the 2023 Hockey World Cup.

Additional Information

• Zak Jones:-

• He is an Australian professional rugby league footballer who plays as a second-rower for the Parramatta Eels in the NRL.

• Kim Sang-ryul:-

• He is a South Korean professional baseball outfielder who plays for the KT Wiz of the KBO League

• David Quinn:-

• He is an American professional ice hockey coach and former player.

• He is currently the assistant coach for the New York Rangers of the National Hockey League (NHL).

Q41. Answer: (d) Annual family income should be below Rs. 4.50 Lakh

The correct answer is Annual family income should be below Rs. 4.50 Lakh

Key Points

• Mukhyamantri Ladli Behna Yojana:-

• It is a scheme launched by the Madhya Pradesh government to economically empower women.

• Under this scheme, a sum of Rs. 1,000 per month is provided to women of the state above the age of 21, irrespective of their caste, religion or community.

• The scheme was launched on March 5, 2023, and a provision of Rs. 1,000 crore has been made for it in the 2023-24 budget.

• The eligibility criteria for the beneficiaries of the Ladli Behna Yojana are as follows:

• The applicant must be above 21 years of age.

• The applicant must belong to any caste, religion or community.

• Candidates can be married, widowed or divorced women.

• The applicant must have a bank account.

• The applicant must have an Aadhaar card and other necessary documents.

Q42. Answer: (b) Only i and iv

The correct answer is Only i and iv

Key Points

• The demand for money is negatively correlated with the interest rate. This means that when the interest rate goes up, the demand for money goes down, and vice versa.

• There are a few reasons for this.

• First, when interest rates are high, people have more incentive to hold their wealth in interest-bearing assets, such as bonds and savings accounts. This reduces the demand for money.

• Second, when interest rates are high, the cost of borrowing money is also high. This discourages people from spending money, which also reduces the demand for money.

Q43. Answer: (b) Tabla

The correct answer is Tabla.

Key Points

• Ustad Zakir Hussain:-

• He is a renowned Indian tabla player, composer, percussionist, music producer, and film actor.

• He is the eldest son of tabla player Alla Rakha.

• Hussain is considered to be one of the greatest tabla players of all time, and is known for his virtuosic playing, improvisational skills, and innovative approach to music.

• Hussain has collaborated with a wide range of musicians from around the world, including John McLaughlin, Yo-Yo Ma, and Mickey Hart. He has also composed music for films and television shows.

• Hussain is a recipient of numerous awards and honors, including the Padma Shri, Padma Bhushan, and Padma Vibhushan, the highest civilian honors awarded by the Government of India.

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Q44. Answer: (c) Mohammad bin Tughlaq

The correct answer is Mohammad bin Tughlaq

Key Points

• Muhammad bin Tughluq:-

• He was the second sultan of the Tughlaq dynasty.

• He was a brilliant and ambitious ruler, but he was also controversial and his reforms were largely unsuccessful.

• Tughluq was a well-educated man with a wide range of interests, including medicine, astronomy, logic, and philosophy.

• He was also a skilled linguist, speaking Persian, Hindavi, Arabic, Sanskrit, and Turkish.

• The Sultan of Delhi at the time of the establishment of the Vijayanagara Empire was Muhammad bin Tughluq.

• Vijayanagara Empire:-

• The establishment of the Vijayanagara Empire was one of the most significant events in the history of South India.

• The empire reached its peak under Krishnadevaraya (1509-1529 CE), who was a powerful and benevolent ruler.

• The Vijayanagara Empire played a major role in promoting trade and culture in South India.

Additional Information

• Nasiruddin Mahmud:-

• He was the grandson of Iltutmish and the eighth sultan of the Mamluk dynasty.

• He was a pious and scholarly ruler, but he was also weak and indecisive.

• As a result, he was unable to control his nobles, and the kingdom was plagued by rebellions and instability during his reign.

• Iltutmish:-

• He was the third sultan of the Mamluk dynasty.

• He was a powerful and capable ruler who consolidated the power of the dynasty and established a strong central administration.

• He also introduced the silver tanka as the currency of the Delhi Sultanate.

• Alauddin Khilji:-

• He was the second sultan of the Khalji dynasty.

• He was one of the most powerful and successful rulers of the Delhi Sultanate.

• He expanded the territory of the sultanate and defeated the Mongols in several invasions.

• He also introduced a number of economic and administrative reforms.

Q45. Answer: (b) Dharavi

The correct answer is Dharavi

Key Points

• Dharavi:-

• Dharavi is a residential area in Mumbai, Maharashtra, India.

• It has often been considered to be one of the world's largest slums.

• Dharavi has an area of just over 2.39 square kilometres (0.92 sq mi; 590 acres) and a population of about 1,000,000.

• Dharavi is a densely populated area with a high mix of residential and commercial activities.

• It is home to a wide range of industries, including leather tanning, pottery, recycling, and food processing.

• Dharavi is also a major center for trade and commerce.

• It is home to a diverse population of people from all over India and the world. Dharavi is also a cultural hub, with a variety of temples, mosques, churches, and other religious institutions.

Additional Information

• Orangi town:-

• Orangi Town is a municipality in Karachi, Pakistan.

• It is located in the northwestern part of the city.

• Khayelitsha:-

• It is a township in the Western Cape province of South Africa, about 30 kilometers east of Cape Town.

• It is the second-largest township in the country, after Soweto in Johannesburg.

• The name "Khayelitsha" is Xhosa for "new home."

• Niza:-

• It is a city on the French Riviera, in southeastern France.

• It is the capital of the Alpes-Maritimes department.

• Niza is a popular tourist destination, known for its Mediterranean climate, beautiful beaches, and vibrant nightlife.

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Q46. Answer: (a) Revenue receipts = Tax revenue (net of State's share) less non-tax revenue

The correct answer is Revenue receipts = Tax revenue (net of State's share) less non-tax revenue.

Key Points

• Revenue Receipts are current incomes of the government, which neither create liabilities nor cause any reduction in the assets of the government.

• These receipts are classified into

1. Tax Revenue and

2. Non-tax Revenue.

• Revenue receipts include both tax revenue and non-tax revenue.

• Subtracting non-tax revenue from tax revenue would incorrectly exclude it from the total.

Additional Information

• Revenue deficit:

• A revenue deficit refers to the surplus of the government’s revenue expenditure over the revenue receipts.

• It reflects the inefficiency of the government in reaching its regular or recurring expenditure.

• The government may raise its revenue receipts by raising income tax.

• Revenue deficit = Revenue expenditure – Revenue receipts

• Fiscal deficit:

• A fiscal deficit is the excess of budget expenditure over budget receipts other than borrowings.

• It reflects the total government borrowings during a fiscal year.

• Gross fiscal deficit = Total expenditure – (Revenue receipts + Non-debt creating capital receipts)

• Gross fiscal deficit = Net borrowing at home + Borrowing from RBI + Borrowing from abroad

• Primary deficit:

• The purpose of measuring the primary deficit is to draw attention to current fiscal imbalances

• The primary deficit is calculated in order to obtain an estimate of the amount of borrowing that will be required due to current expenditures exceeding revenues.

• Gross primary deficit = Gross fiscal deficit – Net interest liabilities

Q47. Answer: (a) Amritsar-Kolkata

The correct answer is Amritsar-Kolkata.

Key Points

• Grand Trunk Road:-

• GT Road is one of Asia's oldest and longest major roads.

• The GT Road has a long and rich history, dating back to at least the 4th century BC.

• It was used by traders, pilgrims, and armies for centuries, and it played an important role in the development of the Indian subcontinent.

• It runs roughly 2,400 km (1,491 mi).

• The two cities of India that are connected by the Grand Trunk Road are Amritsar and Kolkata.

• The road is now divided into two sections: National Highway 1 (NH-1) from Delhi to Amritsar, and National Highway 2 (NH-2) from Delhi to Kolkata.

Q48. Answer: (d) Lord Cornwallis

The correct answer is Lord Cornwallis.

Key Points

• Permanent settlement:

• Lord Cornwallis in 1793 introduced this policy.

• It was applied to Bengal, Bihar, Odisha, Banaras, etc. Total 19% of British India under it.

• The system wanted to create one ownership only.

• So, ownership was given to zamindars who will be loyal to the government.

• It was hereditary ownership.

• It became easy for the British to collect the revenue. 11/10 th part to the British; rest with the zamindars.

Additional Information

• Lord Ripon (1880-1884):-

• He is known as the father of local self-government as the resolution was passed in his tenure.

• The first factory act (1881) was passed him which prohibited the working of children below seven years and a limited number of working hours for children below 12 years.
• He also increased the age requirement for civil services from 18 years to 21 years.
• He repealed Vernacular Press Act and allowed freedom of the press.
• He continued the policy of financial devolution inaugurated under Lord Mayo
• Lord Wellesley:-
• He served as the Governor-General of India from 1798 to 1805.
• He was a brother of Arthur Wellesley, 1st Duke of Wellington, who defeated Napoleon at the Battle of Waterloo.
• He is responsible for the Subsidiary Alliance system, the introduction of a modern tax system and the establishment of a number of educational and cultural institutions.
• Lord William Bentinck:-
• He was a British soldier and statesman who served as the Governor-General of India from 1828 to 1835.
• Lord Bentinck's key achievements include Abolishing sati and other harmful social practices, Establishing the English education system in India, Opening up judicial posts to Indians, Reforming the police system, and Improving roads and communications.

Q49. Answer: (a) 1848

The correct answer is 1848.

Key Points

• Louis Pasteur:-
• He was a French chemist and microbiologist who is considered one of the founders of modern medicine.
• He made significant contributions to our understanding of fermentation, disease, and vaccination.
• Louis Pasteur discovered molecular chirality and observed that crystals of some compounds exist as mirror images in 1848.
• He was studying the crystals of sodium ammonium tartrate, a salt of tartaric acid.
• He noticed that the crystals could be separated into two groups, one of which was a mirror image of the other.
• Pasteur realized that this difference in shape was due to the different spatial arrangements of the atoms in the two molecules.
• He called this phenomenon "dissymmetry." Today, we call it "chirality."

Q50. Answer: (b) Himachal Pradesh

The correct answer is Himachal Pradesh.

Key Points

• Ghurehi:-
• It is a folk dance of the Indian state of Himachal Pradesh.
• It is a beautiful dance performance usually performed by the ladies of the Chamba region, during the annual fairs.
• The dance is characterized by its graceful movements and colorful costumes.
• The dancers wear long, flowing skirts and brightly colored blouses.
• They also wear traditional jewelry, such as necklaces, earrings, and bangles.
• The dance is performed to the accompaniment of traditional folk music, which is played on instruments such as the flute, drum, and cymbals.

Additional Information

• Festivals celebrated in West Bengal:-
• Basanta Utsav
• Durga Puja
• Jamai Sashti
• Kali Puja
• Lakshmi Puja
• Poush Mela
• Festivals celebrated in Karnataka:-
• Hampi Utsav
• Makara Sankranti
• Mysore Dasara
• Pattadakkal Dance Festival
• Ugadi
• Yakshagana Utsav

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• Festivals celebrated in Jharkhand:-
• Chhau Dance Festival
• Dumka Mela
• Sohrai Mela
• Tusu Mela

Q51. Answer: (a) Brand 1

Calculation:
Brand 1 TV sold in the year of 2019 = 196
Brand 2 TV sold in the year of 2019 = 180
Brand 3 TV sold in the year of 2019 = 159
Brand 4 TV sold in the year of 2019 = 190
Therefore The correct answer is Brand 1.

Q52. Answer: (a) 105

Given:
$2x + 5y = 15$
and $xy = 6$
Formula used:
$(A + B)^2 = A^2 + B^2 + 2AB$
Calculation:
$\Rightarrow 2x + 5y = 15$
Squaring both sides
$\Rightarrow (2x + 5y)^2 = 15^2$
$\Rightarrow 4x^2 + 25y^2 + 2 \times 2x \times 5y = 225$
$\Rightarrow 4x^2 + 25y^2 + 20xy = 225$
Putting the value of $xy = 6$
$\Rightarrow 4x2 + 25y2 + (20 \times 6) = 225$
$\Rightarrow 4x^2 + 25y^2 = 225 - 120$
$\Rightarrow 4x2 + 25y2 = 105$
Therefore The correct answer is 105.

Q53. Answer: (a) 125

Concept used:
If a number is increased by P% then,
$N = N \times (100 + P)\%$
If a number is decreased by P% then,
$N = N \times (100 - P)\%$
Calculation:
Let the number be N.
According to the question:
$\Rightarrow N \times 108\% \times 97\% = 2619$
$\Rightarrow N = (2619 \times 100 \times 100)/(108 \times 97)$
$\Rightarrow N = 25 \times 100 = 2500$
Now,
$\Rightarrow 2500 \times 5\% = 125$
Therefore The correct answer is 125.

Q54. Answer: (d) 3 : 2

Given:
Rate of 1st variety of tea = Rs.80/kg
Rate of 2nd variety of tea = Rs.85/kg
Rate of mixture of 2 varieties of tea = Rs.82/kg

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Calculation:

Quantity of 1st variety : quantity of 2nd variety = 3 : 2

Therefore The correct option is 4.

Q55. Answer: (b) 52 1/2 cm2

Given:

ABC is a triangle.

AB = 20 cm; BC = 21 cm ; AC = 29 cm

D, E, and F are the midpoints of AB, BC and AC respectively.

Concept used:

The line segment joining the midpoint of any two sides of the triangle is parallel and half of the length of the third side.

Calculation:

In the figure, D, E, and F are the midpoints of AB, BC and AC respectively.

From the midpoint theorem:

DE = 21/2 = 10.5 cm ; EF = 20/2 = 10 cm ; DF = 29/2 = 14.5 cm

Semi - perimeter (S) = (DE + EF + DF)/2

=> (10.5 + 10 + 14.5)/2

=> 35/2 = 17.5 cm

Area of triangle = √{S(S - DE) × (S - EF) × (S - DF)}

=> √{17.5 × (17.5 - 10.5) × (17.5 - 10) × (17.5 - 14.5)}

=> √{17.5 × 7 × 7.5 × 3}

=> √2756.25 = 52.5 = 52 1/2 cm²

Therefore The correct answer is 52 1/2 cm2.

Q56. Answer: (c) 21.024

Given:

x2 - √(9.76) x + 1 = 0

Concept used:

If x + (1/x) = P

x - (1/x) = √(P² - 4)

If x - 1/x = P then,

$x^3 - 1/x^3 = P^3 + 3P$

Calculation:

=> x2 - √(9.76) x + 1 = 0

Divide by x on both sides

=> x - √(9.76) + 1/x = 0

=> x + 1/x = √(9.76)

Now,

=> x - 1/x = √{(√9.76)² - 4}

=> √{9.76 - 4} = √5.76

=> 2.4

$x^3 - (1/x^3) = \{x - (1/x)\}^3 + 3 \times \{x - (1/x)\}$

=> $(2.4)^3 + 3 \times 2.4$

=> 13.824 + 7.2

=> 21.024

Therefore The correct answer is 21.024.

Q57. Answer: (b) 45

Given:

Divisor = 55

Concept used:

Dividend = divisor × quotient + remainder

Calculation:
Dividend = divisor × quotient + remainder
=> 55 × 19 + 0 = 1045
The number to be added to 1000 = 1045 - 1000 = 45
Therefore The correct answer is 45.

Q58. Answer: (a) 80°

Given:
triangle ABC ~ triangle PQR
angle A = 35°, angle B = 65°
Concept used:
The sum of all three angles = 180°
Calculation:
In triangle ABC
angle A + angle B + angle C = 180°
=> 35 + 65 + angle C = 180°
=> angle C = 180 - (35 + 65)
=> angle C = 180° - 100 = 80°
Since triangle ABC ~ triangle PQR then,
angle C = angle R = 80°
Therefore The correct answer is 80°.

Q59. Answer: (a) 9

Shortcut Trick
Lead distance created by A = 15 × 6 = 90 km.
Relative speed (same direction) = 25 − 15 = 10 km/h.
Time taken by B to catch A = Lead Distance ÷ Relative Speed = 90 ÷ 10 = 9 hr.
Therefore The correct answer is 9 hr.
Alternate Method
Given:
Speed of A = 15 km/h
Speed of B = 25 km/h
Time gap = 6 hours
Formula Used:
Distance = Speed × Time
Time = Distance ÷ Relative Speed
Calculations:
=> Distance covered by A in 6 hours = 15 × 6 = 90 km
=> When B starts, the distance between A and B is 90 km.
=> Relative speed of B relative to A = 25 − 15 = 10 km/h
=> Time taken by B to cover the gap = 90 ÷ 10
=> Time taken = 9 hr
Therefore The correct answer is 9 hr.
Additional Information
Relative Speed (Same Direction)
When two objects move in the same direction, the relative speed is the difference of their individual speeds (S1 − S2).
Relative Speed (Opposite Direction)
When two objects move toward each other, the relative speed is the sum of their individual speeds (S1 + S2).
Meeting Time Rule
The time required for a faster object to catch a slower object is given by: Meeting Time = (Initial separation distance) ÷ (Relative Speed).

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Q60. Answer: (d) 2

Formula used:

Tan (90° - θ) = cot θ

Cos (90° - θ) = sin θ

Calculation:

cos2 36° + cos 54° ? sin 36° + ((tan 26°)/(cot 64°))

=> cos2 36° + cos 54° ? sin 36° + (tan 26°/cot 64°)

=> cos2 36° + cos (90° - 36) ? sin 36° + tan 26°/cot (90° - 26)

=> cos2 36° + sin 36° ? sin 36° + tan 26°/tan 26°

=> cos2 36° + sin² 36° + 1

=> 1 + 1 = 2

Therefore The correct answer is 2.

Q61. Answer: (c) 150

Given:

The chords of a circle = radius of the circle

Concept used:

The angle of an equilateral triangle = 60°

Calculation:

In the figure:

OD = OE = radius

DE = OD = OE

So, triangle DOE is an equilateral triangle.

angle DOE = 60°

=> angle DQE = (angle DOE/2)

=> 60/2 = 30°

DQEP is a cyclic quadrilateral.

angle DQE + angle DPE = 180°

=> 30 + angle DPE = 180

=> angle DPE = 180 - 30

=> angle DPE = 150°

Therefore The correct answer is 150°.

Q62. Answer: (d) 50

Given:

Marked price (M.P) = Rs.75

Discount% = 14%

Profit% = 29%

Formula used:

C.P/M.P = (100 - D)%/(100 + P)%

Where, C.P = cost price ; D = discount

and P = profit

Calculation:

=> C.P/M.P = (100 - D)%/(100 + P)%

=> C.P/75 = (100 - 14)/(100 + 29)

=> C.P = (86 × 75)/129

=> C.P = 2 × 25 = 50

Therefore The correct answer is 50.

Q63. Answer: (b) 5/4

Given:

ΔRMS is a right-angle triangle.

angle M = 90°

RM = 4 cm ; MS = 3 cm
Concept used:
In right-angled triangle:
$H^2 = P^2 + B^2$
Sec θ = B/H
Where, H = hypotenuse
P = perpendicular ; B = base
Calculation:
In ΔRMS :
$RS^2 = MR^2 + MS^2$
=> $RS = \sqrt{4^2 + 3^2}$
=> $RS = \sqrt{16 + 9}$
=> RS = 5 cm
Sec R = H/B = RS/MR
=> 5/4
Therefore The correct answer is 5/4.

Q64. Answer: (c) Rs. 4

Given:
Principal = Rs.6400
Time = 1 year and rate = 5%
Concept used:
Compound interest (C.I) = P × Effective rate%
Effective rate% for 2 years = R1 + R2 + (R1 × R2)/100
Calculation:
For compounded annually:
C.I = 6400 × 5% = 320
For compounded half-yearly:
New rate = 5/2% = 2.5%
Time = 1 × 2 = 2 years
Effective rate% for 2 years = 2.5 + 2.5 + $(2.5)^2$/100
=> 5 + 0.0625 = 5.0625%
C.I = 6400 × 5.0625% = Rs.324
Required difference = 324 - 320 = Rs.4
Therefore The correct answer is 4.

Q65. Answer: (d) 21.46 cm2

Given:
Radius of circle = 7.4 cm
Perimeter of a sector = 20.6 cm
Formula used:
Perimeter of sector = 2r + (2 × π × r × θ)/360°
Area of a sector = (π × r^2 × θ)/360°
Calculation:
Perimeter of sector = 2r + (2 × π × r × θ)/360°
=> 20.6 = 2 × 7.4 + (2 × π × 7.4 × θ)/360°
=> 20.6 - 14.8 = (2 × π × 7.4 × θ)/360°
=> 5.8 × 360 = 2 × π × 7.4 × θ
=> θ = (5.8 × 360)/(2 × π × 7.4)
=> θ = (29 × 180)/(π × 37)
Area of sector = (π × r2 × θ)/360°
=> (π × 7.4 × 7.4 × 29 × 180)/(360 × π × 37)

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=> 0.2 × 3.7 × 29 = 21.46 cm²

Therefore The correct answer is 21.46 cm2.

Alternate MethodCalculation:

Perimeter of sector = 2 × radius + Length of arc

=> 20.6 = 2 × 7.4 + L

=> L = 20.6 - 14.8 = 5.8

Area of sector = (1/2) × radius × L

=> 0.5 × 7.4 × 5.8 = 21.46 cm²

Therefore The correct answer is 21.46 cm2.

Q66. Answer: (b) Rs. 2,024

Given:

A principal amount = Rs.9000

B's principal amount = Rs.18000

C's principal amount = Rs.21000

Concept used:

If A and B invest P and Q amounts respectively for a certain time then,

Ratio of profit = A × T1 : B × T2

Calculation:

Ratio of profit between A, B and C

=> A × 12 : B × 12 : C × 12

=> 9000 × 12 : 18000 × 12 : 21000 × 12

=> 3 : 6 : 7

B's profit = 6 units = Rs.759

Total profit = 16 units = (759 × 16)/6

=> 253 × 8 = Rs.2024

Therefore The correct answer is Rs.2024.

Q67. Answer: (b) 1/√3

Shortcut Trick

The given expression is the direct expansion of the trigonometric identity for tan(A − B).

=> tan(A − B) = (tan A − tan B) ÷ (1 + tan A × tan B)

Substitute A = 60° and B = 30°:

=> tan(60° − 30°) = tan 30°

=> tan 30° = 1/√3

Therefore The correct answer is 1/√3.

Alternate Method

Given:

A = 60°

B = 30°

Formula Used:

Direct substitution of standard trigonometric values.

tan 60° = √3

tan 30° = 1/√3

Calculations:

Substitute the exact values into the expression:

=> Expression = (tan 60° − tan 30°) ÷ (1 + tan 60° × tan 30°)

=> Numerator = √3 − 1/√3

=> Numerator = (3 − 1) ÷ √3 = 2/√3

=> Denominator = 1 + (√3 × 1/√3)

=> Denominator = 1 + 1 = 2

=> Expression value = (2/√3) ÷ 2

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=> Expression value = 1/√3

Therefore The correct answer is 1/√3.

Additional Information

Compound Angle Formula for Addition

tan(A + B) = (tan A + tan B) ÷ (1 − tan A × tan B). This formula is used when adding two compound angles.

Double Angle Formula for Tangent

tan(2A) = (2 × tan A) ÷ (1 − tan² A). This is directly derived by substituting B = A in the addition formula.

Standard Tangent Values

tan 0° = 0, tan 30° = 1/√3, tan 45° = 1, tan 60° = √3, tan 90° = Not Defined.

Q68. Answer: (b) 58,200

Calculation:

For furniture renovation cost = 200000 × 17% = Rs.34000

Ravi gets a discount of 10% on furniture renovation cost = 34000 × 90% = Rs.30600

For electric items renovation cost = 200000 × 15% = Rs.30000

Ravi gets a discount of 8% on electric items renovation cost = 30000 × 92% = Rs.27600

Total amount paid by Ravi = 30600 + 27600 = Rs.58200

Therefore The correct answer is Rs.58200.

Q69. Answer: (c) 52%

Given:

First discount% = 20%

Second discount% = 25%

Third discount% = 20%

Concept used:

If discount = D% then

M.P : S.P = 100 : (100 - D%)

Calculation:

Discount%	M.P	S.P
20%	5	4
25%	4	3
20%	5	4
Total	25	12

Final M.P : S.P = 25 : 12

Discount% = (13 × 100)/25 = 52%

Therefore The correct answer is 52%.

Q70. Answer: (b) 40

Shortcut Trick

George completes 100% work in 6 × (100 / 35) = 120/7 days.

Total Work (LCM of 120/7 and 12) = 120 units.

Efficiency of George = 7 and Efficiency of (Jim + George) = 10.

Efficiency of Jim = 10 − 7 = 3 units/day.

Time taken by Jim = 120 ÷ 3 = 40 days.

Therefore The correct answer is 40 days.

Alternate Method

Given:

Work done by George = 35% in 6 days.

Time taken by Jim and George together = 12 days.

Formula Used:

Total Work = Efficiency × Time

Calculations:

=> Time taken by George to complete 100% work = 6 ÷ 0.35 = 600/35 = 120/7 days.

=> Let the total work be the LCM of 120/7 and 12, which is 120 units.

Person	Days	Total Work	Efficiency
George	120/7	120	7
Jim + George	12	10	

=> Efficiency of Jim = Efficiency of (Jim + George) − Efficiency of George

=> Efficiency of Jim = 10 − 7 = 3 units/day.

=> Time taken by Jim alone = Total Work ÷ Efficiency of Jim

=> Time taken by Jim = 120 ÷ 3 = 40 days.

Therefore The correct answer is 40 days.

Additional Information

Efficiency and Time Relationship

Efficiency is inversely proportional to the time taken to complete a task. If the ratio of time taken by A and B is x:y, then the ratio of their efficiencies is y:x.

Combined Work Rate

If person A takes 'a' days and person B takes 'b' days to complete a task individually, they will complete it together in (a × b) / (a + b) days.

Work and Wages

Wages are generally distributed among workers in the ratio of the total work done by each, which is the product of their individual efficiency and the time they worked.

Q71. Answer: (d) 125 gm

Given:

In 1st barrel:

Assam tea : Darjeeling tea : Nilgiri tea = 2 : 3 : 1

In 2nd barrel :

Darjeeling tea : Nilgiri tea : Kangra tea = 5 : 4 : 3

Calculation:

Assam tea : Darjeeling tea : Nilgiri tea = 2 : 3 : 1

=> 2 + 3 + 1 = 6

Darjeeling tea : Nilgiri tea : Kangra tea = 5 : 4 : 3

=> 5 + 4 + 3 = 12

Equal weight of both barrel.

Assam tea : Darjeeling tea : Nilgiri tea = (2 : 3 : 1) × 2

=> 4 : 6 : 2

Assam tea : Darjeeling tea : Nilgiri tea : Kangra tea = 4 : 6 + 5 : 2 + 4 : 3

=> 4 : 11 : 6 : 3

The weight of Kangra Valley per kilogram in the new brand

=> (1000 × 3)/(4 + 11 + 6 + 3)

=> (1000 × 3)/24

=> 125 gm

Therefore The correct answer is 125 gm.

Q72. Answer: (c) Three

Calculation:

Vanaja height = 117 cm

Uma height = 133 cm

There are 3 students whose heights are greater than Vanaja and smaller than Uma.

Therefore The correct option is 3.

Q73. Answer: (c) 22%

Given:

Simple interest (S.I) = 4 × Principal (P)

Time = 18 years

Formula used:

S.I = (P × R × T)/100

Where, P = principal ; R = rate ; T = time

Calculation:

=> S.I = (P × R × T)/100

=> 4 × P = (P × R × 18)/100

=> R = 400/18 = 22.22 ≈ 22%

Therefore The correct answer is 22%.

Q74. Answer: (d) 1 : √3

Given:

One diagonal of a rhombus is equal to its side.

Concept used:

All sides of a rhombus are equal.

Diagonals of a rhombus bisect each other at 90°.

Calculation:

Let the side of the rhombus be A.

=> CD = AC = A

In ΔDOC,

=> $CD^2 = OC^2 + OD^2$

=> $A^2 = (A/2)^2 + OD^2$

=> $OD^2 = A^2 - A^2/4$

=> $OD^2 = (4A^2 - A^2)/4$

=> $OD = \sqrt{(3A^2/4)}$

=> $OD = (\sqrt{3}A)/2$

Now,

=> BD = OD + OB

=> BD = (√3A)/2 + (√3A)/2

=> BD = √3A

Required ratio = AC : BD

=> A : √3A

=> 1 : √3

Therefore The correct answer is option (4).

Q75. Answer: (c) Rs. 30

Given:

12 apples + 15 oranges = Rs.660

15 apples + 21 oranges = Rs.870

Calculation:

Let the cost of an apple = x

the cost of an orange = y

According to the question:

=> 12x + 15y = 660

=> 15y = 660 - 12x

=> y = (660 - 12x)/15 ------ (1)

Now,

=> 15x + 21y = 870

Putting the value of y in the equation

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=> 15x + {21 × (660 - 12x)/15} = 870

=> 15x + {7 × (660 - 12x)/5} = 870

=> 75x + {7 × (660 - 12x)} = 870 × 5

=> 75x + 4620 - 84x = 4350

=> - 9x = - 270

=> x = Rs.30

Therefore The correct answer is Rs.30.

Q76. Answer: (a) interpret

The solution is in Hindi. Read it online.

Q77. Answer: (d) had been doing

The correct answer is: "had been doing".

Key Points

• The sentence is in the past tense, indicating that the doctor already knew something before.

• "Had been doing" is the past perfect continuous tense, indicating that Ravindra was doing a certain kind of work before he got sick.

• The structure should be: Subject + had been + present participle (verb + ing)

• This tense is appropriate because it shows that Ravindra was doing the work for a period of time before he got sick and that he may continue doing it after he recovers.

• The use of "had been doing" implies a continuous action or state in the past, emphasizing the ongoing nature of the work.

Therefore, the correct answer is option 4.

Corrected sentence: The doctor knew that Ravindra would recover from dengue soon and do the kind of work he had been doing before.

Q78. Answer: (a) French

The correct answer is: French

Key Points

• The error is in the subject of the sentence, which should be "The French" instead of "French".

• The definite article "The" is needed before "French" to make it a specific group of people.

• "French" can also be used as an adjective, but in this case, it needs to modify a noun, such as "French soldiers".

Therefore, the correct answer is option 1.

Corrected sentence: The English often fought the French.

Q79. Answer: (d) Why are you eating the rotten apple?

The correct answer is: "Why are you eating the rotten apple?"

Key Points

• The sentence is in passive voice, with the subject (rotten apple) being acted upon by the verb (being eaten) and the object (you) doing the action.

• Passive voice structure: Why + is/am/are + subject + being + past participle of the main verb + by + agent (optional)?

• To change it to active voice, we need to make the subject (you) the doer of the action and the object (rotten apple) the recipient of the action.

• Active voice structure: Why + present tense of the verb to be + subject + present participle (verb + ing) + object?

• The correct active voice sentence would be "Why are you eating the rotten apple?"

Thus, option 4 is the correct answer.

Q80. Answer: (c) DABC

The correct answer is: DABC

Key Points

• The sentence talks about the rise of dictators and the inauguration of a new regime.

• Part D sets the context by stating that democracy takes time to develop.

• Part A introduces the main idea of the sentence.

• Part B adds more detail about how the regime came into power.

• Part C provides a condition for the success of the regime.

Therefore, the correct answer is option 3.

Q81. Answer: (d) postpone

The solution is in Hindi. Read it online.

Q82. Answer: (d) that are abundant

The solution is in Hindi. Read it online.

Q83. Answer: (d) Fullfil

The solution is in Hindi. Read it online.

Q84. Answer: (c) Dither

The solution is in Hindi. Read it online.

Q85. Answer: (b) it is raining cats and dogs

The correct answer is: "It is raining cats and dogs."

Key Points

• The phrase "raining cats and dogs" is an idiomatic expression that means it is raining very heavily.

• Example: I had planned a picnic for the weekend, but it was cancelled because it started raining cats and dogs.

• So, in the context of the sentence, "As it is a rainy season, it is raining cats and dogs."

• It means that there is heavy and continuous rainfall during the rainy season.

Thus, option 2 is the correct answer.

Q86. Answer: (b) catastrophe

The solution is in Hindi. Read it online.

Q87. Answer: (d) Coronation

The solution is in Hindi. Read it online.

Q88. Answer: (c) Exclusive

The solution is in Hindi. Read it online.

Q89. Answer: (c) High and mighty

The solution is in Hindi. Read it online.

Q90. Answer: (d) No other place I have seen is as beautiful as Istanbul.

The correct answer is: "No other place I have seen is as beautiful as Istanbul."

Key Points

• The original sentence "Istanbul is a beautiful city" is a positive statement describing the beauty of Istanbul.

• To express this in the positive degree of comparison, we use the structure "more + adjective + than" when comparing to other places.

• Therefore, "No place I have seen is more beautiful than Istanbul" conveys the idea that, among the places the speaker has visited, Istanbul is the most beautiful.

• This construction emphasizes the positive quality of Istanbul's beauty without making a direct comparison to other places.

• The positive degree is achieved by using "more" followed by the adjective ("beautiful") and "than" to indicate the comparison.

Therefore, the correct answer is option 4.

Q91. Answer: (c) pageantry

The solution is in Hindi. Read it online.

Q92. Answer: (c) BCDAE

The correct answer is: BCDAE

Key Points

• Part B: This part introduces the context or the condition under which something is happening.

• Part C: This builds upon the previous part, describing the challenges the world is currently dealing with.

• Part D: This part specifies the timeframe and purpose, indicating that there are certain goals or objectives set for the year 2030.

• Part A: This connects with the previous part, revealing that the mentioned goals are part of a broader agenda focused on sustainable development.

• Part E: This concludes the sentence by stating that the goals or agenda for sustainable development are at risk or in danger due to the global crises and conflicts.

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Therefore, option 3 is the correct answer.

Q93. Answer: (d) Expense

The solution is in Hindi. Read it online.

Q94. Answer: (c) Someone called off the meeting.

The correct answer is: Someone called off the meeting.

Key Points

• The sentence is in passive voice, which means the subject is receiving the action.

• Passive voice structure: Subject + verb + agent

• In the passive voice, the emphasis is on the receiver of the action (the meeting), and the entity performing the action (agent) is often omitted or placed in a prepositional phrase.

• To convert it into an active voice, we need to make the subject the doer of the action.

• Active voice structure: Subject + verb + object

• In the active voice, the emphasis is on the doer of the action (someone), and the sentence is typically more straightforward and direct.

• In this case, "someone" is the doer of the action.

• So, the correct active voice sentence would be "Someone called off the meeting."

Therefore, the correct answer is option 3.

Q95. Answer: (a) I think

The correct answer is: "I think".

Key Points

• The verb "think" is used to express thoughts or opinions.

• In this sentence, the speaker is expressing their thought about taking their belongings to the new apartment tomorrow.

• The original sentence is grammatically incorrect. The error lies in the use of "have" before "think."

• The verb "have" is not needed in this context.

• The correct tense to use here is present simple, which is "I think".

• In English, when expressing thoughts or plans, the verb "think" does not require an auxiliary verb like "have."

Thus, option 1 is the correct answer.

Corrected sentence: I think tomorrow I will take my belongings to the new apartment.

Q96. Answer: (a) knowing

The solution is in Hindi. Read it online.

Q97. Answer: (a) injured

The solution is in Hindi. Read it online.

Q98. Answer: (b) save

The solution is in Hindi. Read it online.

Q99. Answer: (b) urged

The solution is in Hindi. Read it online.

Q100. Answer: (c) fatal

The solution is in Hindi. Read it online.

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