SSC CHSL Tier-1 2021: Official Paper (Held On : 7 June 2022 Shift 2) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2021 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Select the most appropriate meaning of the given idiom.

Chip off the old block

(a) Someone who resembles their parent
(b) Someone who makes the right decision
(c) Someone who tries to escape from their parents
(d) Someone who spoils other's enjoyment

Q2. Select the denotation of the highlighted word 'fragile'.

The fragile economy needs some thrust from supporting partners.

(a) Robust
(b) Strong
(c) Frail
(d) Trail

Q3. Select the most appropriate meaning of the highlighted idiom.

As the Director I had to bite the bullet in order to restore normalcy.

(a) Ensure equality
(b) To force people to do the right thing
(c) Force oneself to do something unpleasant
(d) To encourage the needy

Q4. Select the most appropriate option that can substitute the underlined segment in the given sentence.

He ran most happily to receive his father.

(a) happily
(b) happier
(c) happy
(d) more happily

Q5. Select the most appropriate option to fill in the blank.

The rumours usually _____ like wild fire.

(a) spreading
(b) spread
(c) spreads
(d) are spreading

Q6. Fill in the blank with the correctly spelt word.

There was a feeling of _____ in his eyes.

(a) vengaence
(b) vengense

(c) vengence
(d) vengeance

Q7. Select the most appropriate option to fill in the blank.

He always _____ a tantrum about something or the other.

(a) through
(b) threw
(c) tough
(d) true

Q8. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. Intelligent and strikingly attractive, Tess is indisputably the central character of the novel that bears her name.

B. But she is also more than a distinctive individual: Hardy makes her into somewhat of a mythic heroine.

C. Her name, formally Theresa, recalls St. Teresa of Avila, another martyr whose vision of a higher reality cost her, her life.

D. Tess's story, thus, is a story representing a deeper and larger experience than that of a single individual.

(a) ACDB
(b) BACD
(c) DCBA
(d) ABCD

Q9. Select the most appropriate synonym of the word given in the brackets to fill in the blank.

In 1024, a king named Mahmood _____ (robbed) a city called Anhilwad.

(a) conquered
(b) plundered
(c) annexed
(d) attacked

Q10. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

The mob / is believing / every word / the leader says.

(a) is believing
(b) the leader says
(c) every word
(d) The mob

Q11. In the following questions, a statement has been given with highlighted text. Select the options that can replace the text with the correct idiom or phrase.

The new music system is too expensive for us to buy

(a) Cut to the chase
(b) Hit the books
(c) Costs an arm and a leg
(d) At sea

Q12. Select the option that expresses the given sentence in active voice.

Parker has been bitten by a rare species of spiders.

(a) A rare species of spiders had bitten Parker.
(b) A rare species of spiders is biting Parker.
(c) A rare species of spiders has bitten Parker.
(d) A rare species of spiders bit Parker.

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Q13. The following sentence has been split into four segments. Identify the segment that contains a grammatical error
Investing on real estate / can earn you quick profit / but it comes with / a certain amount of risk attached to it.

(a) a certain amount of risk attached to it
(b) can earn you quick profit
(c) Investing on real estate
(d) but it comes with

Q14. Select the most appropriate option that can substitute the underlined segment in the given sentence.
The minor project put forward by the government is now moving around into its third year.

(a) is now moving into
(b) is now moving along into
(c) is now moving at
(d) are now moving into

Q15. Select the INCORRECTLY spelt word.

(a) Management
(b) Enthusiasm
(c) Bibblography
(d) Intelligence

Q16. Select the most appropriate ANTONYM of the highlighted word.
The negligent attitude of the cops was criticised.

(a) sloppy
(b) persistent
(c) attentive
(d) bored

Q17. Select the most appropriate option that can substitute the underlined segment in the given sentence.
If there is no need to substitute it, select ‘No substitution required’. Rahul shall write the exam at this time next week.

(a) No substitution required
(b) will have been written
(c) would be writing
(d) shall be writing

Q18. Select the sentence which has no spelling error.

(a) Mala asked students to aggreggate examples of many chemicals.
(b) Final results will be declared on the basis of agregate marks.
(c) Chromosomes are aggregatte and closely linked in a cell.
(d) My son’s aggregate marks were very poor in the previous year.

Q19. Select the most appropriate synonym of the given word.
Resolute

(a) Bulky
(b) Agreeable
(c) Victorious
(d) Strong

Q20. Select the option that can be used as a one-word substitute for the given group of words.
An omission of duty

(a) Surrender
(b) Delinquency
(c) Deliberation
(d) Delineation

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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.

The next Faerie Market was held (1)_____ schedule (2)_____ the other side of the wall. The two boys were not allowed to go to the market, but they wanted to. This was a source of great (3)_____ to the boys. The younger of the two had a kitten. She grew slowly but was the sweetest cat in the world, until, one evening, she began to (4)_____ around the house impatiently. The cat was off in the dark and the boy never saw the cat again. He was (5)_____ for a while.

Q21. Select the most appropriate option to fill in blank number 1.

(a) on
(b) by
(c) at
(d) upon

Q22. Select the most appropriate option to fill in blank number 2.

(a) at
(b) on
(c) upon
(d) in

Q23. Select the most appropriate option to fill in blank number 3.

(a) abhorrence
(b) irritation
(c) ebullience
(d) hatred

Q24. Select the most appropriate option to fill in blank number 4.

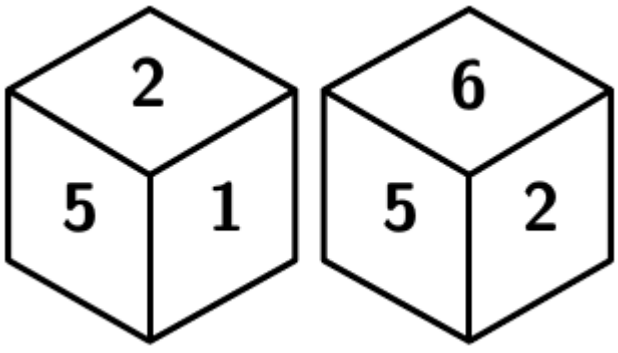
(a) sleep
(b) march
(c) prowl
(d) trot

Q25. Select the most appropriate option to fill in blank number 5.

(a) petrified
(b) inconsolable
(c) sanguine
(d) blithesome

GENERAL INTELLIGENCE

Q26. Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one showing '1'.



(a) 5
(b) 3

(c) 6
(d) 2

Q27. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

First row: 24, 12, 27

Second row: 29, 13, 64

Third row: 32, 24, ?

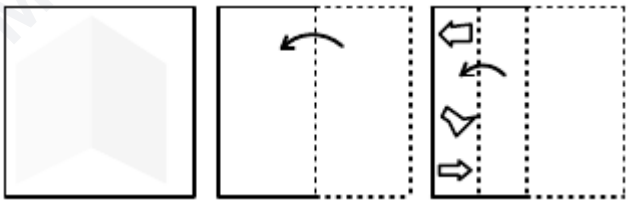
(NOTE: Operations should be performed on the whole numbers, without breaking down the number into its constituent digits. For example, 13 - Operations on 13 such as adding/deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1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

(a) 9
(b) 15
(c) 8
(d) 18

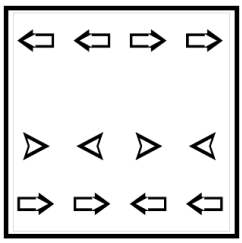
Q28. In a certain code language, 'LETTUCE' is written as 'ECUTTEL' and ‘PEPPERS’ is written as ‘SREPPEP’. How will 'PARSNIP' be written in that language?

(a) PINSARP
(b) PNISRAP
(c) PINSRAP
(d) PISNRAP

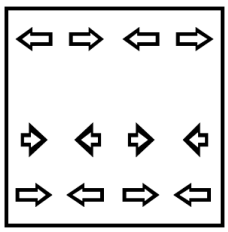
Q29. A paper is folded and cut as shown below. How will it appear when unfolded?



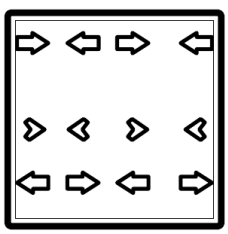
(a)



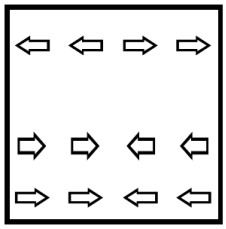
(b)



(c)



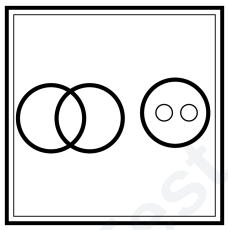
(d)



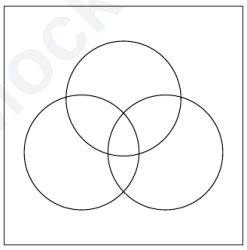
Q30. Select the Venn diagram that best represents the relationship between the following classes.

Brothers, Fathers, Painters

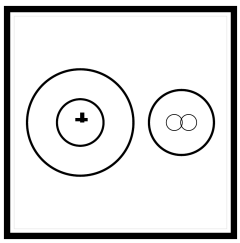
(a)



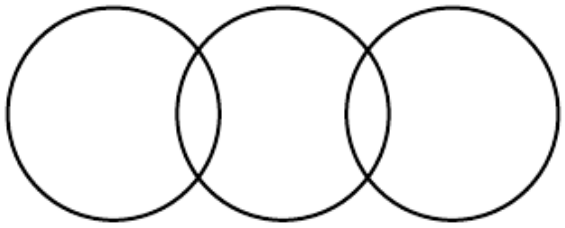
(b)



(c)



(d)



Q31. Seven friends S, T, U, V, W, X and Y, each has a different age. W is older than X but younger than V. Only three people are older than V. T is older than U but younger than S. Y is the youngest among all. How many persons are younger than U?

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

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Q32. Select the option that is related to the fifth term in the same way as the second term is related to the first term and the fourth term is related to the third term.

EVIDENT : NTIDEEV :: DYNAMIC : ICNAMDY :: FICTION : ?

(a) NOICTIF
(b) ONTCIFI
(c) NOITCIF
(d) ONCTIFI

Q33. Which of the following numbers will replace the question mark (?) in the given series?

1024, 1032, 1059, 1123, ?

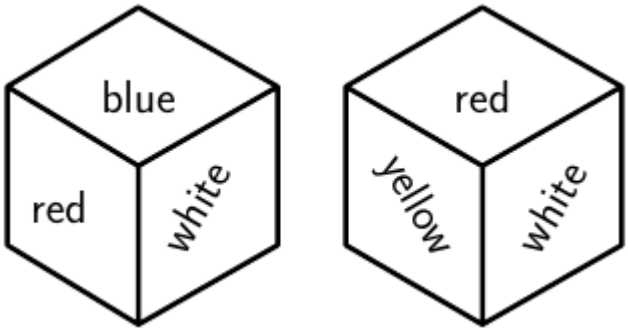
(a) 1248
(b) 1252
(c) 1254
(d) 1250

Q34. Select the correct combination of mathematical signs to sequentially replace the * signs and to balance the given equation.

25 * 5 * 10 * 2 * 8 * 17

(a) ÷, +, ×, –, =
(b) –, +, ÷, ×, =
(c) ×, ÷, –, +, =
(d) ÷, ×, –, +, =

Q35. Two different positions of the same dice are shown, the six faces of which are colored Red, Green, Blue, Yellow, Black, White. Select the color that will be on the face opposite to the one colored Blue.



(a) Yellow
(b) Black
(c) Red
(d) Green

Q36. Which letter-cluster will replace the question mark (?) to complete the given series?

OLJB, ?, IVDL, FAAQ, CFXV

(a) LQGG
(b) ROFJ
(c) SRGK
(d) LRFK

Q37. Pointing to a man, Radhika said, "His son's sister is the sister of my son's sister." How is that person related to Radhika ?

(a) Father
(b) Husband
(c) Father-in-law
(d) Brother

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Q38. Priyansh, who is the only son of Rajat, says to Prakash, "Your mother, Veena is the elder sister of my father who is the only son of Krishna." How is Rajat related to Prakash?

(a) Maternal uncle
(b) Cousin
(c) Father
(d) Paternal uncle

Q39. 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

(a) 169 : 11
(b) 25 : 5
(c) 36 : 4
(d) 9 : 1

Q40. Which of the following numbers will replace the question mark (?) in the given series?

16, 32, 29, ?, 111, 666

(a) 132
(b) 128
(c) 120
(d) 116

Q41. Select the correct mirror image of the given combination when the mirror is placed at MN as shown.



(a)



(b)



(c)



(d)

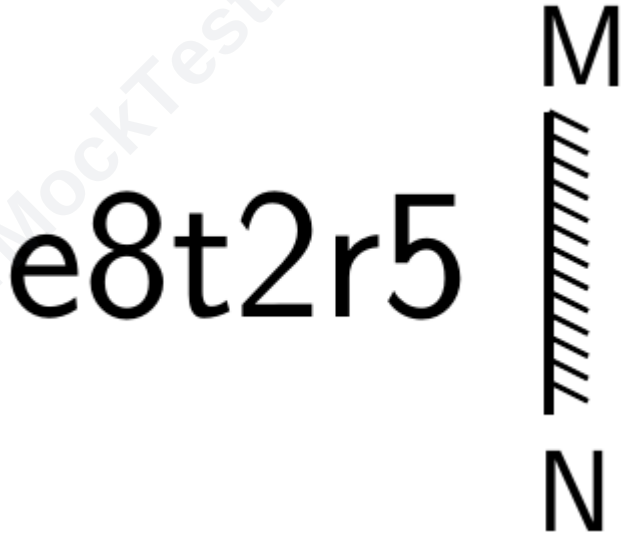


Q42. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.

6 : 24 :: 9 : 54 :: 12 : ?

(a) 88
(b) 98
(c) 96
(d) 86

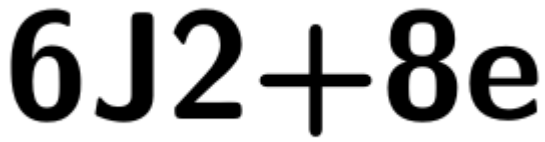
Q43. Select the correct mirror image of the given combination when the mirror is placed at MN as shown.



(a)



(b)



(c)



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(d)



Q44. If P denotes '×', Q denotes '÷', R denotes '+' and S denotes '−', then what will come in place of '?' in the following equation?

(128 Q 8) R (5 P 7) S 23 R (18 P 2) = ?

(a) 60
(b) 64
(c) 74
(d) 70

Q45. Select the correct combination of mathematical signs to replace the * signs and to balance the given equation.

48 * 12 * 625 * 25 * 21

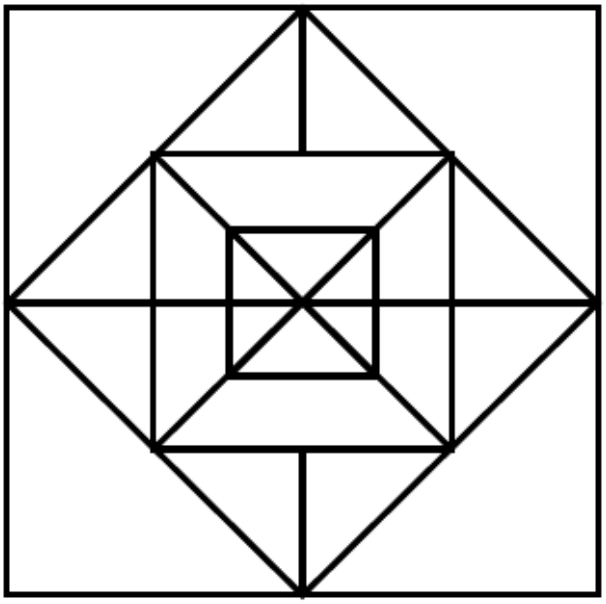
(a) =, ×, –, +
(b) =, ×, ×, ×
(c) ÷, +, =, +
(d) ÷, =, ÷, –

Q46. Which of the following numbers will replace the question mark (?) in the given series?

5, 9, 21, 43, 91, 185, ?

(a) 366
(b) 367
(c) 377
(d) 376

Q47. How many triangles are there in the given figure?



(a) 30
(b) 32
(c) 28
(d) 25

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Q48. Which letter-cluster will replace the question mark (?) to complete the given series?

TSXA, XBLT, ?, FTNF, JCBY

(a) LUWQ
(b) CJSM
(c) FKEW
(d) BKZM

Q49. 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.

(a) 1 : 2
(b) 3 : 5
(c) 7 : 25
(d) 5 : 13

Q50. In a certain code language, 'BRIGHT' is written as 'IYTRGS' and 'LOCATE' is written as 'LOZXVG'. How will 'COSTLY' be written in that language?

(a) XLGHBO
(b) LXHGOB
(c) XLHGBO
(d) LXGHBO

QUANTITATIVE APTITUDE

Q51. The average of five numbers, given in a particular order, is 32. The average of the first three numbers is 28, while that of the last three numbers is 34. What is the average of the first two numbers?

(a) 29
(b) 30
(c) 27
(d) 28

Q52. Select the correct identity from the following options.

(a) $1 + \cos^2 A = \sin^2 A$
(b) $1 + \sin^2 A = \cos^2 A$
(c) $1 + \tan^2 A = \sec^2 A$
(d) $1 + \sec^2 A = \tan^2 A$

Q53. Simplify

$11.5 - [5 + 0.5 \times (9 - 3 \times 2)]$

(a) 5
(b) 4
(c) 3
(d) 6

Q54. Find the principal amount if the interest compounded annually at the rate of 10% for two years is Rs. 4,200.

(a) Rs. 17,500
(b) Rs. 20,000
(c) Rs. 24,000
(d) Rs. 16,000

Q55. Which of the following numbers is NOT divisible by 75?

(a) 117975
(b) 275475
(c) 163750
(d) 666600

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Q56. Tim is thrice as good a workman as Joya and together they finish a piece of work in 75 days. In how many days will Tim alone finish the work?

(a) 25 days
(b) 100 days
(c) 50 days
(d) 1/100 days

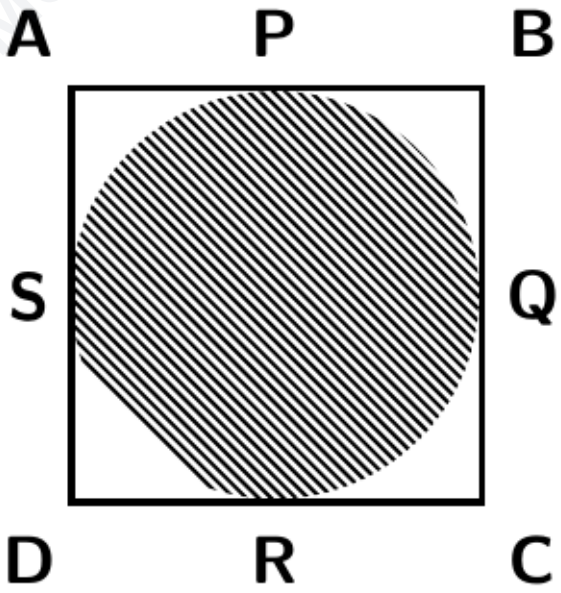
Q57. While selling an item, a businessman allows a 40% discount on the marked price and incurs a loss of 30%. If the item is sold at the marked price, profit will be _____.

(a) 10%
(b) 16%
(c) 162/3%
(d) 161/3%

Q58. If $P(x) = (x^3 - 8)(x + 1)$ and $Q(x) = (x^3 + 1)(x - 2)$ the LCM of P(x) and Q(x) is:

(a) $(x^2 + 2x + 4)(x2 + 4x + 1)$
(b) $(x + 1)(x - 2)(x2 + 2x + 4)(x2 - x + 1)$
(c) $(x + 1)^2(x - 2)^2 (x2 + 2x + 4)(x2 + 4x + 1)$
(d) $(x - 2)(x + 1)$

Q59. ABCD is a square of side 21 cm. A circle is inscribed in the square, which touches the sides of the square at P, Q, R and S as shown below in the figure. What is the area (in cm^2) of the non-shaded region? [Figure is not drawn to scale.] (Take $\pi = 22/7$)



(a) 88.4
(b) 84.6
(c) 90.7
(d) 94.5

Q60. The area of two similar triangles XYZ and ABC are 361 cm^2 and 225 cm^2, respectively. If the longest side of the larger ΔXYZ be 38 cm, then what is the length (in cm) of the longest side of the smaller ΔABC?

(a) 35
(b) 28
(c) 32
(d) 30

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Q61. The difference between the CI and the SI on a sum of money lent for 2 years at 20% interest per annum is Rs. 80. The sum is

(a) Rs. 1,200
(b) Rs. 2,000
(c) Rs. 1,500
(d) Rs. 1,000

Q62. The price of a book is first increased by 8% and later decreased by 8%. What is the percentage change in the price of the book?

(a) No change
(b) decrease by 0.64%
(c) increase by 0.064%
(d) increase by 0.64%

Q63. A book with a marked price of Rs. 600 is available at a discount of 18%. What is the discount given?

(a) Rs. 180
(b) Rs. 110
(c) Rs. 108
(d) Rs. 72

Q64. The price of a pen is first increased by 15% and later on the price was decreased by 20% due to reduction in sales. Find the net percentage change in the final price of a pen.

(a) 25%
(b) 8%
(c) -8%
(d) -16%

Q65. Simplify the following expression.

$(0.14 \times 0.14) - (2 \times 0.14 \times 5.14) + (5.14 \times 5.14)$

(a) 5.18
(b) 4
(c) 16
(d) 25

Q66. An athlete crosses a distance of 3600 m in 12 minutes. What is his speed (in km/h)?

(a) 15
(b) 17
(c) 18
(d) 16

Q67. The base of a hemispherical bowl has a circumference of 132 cm. Find the capacity of the bowl. (use $\pi = 22/7$)

(a) 18240 cm^3
(b) 19404 cm3
(c) 19708 cm3
(d) 16540 cm3

Q68. Which of the following ratios is the smallest?

3 : 4, 1 : 2, 2 : 5, 1 : 3

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

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Q69. Solve $((6.9)^3+(2.7)^3+(5.8)^3-3\times6.9\times2.7\times5.8)/(6.9)^2+(2.7)^2+(5.8)^2-(6.9)(2.7)-(2.7)(5.8)-(5.8)(6.9)$

(a) 15.1
(b) 15.3
(c) 15.2
(d) 15.4

Q70. Study the given table and answer the question that follow.

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

Type 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 the lowest aggregate number of scooters of all the four types taken together?

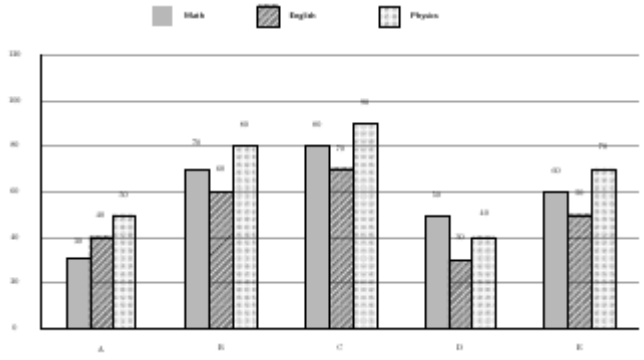
(a) June
(b) March
(c) February
(d) January

Q71. A shopkeeper sells rice at cost price but uses a faulty weighing machine and thus gains a profit of 25%. Find how many grams rice he is giving in 1 kg ?

(a) 800 gm
(b) 700 gm
(c) 900 gm
(d) 750 gm

Q72. Study the given graph carefully and answer the question that follows.

The graph shows the marks scored by five students in the subjects Math, English and Physics.

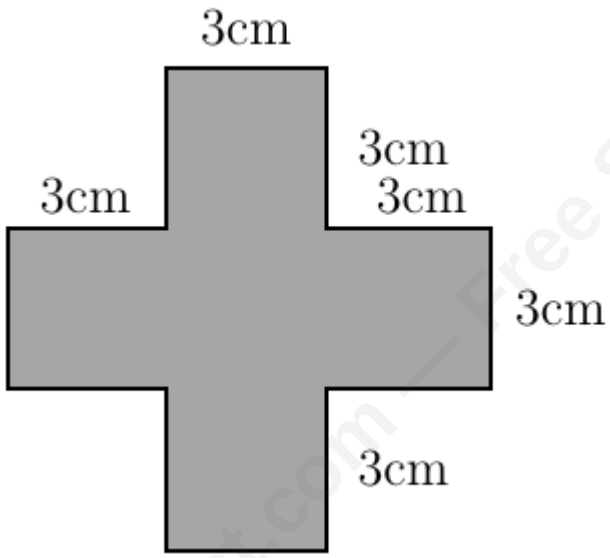


What is the difference between the total marks obtained by B and the total marks obtained by A?

(a) 80 marks
(b) 90 marks
(c) 95 marks
(d) 85 marks

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Q73. Calculate the area of the shaded region in the following diagram.



(a) 45 cm^2
(b) 42 cm2
(c) 48 cm2
(d) 50 cm2

Q74. The average salary per head of all the workers in a workshop is Rs. 8,850. If the average salary per head of 9 technicians is Rs. 10,000, and the average salary per head of the rest is Rs. 7,780, find the total number of workers in the workshop.(Consider integral part only)

(a) 18
(b) 22
(c) 24
(d) 16

Q75. Study the given table and answer the question that follows.

Given that the total number of students is 100.

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

The percentage of the number of students getting at least 40% marks in A over those getting at least 20% marks in C, is approximately _____.

(a) 90%
(b) 89%
(c) 83%
(d) 93%

GENERAL AWARENESS

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Q76. In the early 1900s, which German climatologist divided the world's climate into different categories based on temperature, amount of rainfall and the time of year when rainfall occurs?

(a) Michael Wille
(b) Wladimir Koppen
(c) Rudolf Geiger
(d) Alfred Wegener

Q77. Ustad Allah Rakha was famous for playing the _____.

(a) tabla
(b) sitar
(c) sarod
(d) bansuri

Q78. Who among the following, after winning the Russian Grand Prix 2021, became the first F1 driver to win 100 races?

(a) George Russell
(b) Valtteri Bottas
(c) Carlos Sainz
(d) Lewis Hamilton

Q79. Pt Bhimsen Joshi is associated with which of the following?

(a) Hindustani music vocalist
(b) Sarod
(c) Sitar
(d) Carnatic music vocalist

Q80. Which is the toxin-causing bacterium that spoils cream, cheese and milk and makes them taste bitter, sour or bitter?

(a) Bacillus cereus
(b) Streptococcus thermophilus
(c) Bifidobacterium
(d) Lactobacillus plantarum

Q81. Which north bank tributary of the Ganges River comprises of two streams, namely Kaligandak and Trishulganga?

(a) Mahananda River
(b) Gandak River
(c) Kosi River
(d) Ghagra River

Q82. Guru MK Saroja has been conferred with the Padma Shri for the relentless pursuit of which of the following dances?

(a) Bharatanatyam
(b) Mohiniyattam
(c) Odissi
(d) Kuchipudi

Q83. 'The Autobiography of an Unknown Indian' is the autobiography of _____.

(a) UV Swaminathan Iyer
(b) Anna Chandy
(c) Nirad C. Chaudhuri
(d) Inder Kumar Gujral

Q84. V Satyanarayana Sarma, an exponent of the Kuchipudi dance form was conferred which of the following awards by the Government of India?

(a) Padma Shri
(b) Kala Shastri Award
(c) Padma Bhushan
(d) Padma Vibhushan

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Q85. What is a biotechnological process accomplished by yeast, some type of bacteria, or some other microorganism to convert sugar into ethyl alcohol and carbon dioxide?

(a) Pasteurisation
(b) Lactic acid fermentation
(c) Alcoholic fermentation
(d) Glycolysis

Q86. Which of the following name was used for the Indian subcontinent by ancient travellers like Megasthenes, FaHien, Huen Tsang, Al Beruni, Ibn Batuta etc. for the active contribution of Indian traders?

(a) Swaran Bhoomi
(b) Swaran Jaga
(c) Swaran Bet
(d) Swaran Desh

Q87. The ‘Kalidas Samman’ is awarded by the government of which of the following Indian states?

(a) Madhya Pradesh
(b) Tamil Nadu
(c) Uttar Pradesh
(d) Gujarat

Q88. Antonie van Leeuwenhoek was known for which discovery in late 17^(th) century?

(a) Discovery of the properties of a stem cell
(b) Observation of bacteria and protozoa
(c) Discovery of the role of ATP as the source of energy for cells
(d) Discovery of nucleus in the cell

Q89. In February 2022, Government of India approved a new scheme "New India Literacy Programme" for the period FYs _____to cover all the aspects of Adult Education to align with National Education Policy 2020 and Budget Announcements 2021-22.

(a) 2023-2028
(b) 2022-2027
(c) 2025-2030
(d) 2024-2029

Q90. Who among the following Indian music composers and singers, who is popular by nickname ‘the Mozart of Madras’, was placed in The Time’s list of the world’s most influential people in 2009?

(a) MS Viswanathan
(b) AR Rahman
(c) Shankar Mahadevan
(d) RD Burman

Q91. The ‘Room on the roof’ a novel about an orphaned English boy living with his guardian is written by whom among the following authors?

(a) Khushwant Singh
(b) Arundhati Roy
(c) Manohar Malgaonkar
(d) Ruskin Bond

Q92. Which of the following Indian cities will host the International Olympic Committee session in 2023?

(a) Delhi
(b) Bengaluru
(c) Mumbai
(d) Hyderabad

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Q93. The historical fiction novel 'The King Within' is authored by:

(a) Krishna Sobti
(b) Indu Sundaresan
(c) Nandini Sengupta
(d) Kiran Nagarkar

Q94. Who among the following was appointed as the head coach of the Indian cricket team in November 2021?

(a) Saurav Ganguly
(b) Sachin Tendulkar
(c) Rahul Dravid
(d) Ravi Shastri

Q95. Identify the word that means vertical columns of Periodic Table.

(a) Valence electrons
(b) Groups
(c) Periods
(d) Orbitals

Q96. Vedantam Satyanarayana Sarma was an exponent of which Indian classical dance form?

(a) Odissi
(b) Bharatanatyam
(c) Kuchipudi
(d) Kathak

Q97. Where is the JRD Tata Sports Complex located?

(a) Visakhapatnam
(b) Ranchi
(c) Rourkela
(d) Jamshedpur

Q98. A judge of the High Court retires at the age of _____.

(a) 60
(b) 56
(c) 65
(d) 62

Q99. The Regional Rural Banks Act was passed in _____.

(a) 1976
(b) 1956
(c) 1986
(d) 1966

Q100. Dr. Purushottam Dadheech, who was awarded the prestigious Padma Shri award in 2020, is associated with which of the following dance forms?

(a) Mohiniyattam
(b) Kuchipudi
(c) Kathak
(d) Odissi

ANSWER KEY

1	a	2	c	3	c	4	a	5	b	6	d	7	b	8	d	9	b	10	a
11	c	12	c	13	c	14	a	15	c	16	c	17	d	18	d	19	d	20	b
21	a	22	b	23	b	24	c	25	b	26	c	27	c	28	c	29	b	30	b

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31	a	32	d	33	a	34	a	35	a	36	a	37	b	38	a	39	b	40	d
41	d	42	c	43	d	44	b	45	d	46	c	47	b	48	d	49	a	50	d
51	a	52	c	53	a	54	b	55	c	56	b	57	c	58	b	59	d	60	d
61	b	62	b	63	c	64	c	65	d	66	c	67	b	68	a	69	d	70	a
71	a	72	b	73	a	74	a	75	d	76	b	77	a	78	d	79	a	80	a
81	b	82	a	83	c	84	a	85	c	86	a	87	a	88	b	89	b	90	b
91	d	92	c	93	c	94	c	95	b	96	c	97	d	98	d	99	a	100	c

SOLUTIONS

Q1. Answer: (a) Someone who resembles their parent

The correct answer is Someone who resembles their parent.

Key Points

• The most appropriate meaning of the idiom 'Chip off the old block' is 'Someone who resembles their parent.'

• Chip off the old block: someone who is very similar in character to their father or mother.

• Example: Mark just won the same sailboat race his father won twenty years ago; he's a chip off the old block.

• Therefore, as per the points mentioned above the correct answer is option 1.

Correct meaning: Someone who resembles their parent.

Additional Information

Idiom	Meaning	Example
play (merry) hell with sth	to seriously damage or confuse something	The power cuts played hell with our computers.
play (sth) by ear	to play a piece of music by remembering the notes	He did not need sheet music. He could play the piece by ear.
play a joke/trick on sb	to confuse someone or cause a problem for them	Fate played a cruel trick on him when he was injured in his first game.

Q2. Answer: (c) Frail

The correct answer is "Frail".

Key Points

• Fragile means very weak.

• Example: This bag is full of fragile articles.

• Frail means weak or unhealthy.

• Example: Tim looks frail after his surgery.

• Therefore the appropriate option is "frail".

Additional Information

• Robust - healthy and vigorous.

• Example: The fruit platter looks robust.

• Strong - full of strength.

• Example: John's counterattacks were strong.

• Trail - a path

• Example: The farmer left a trail of grains as he carried the sacks.

Q3. Answer: (c) Force oneself to do something unpleasant

The correct answer is Force oneself to do something unpleasant.

Key Points

• The most appropriate meaning of the idiom 'bite the bullet' is 'Force oneself to do something unpleasant'.

• bite the bullet: decide to do something difficult or unpleasant that one has been putting off or hesitating over

• Example: Decisions have to be taken and as director you have got to bite the bullet.

• Therefore, as per the points mentioned above the correct answer is option 3.

Correct meaning: Force oneself to do something unpleasant.

Additional Information

Idiom	Meaning	Example
play (merry) hell with sth	to seriously damage or confuse something	The power cuts played hell with our computers.
play (sth) by ear	to play a piece of music by remembering the notes	He did not need sheet music. He could play the piece by ear.
play a joke/trick on sb	to confuse someone or cause a problem for them	Fate played a cruel trick on him when he was injured in his first game.

Q4. Answer: (a) happily

The correct answer is-'happily'.

Key Points

• Use of adverb: It is a word that modifies (describes) a verb, an adjective, another adverb, or even a whole sentence.

• happily: It is the adverb form of 'happy'.

• We do not use most, more before an adverb.

• Hence, the most appropriate option that can be used as a one-word substitute for the given group of words 'most happily' is 'happily'.

• Thus, option 1) is the correct answer.

Correct Sentence: He ran happily to receive his father.

Additional Information

• Let's see other option:

• happier: it is comparative degree of 'happy'

• happy: feeling or showing pleasure; pleased

• more happily: we do not use 'more' before an adverb

Q5. Answer: (b) spread

The correct answer is 'spread.'

Key Points

• The given sentence is in Simple present tense and in Active Voice.

• Structure: Subject + V1 + s/es(if singular subject) + object (Active Voice)

• Example: He plays football. (Active Voice)

• V1 form of 'spread' is 'spread'.

• Subject of the sentence (The rumours) is plural, hence we will not use 's/es' with V1.

• Therefore, the correct answer is 'spread.'

Correct Sentence: The rumours usually spread like wild fire.

Q6. Answer: (d) vengeance

The correct answer is vengeance.

Key Points

• The correct spelling of the word is 'vengeance'.

• The word 'vengeance' means 'the act of punishing or harming somebody in return for something bad he/she has done to you, your friends or family'.

• Example: He felt a terrible desire for vengeance on the people who had destroyed his career.

• Therefore, the correct answer is vengeance.

Correct Sentence: There was a feeling of vengeance in his eyes.

Q7. Answer: (b) threw

The correct answer is-'threw'.

Key Points

• Let's check each option:

• through: from one end or side of something to the other
• threw (a temper): To have an outburst of childish or unreasonable anger, frustration, or ill temper.
• 'Throw a temper' is an idiom.
• tough*:* difficult; having or causing problems
• true: right or correct
• Hence, the most appropriate option to fill in the blank is 'threw'.
• Thus, option 2 is the correct answer.
The correct sentence is: He always threw a tantrum about something or the other.

Q8. Answer: (d) ABCD

The correct answer is 'ABCD'.
Key Points
• Sentence A introduced the noun, Tess. So it is the first sentence.
• Sentence B tell about a trait of his character. So it is the second sentence.
• Sentence C twists the sentence towards another martyr, St. Teresa of Avila. It is third sentence.
• Sentence D concludes the whole story. So, it is the fourth sentence.
Hence, 'option 4' is the correct answer.

Q9. Answer: (b) plundered

The correct answer is 'plundered'.
Key Points
• The most appropriate synonym of the given word 'robbed' is 'plundered'.
• robbed: to take money, property, etc. from a person or place illegally.
• Meaning of the given options:
• conquered: to take control of a country or city and its people by force, especially in a war
• plundered: to take the goods of by force (as in war)
• annexed: to take control of another country or region by force
• attacked*:* to try to hurt or defeat somebody/something by using force*.*
• Therefore, as per the points mentioned above, we find that the correct answer is Option 2.
Correct Sentence: In 1024, a king named Mahmood plundered a city called Anhilwad.

Q10. Answer: (a) is believing

The correct answer is 'is believing.'
Key Points
• The error lies in 'is believing' part of the sentence.
• The given sentence should be written in Simple present tense and in Active Voice.
• We use the simple present tense when an action happens regularly.
• Structure: Subject + V1 + s/es(if singular subject) + object (Active Voice)
• Example: He plays football. (Active Voice)
• V1 form of 'believing' is 'believe'.
• Subject of the sentence (The mob) is singular, hence we will use 's/es' with V1.
• Therefore, the use of 'is believing' should be replaced with 'believes' to make it grammatically correct.
Correct sentence: The mob believes every word the leader says.

Q11. Answer: (c) Costs an arm and a leg

The correct answer is Costs an arm and a leg.
Key Points
• Let's check each option:
• Cut to the chase: come to the point.
• Example: cut to the chase—what is it you want us to do?
• Hit the books: to study hard; cram
• Example: I have to hit the books this weekend — I have two exams next week.
• Costs an arm and a leg: very expensive

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• Example: A week at a health farm can cost an arm and a leg.
• At sea: to be confused; to be lost and bewildered
• Example: I'm all/completely at sea with the new computer system
• Therefore, as per the points mentioned above, we find that the correct idiom to replace the highlighted text is Costs an arm and a leg.

Q12. Answer: (c) A rare species of spiders has bitten Parker.

The correct answer is 'A rare species of spiders has bitten Parker.'

Key Points

• The given sentence is in Present perfect Tense and in Passive Voice.
• The rule for changing a sentence in present perfect Tense from Passive voice to Active voice:
• Interchange the object and subject with each other, i.e., the object of the passive sentence becomes the subject of the active sentence.
• The active voice starts with the object of the passive voice.
• Structure: Object + has/have + been + V3 + by + Subject (Passive Voice)

Subject + has/have + V3 + Object (Active Voice)

• Solution: Parker has been bitten by a rare species of spiders. (Passive Voice)

A rare species of spiders has bitten Parker. (Active Voice)

• Therefore, the correct answer is 'A rare species of spiders has bitten Parker.'

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 reads a novel. (Active Voice)

A novel is read by him. (Passive Voice)

Q13. Answer: (c) Investing on real estate

The correct answer is 'Investing on real estate.'

Key Points

• The error lies in 'Investing on real estate' part of the sentence.
• Use of On: To indicate touching and being supported by the top surface of (something), or moving to a position that is supported by something.
• Example: The book is lying on the table.
• **Use of In: That someone or something belongs to or is included as part of something.
• Example: She used to play in a band.
• Therefore, the use of 'Investing on real estate' should be replaced with 'Investing in real estate' to make it grammatically correct.

Correct sentence: Investing in real estate can earn you quick profit but it comes with a certain amount of risk attached to it.

Q14. Answer: (a) is now moving into

The correct answer is "is now moving into".

Key Points

• "Around" means "to various places".
• "Moving around" means going to various places.
• Example: The Evans are moving around India for Summer vacation.
• "Moving into" means "entering into".
• Example: We will be moving into our new flat within a month.
• Therefore, the appropriate option is "is now moving into".

Additional Information

• Let's see some phrasal verbs beginning with "move".
• Moving along - progressing or developing.
• Example: I am moving along the story.
• Moving at - set into motion.
• Example: The train is moving at a speed of 100kmph.
• Moving on - going forward

• Example: Rin needs to move on from his current job.
• move over - go aside.
• Example: I want to sit here. Please move over.

Q15. Answer: (c) Bibblography

The correct answer is Bibblography.

Key Points

• The correct spelling of 'Bibblography' according to the English dictionary is 'Bibliography'.
• The word 'Bibliography' means 'a list of the books and articles that a writer used when he/she was writing a particular book or article'.
• Example: it provides simpler and more perspicuous explanations than its rivals.
• Hence, the most appropriate answer is 'Bibblography'.

Additional Information

• Let's understand the meaning of other options.
• Management- the control or organization of something
• Enthusiasm- a strong feeling of excitement or interest in something and a desire to become involved in it.
• Intelligence- the ability to understand, learn and think.

Q16. Answer: (c) attentive

The correct answer is attentive.

Key Points

• The word 'negligent' means 'not being careful or giving enough attention to people or things that are your responsibility'
• Let's consider each option-
• sloppy- that shows lack of care, thought or effort; untidy
• persistent*-* determined to continue doing something even though people say that you are wrong or that you cannot do it*.*
• attentive- watching, listening to or thinking about somebody/something carefully.
• Apprentice*-* feeling tired and perhaps slightly annoyed because something is not interesting or because you do not have anything to do*.*
• Hence, the most appropriate antonym of the word 'negligent' is 'attentive'.
• Thus, option 3 is the correct answer.

Q17. Answer: (d) shall be writing

The correct answer is ' shall be writing.'

Key Points

• The given sentence shoule be written in future continuous tense and in Active Voice.
• We use the future continuous to refer to temporary actions and events that will be in progress at a particular time in the future.
• Structure: Subject + will/shall + be + V1 + ing + object (Active Voice)
• Example: He will be playing football tonight. (Active Voice)
• 'V1 + ing' form of 'write' is 'writing'.
• Therefore, the use of 'shall write' should be replaced with 'shall be writing' to make it grammatically correct.

Correct sentence: Rahul shall be writing the exam at this time next week.

Q18. Answer: (d) My son’s aggregate marks were very poor in the previous year.

The correct answer is 'My son’s aggregate marks were very poor in the previous year.'

Key Points

• Word common in all four options is aggregate.
• The correct spelling of it according to the English dictionary is 'aggregate'.
• The word 'aggregate' means 'a whole formed by combining several separate elements.'
• Example: the council was an aggregate of three regional assemblies.
• Hence, the sentence which has no spelling error is 'My son’s aggregate marks were very poor in the previous year'.

Q19. Answer: (d) Strong

The correct answer is 'Strong'.

Key Points

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• The most appropriate synonym of the given word 'Resolute' is 'Strong'.
• Resolute: having or showing great determination
• Meaning of the given options:
• Bulky: large and heavy and therefore difficult to move or carry
• Agreeable: pleasant; nice
• Victorious: having achieved a victory
• Strong: (used about opinions and beliefs) very firm; difficult to fight against.
• Therefore, as per the points mentioned above, we find that the correct answer is Option 4.

Q20. Answer: (b) Delinquency

The correct answer is Delinquency.

Key Points

• Let's consider each option-
• Surrender*-* to stop fighting and admit that you have lost*.*
• Delinquency- criminal behavior committed by juveniles under the legal age of adulthood..
• Deliberation*-* discussion or thinking about something in detail
• Delineation- the action of describing or marking the edge of something.
• Hence, the most appropriate word to substitute the expression 'An omission of duty' is 'Delinquency'.
• Thus, option 2 is the correct answer.

Q21. Answer: (a) on

The correct answer is On.

Key Points

• Let's consider each option-
• On- Used to indicate touching and being supported by the top surface of (something), or moving to a position that is supported by something.
• By- Used to identify the agent performing an action.
• At- Used to show an exact position or particular place
• Upon- used to show that something happens soon after, and often because of, something else.
• Hence 'on' is the most appropriate word to fill in the blank.
• Thus option 1 is the correct answer.

Correct sentence: The next Faerie Market was held on schedule on the other side of the wall.

Q22. Answer: (b) on

The correct answer is On.

Key Points

• Let's consider each option-
• At- Used to refer to time or place.
• On- Used to indicate touching and being supported by the top surface of (something), or moving to a position that is supported by something.
• Upon- Used while mentioning an event that is followed immediately by another event.
• In- Used to indicate location or position within or inside something.
• Hence 'on' is the most appropriate word to fill in the blank.
• Thus,option 2 is the correct answer.

Correct sentence: The next Faerie Market was held on schedule on the other side of the wall.

Q23. Answer: (b) irritation

The correct answer is Irritation.

Key Points

• Let's consider each option-
• Abhorrence- A feeling of revulsion; disgusted loathing.
• Irritation- The state of feeling annoyed, impatient, or slightly angry.
• Ebullience- The quality of being cheerful and full of energy; exuberance.

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• Hatred- Intense dislike; hate.

• Hence 'irritation' is the most appropriate word to fill in the blank.

• Thus option 2 is the correct answer.

Correct sentence: The two boys were not allowed to go to the market, but they wanted to. This was a source of great irritation to the boys.

Q24. Answer: (c) prowl

The correct answer is Prowl.

Key Points

• Let's consider meaning of each option-

• Sleep- Needing or ready for sleep.

• March- Walk in a military manner with a regular measured tread.

• Prowl- Move about restlessly and stealthily, especially in search of prey.

• Trot- Proceed or cause to proceed at a pace faster than a walk, lifting each diagonal pair of legs alternately.

• Hence the most appropriate word to fill in the blank is 'prowl'.

• Thus option 3 is the correct answer.

Correct sentence: She grew slowly but was the sweetest cat in the world, until, one evening, she began to prowl around the house impatiently.

Q25. Answer: (b) inconsolable

The correct answer is Inconsolable.

Key Points

• Let's consider meaning of each option-

• Petrified- So frightened that one is unable to move; terrified.

• Inconsolable- Not able to be comforted or alleviated.

• Sanguine- Optimistic or positive, especially in an apparently bad or difficult situation.

• Blithesome- Having a cheerful disposition.

• Hence the most appropriate word to fill in the blank is 'inconsolable'.

• Thus,option 2 is the correct answer.

Correct sentence: He was inconsolable for a while.

Q26. Answer: (c) 6

The pattern followed here is:

2 and 5 are common in both the dices.

Clearly, 6 will be on the face opposite to the number 1.

Hence, 'option 3' is the correct answer.

Q27. Answer: (c) 8

Logic : $[(\text{Difference of first and second number}) \div 4]^3 = \text{Third number}$

• First row: 24, 12, 27

$\Rightarrow [(24 - 12) \div 4]^3$

$\Rightarrow [12 \div 4]^3$

$\Rightarrow 3^3 = 27$

• Second row: 29, 13, 64

$\Rightarrow [(29 - 13) \div 4]^3$

$\Rightarrow [16 \div 4]^3$

$\Rightarrow 4^3 = 64$

Similarly, third row: 32, 24, ?

$\Rightarrow [(32 - 24) \div 4]^3$

$\Rightarrow [8 \div 4]^3$

$\Rightarrow 2^3 = 8$

So the value of '?' is 8.

Hence, 'option 3' is the correct answer.

Q28. Answer: (c) PINSRAP

The positional values of the English alphabet is as follows:

The pattern followed here is:

'LETTUCE' is written as 'ECUTTEL'

'PEPPERS' is written as 'SREPPEP'

Similarly, 'PARSNIP' will be written as:

Hence, 'option 3' is the correct answer.

Q29. Answer: (b) [figure]

The paper when gets unfolded will be as shown below:

Hence, 'option 2' is the correct answer.

Q30. Answer: (b) [figure]

The correct Venn diagram representation is :

• A father can also be a brother and can also be a painter.

• A painter can be a father and brother of someone else.

• A brother can be a father of someone and can also be a painter.

Hence, 'option 2' is the correct answer.

Q31. Answer: (a) 4

Friends : S, T, U, V, W, X and Y

1) W is older than X but younger than V. Only three people are older than V.

=> _ > _ > _ > V > W > X > _

2) Y is the youngest among all.

=> _ > _ > _ > V > W > X > Y

3) T is older than U but younger than S.

=> S > T > U > V > W > X > Y

4 persons are younger than U (i.e. V, W, X, Y).

Hence, 'option 1' is the correct answer.

Q32. Answer: (d) ONCTIFI

The positional values of the English alphabet is as follows:

The pattern followed here is:

• EVIDENT : NTIDEEV

• DYNAMIC : ICNAMDY

Similarly, FICTION : ?

Hence, 'option 4' is the correct answer.

Q33. Answer: (a) 1248

The pattern followed here is as follows:

Hence, 'option 1' is the correct answer.

Q34. Answer: (a) ÷, +, ×, –, =

BODMAS Rule:

Lets check each option:

1) ÷, +, ×, –, =

By replacing * with mathematical signs, we get:

=> 25 ÷ 5 + 10 × 2 - 8

=> 5 + 10 × 2 - 8

=> 5 + 20 - 8

=> 25 - 8 = 17

2) –, +, ÷, ×, =

By replacing * with mathematical signs, we get:

=> 25 - 5 + 10 ÷ 2 × 8

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=> 25 - 5 + 5 × 8
=> 25 - 5 + 40
=> 65 - 5 = 60 ≠ 17
3) ×, ÷, –, +, =
By replacing * with mathematical signs, we get:
=> 25 × 5 ÷ 10 - 2 + 8
=> 25 × 0.5 - 2 + 8
=> 12.5 - 2 + 8
=> 20.5 - 2 = 18.5 ≠ 17
4) ÷, ×, –, +, =
By replacing * with mathematical signs, we get:
=> 25 ÷ 5 × 10 - 2 + 8
=> 5 × 10 - 2 + 8
=> 50 - 2 + 8
=> 58 - 2 = 56 ≠ 17
Hence, 'option 1' is the correct answer.

Q35. Answer: (a) Yellow

Red and white are common in both the dices.
Clearly, yellow will be on the face opposite to the Blue.
Hence, 'option 1' is the correct answer.

Q36. Answer: (a) LQGG

The positional values of the English alphabet is as follows:
The pattern followed here is:
Hence, 'option 1' is the correct answer.

Q37. Answer: (b) Husband

Family chart:
According to the statement:
He is the husband of Radhika.
Hence, 'option 2' is the correct answer.

Q38. Answer: (a) Maternal uncle

Family chart:
According to the statement:
Rajat is the maternal uncle of Prakash.
Hence, 'option 1' is the correct answer.

Q39. Answer: (b) 25 : 5

Logic : Square root of first number - 2 = Second number
Lets check each option:
1) 169 : 11
=> √169 - 2
=> 13 - 2 = 11
2) 25 : 5
=> √25 - 2
=> 5 - 2 = 3 ≠ 5
3) 36 : 4
=> √36 - 2
=> 6 - 2 = 4
4) 9 : 1
=> √9 - 2
=> 3 - 2 = 1

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25 : 5 is the odd one out.

Hence, 'option 2' is the correct answer.

Q40. Answer: (d) 116

The pattern followed here is as follows:

So the value of '?' is 116.

Hence, 'option 4' is the correct answer.

Q41. Answer: (d) [figure]

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

Hence,

is the correct answer.

Q42. Answer: (c) 96

Logic : First number × (First number ÷ 1.5) = Second number

6 : 24

=> 6 × (6 ÷ 1.5)

=> 6 × 4 = 24

• 9 : 54

=> 9 × (9 ÷ 1.5)

=> 9 × 6 = 54

Similarly, 12 : ?

=> 12 × (12 ÷ 1.5)

=> 12 × 8 = 96

So the value of '?' is 96.

Hence, 'option 3' is the correct answer.

Q43. Answer: (d) [figure]

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

Hence, "Option 4" is the correct answer.

Q44. Answer: (b) 64

Given :

• P denotes ‘×’

• Q denotes ‘÷’

• R denotes ‘+’

• S denotes ‘–’

BODMAS Rule:

By replacing the letters with mathematical signs, we get:

=> (128 ÷ 8) + (5 × 7) - 23 + (18 × 2)

=> 16 + (5 × 7) - 23 + (18 × 2)

=> 16 + 35 - 23 + 36

=> 87 - 23 = 64

So the value of '?' is 64.

Hence, 'option 2' is the correct answer.

Q45. Answer: (d) ÷, =, ÷, –

BODMAS Rule:

Lets check each option:

1) =, ×, –, +

By replacing * with mathematical signs, we get:

=> 48 = 12 × 625 - 25 + 21

=> 48 = 7500 - 25 + 21

=> 48 = 7521 - 25

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=> 48 ≠ 7496

2) =, ×, ×, ×

By replacing * with mathematical signs, we get:

=> 48 = 12 × 625 × 25 × 21

=> 48 ≠ 3937500

3) ÷, +, =, +

By replacing * with mathematical signs, we get:

=> 48 ÷ 12 + 625 = 25 + 21

=> 4 + 625 = 25 + 21

=> 629 ≠ 46

4) ÷, =, ÷, –

By replacing * with mathematical signs, we get:

=> 48 ÷ 12 = 625 ÷ 25 - 21

=> 4 = 25 - 21

=> 4 = 4

Hence, 'option 4' is the correct answer.

Q46. Answer: (c) 377

The pattern followed here is:

=> 5 × 2 - 1 = 9

=> 9 × 2 + 3 = 21

(3 - (-1)) = 4

=> 21 × 2 + 1 = 43

=> 43 × 2 + 5 = 91

(5 - 1) = 4

=> 91 × 2 + 3 = 185

=> 185 × 2 + 7 = 377

(7 - 3) = 4

So the value of '?' is 377.

Hence, 'option 3' is the correct answer.

Q47. Answer: (b) 32

The figure is given below:

There are 32 triangles.

Hence, 'option 2' is the correct answer.

Q48. Answer: (d) BKZM

The positional values of the English alphabet is as follows:

The pattern followed here is:

Hence, 'option 4' is the correct answer.

Q49. Answer: (a) 1 : 2

Logic: (Square of first number +1)/2 = second number

Option 1 is 1:2.

(12 + 1)/2 = 1 ≠ 2 (Not followed)

Option 2 is 3:5.

(32 + 1)/2 = 10/2 = 5

Option 3 is 7:25.

(72 + 1)/2 = 50/2 = 25

Option 4 is 5:13.

(52 + 1)/2 = 26/2 = 13

Thus, option 1 is correct.

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Q50. Answer: (d) LXGHBO

The positional values of the English alphabet are as follows:

The pattern followed here is:

'BRIGHT' is written as 'IYTRGS'

'LOCATE' is written as 'LOZXVG'

Similarly, 'COSTLY' will be written as:

Hence, 'option 4' is the correct answer.

Q51. Answer: (a) 29

Given:

The average of five numbers, given in a particular order, is 32. The average of the first three numbers is 28, while that of the last three numbers is 34.

Formula used:

Sum of observations = average × no. of observations

Calculation:

Let the middle number be x.

Sum of first three numbers = 28 × 3 = 84

Sum of last three numbers = 34 × 3 = 102

The sum of five numbers = 84 +102 - x = 32 × 5

Therefore, x = 186 - 160 = 26

Let the average of the first two numbers be a.

Then, average of first three numbers = 28=(2a+26)/3

Solving for a,

a=(3× 28 -26)/2=29

Therefore The average of the first two numbers is 29.

Q52. Answer: (c) 1 + tan² A = sec² A

Given:

Some identities are given.

Formula used:

1 + tan2 A = sec2 A

Calculation:

The correct identity is 1 + tan2 A = sec2 A.

Q53. Answer: (a) 5

Given:

11.5 − [5 + 0.5 × (9 − 3 × 2)]

Rule used:

Calculation:

11.5 − [5 + 0.5 × (9 − 3 × 2)]

=> 11.5 − [5 + 0.5 × (9 − 6)]

=>11.5 − [5 + 0.5 × 3]

=> 11.5 − [5 + 1.5]

=> 11.5 − 6.5 = 5

Therefore The value of 11.5 − [5 + 0.5 × (9 − 3 × 2)] is 5.

Q54. Answer: (b) Rs. 20,000

Given:

The interest compounded annually at the rate of 10% for two years is Rs. 4,200.

Formula used:

Compound interest for 'n' years = $P(1+ r/100)^n$-P, where P is the principal amount and r is the interest rate per annum.

Calculation:

Compound interest for two years = 4200 = $P(1+ 10/100)^2$-P

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Solving for P,

4200=P(1.21)-P

P=4200/0.21=20000

Therefore The principal amount for the given case is Rs. 20,000

Shortcut Trick Ratio method - Interest = 10% = 1/10

1st year 2nd year

10 11

10 11

100 121

P = 100, A = 121, I = 121 -100 = 21

21→ 4200, 1→ 20, P = 20 × 100 = 20,000

Q55. Answer: (c) 163750

Given:

Four numbers are given.

Concept used:

A given number is divisible by a number when the remainder is zero.

Calculation:

117975 ÷ 75 = 1573 × 75

275475 ÷ 75 = 3673 × 75

163750 ÷ 75 = 2183 × 75 + 25, here the remainder is 25

666600 ÷ 75 = 8888× 75

Therefore 163750 is not divisible by 75.

Shortcut TrickJust go and check in which option sum of the digit is not divisible by 3 because in 5 case all no is divisible by 5.So only go to check divisibility of 3

Q56. Answer: (b) 100 days

Given:

Tim is thrice as good a workman as Joya and together they finish a piece of work in 75 days.

Formula used:

If A finishes work in a day, then in a day he does the work.

Calculation:

Together, Tim and Joya can complete part of the work in a day.

Let Tim alone do the work in a day. Then, Joya alone does the work in a day.

Therefore, 1/x+1/3x=1/75

Solving for x,

4/3x=1/75

x=(4× 75)/3=100

Therefore Tim alone can finish the work in 100 days.

Shortcut Trick

Tim = 3 joy, Tim/joy = 3/1 (efficiency ratio)

Total work = (3 + 1) × 75 = 300

So Tim alone can finish the work in 300/3 = 100 days

Q57. Answer: (c) 162/3%

Given:

Discount Percentage = 40%

Loss Percentage = 30%

Concept Used:

Cost Price = 100/(100-Loss%)× SP

Profit % = Profit/CP× 100

Calculation:

=> Let the marked price be Rs 100

=> Selling price = 100 – 40% of 100
=> Selling price = 100-40/100× 100=100-40=60 Rs
=> Loss percentage = 30%
=> So, Cost price = 100/(100-30)× 60
=> Cost price = 100/70× 60=600/7 Rs
=> If item is sold at marked price, then
=> Profit Percentage = (100-600/7)/(600/7)× 100
=> Profit Percentage = ((700-600)/7)/(600/7)× 100=100/600× 100=100/6=162/3 %
Hence, the profit percentage made by selling an item at marked price is 162/3%.

Q58. Answer: (b) (x + 1)(x - 2)(x2 + 2x + 4)(x2 - x + 1)

Formula used:
$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$
$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$
Calculations:
P(x) = (x3 - 8)(x + 1)
=> P(x) = $(x - 2)(x^2 + 2x + 4)(x + 1)$
Q(x) = (x3 + 1)(x - 2)
=> Q(x) = $(x + 1)(x^2 - x + 1(x - 2)$
Now, The LCM of P(x) and Q(x) is
(x + 1)(x - 2)(x2 + 2x + 4)(x2 - x + 1)
Hence, The Required value is (x + 1)(x - 2)(x2 + 2x + 4)(x2 - x + 1).

Q59. Answer: (d) 94.5

Given:
ABCD is a square of side 21 cm. A circle is inscribed in the square, which touches the sides of the square at P, Q, R and S.
Formula used:
Area of a square = a^2, where 'a' is the length of each side
Area of a circle = πr^2, where 'r' is the radius.
Calculation:
Area of the square = 21 × 21 = 441 cm^2
The radius of the circle = 21/2 = 10.5 cm
Area of the circle = 22/7× 10.5^2 = 346.5 cm^2
Area of the non-shaded region = Area of the square - Area of the circle
Therefore The area of the non-shaded region is 441 - 346.5 = 94.5 cm^2

Q60. Answer: (d) 30

Given:
ΔXYZ and Δ ABC are similar triangles
Area of ΔXYZ = 361 cm^2
Area of Δ ABC = 225 cm^2
Concept used:
If two triangles are similar, then the ratio of their areas is equal to the ratio of the squares of their corresponding sides.
Calculations:
Let the longest side of Δ ABC be x cm.
According to the question,
The ΔXYZ and ΔABC are similar,
Thus we have, (area(ΔXYZ))/(area(ΔABC)) = ((longest side of $\Delta XYZ)^2$)/((longest side of $\Delta ABC)^2$)
=> 361/225 = $(38^2)/(x^2)$
=> $x^2 = (38^2 \times 225)/361$
=> $x^2 = 900$
=> $x = \sqrt{900} = 30$
Hence, The length of the longest side of ΔABC is 30 cm.

Q61. Answer: (b) Rs. 2,000

Given:

The difference between the CI and the SI on a sum of money lent for 2 years at 20% interest per annum is Rs. 80.

Formula used:

$CI = P(1+r/100)^n-P$

$SI = (P\times r \times n)/100$

Calculation:

$CI = P(1+20/100)^2-P=0.44P$

$SI = (P\times 20 \times 2)/100=0.4P$

The difference between the CI and the SI = 0.44P - 0.4P = 0.04P = 80

80/0.04=2000

Therefore The sum of money is Rs. 2,000

Shortcut TrickDifference between the CI and the SI for 2 years $=P(R/100)^2$

$\Rightarrow P(20/100)^2= 80$, P = 2000

Q62. Answer: (b) decrease by 0.64%

Given:

The price of a book is first increased by 8% and later decreased by 8%.

Formula used:

Price after increment = (100+increment percent)/100× Old price

Calculation:

Let the price of the book be Rs. 100.

Then, its price on 8% increase = 108

The price of 8% decreased = (100-8)/100×108=99.36

Percentage change = (99.36-100)/100×100=-0.64

Therefore The price of the book decreased by 0.64%.

Shortcut TrickPercentage in change = a + b + (ab/100)

8 - 8 - (8 × 8)/100 = - .64%

it means the price of the book decreased by 0.64%.

Q63. Answer: (c) Rs. 108

Given:

A book with a marked price of Rs. 600 is available at a discount of 18%.

Formula used:

Discount value = (discount percent)/100× marked price

Calculation:

Discount value = 18/100× 600 = 108

Therefore The discount given on the book is Rs. 108.

Q64. Answer: (c) -8%

Given:

The price of a pen is first increased by 15% and later on the price was decreased by 20%

Formula used:

Price after increment = (100+increment percent)/100× Old price

Calculation:

Let the price of the pen be Rs. 100.

Then, its price on 15% increase = 115

The price on 20% decreased = (100-20)/100× 115=92

Percentage change = (100-92)/100× 100=-8

Therefore The net percentage change in the final price of a pen is -8%.

Shortcut Trick Percentage change in area = a + b + ab/100

15 - 20 - (15 × 20)/100 = - 8%

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Q65. Answer: (d) 25

Given:

(0.14 × 0.14) - (2 × 0.14 × 5.14) + (5.14 × 5.14)

Rule used:

Calculation:

(0.14 × 0.14) - (2 × 0.14 × 5.14) + (5.14 × 5.14)

= 0.0196 - 1.4392 + 26.4196 = 25

Therefore The value of (0.14 × 0.14) - (2 × 0.14 × 5.14) + (5.14 × 5.14) is 25

Shortcut Trick $(a - b)^2 = a^2 + b^2 - 2ab$ formula and put the value

$(0.14 - 5.14)^2 = (-5)^2 = 25$

Q66. Answer: (c) 18

Given:

Distance = 3600 m

Time = 12 minutes

Concept Used:

Speed = Distance ÷ Time

Calculation:

=> We know that 1 km = 1000 m

=> 3600 m = 3600/1000=3.6km

=> 1 hour = 60 minutes

=> So, 12 minutes = 12/60=0.2 hrs

=> Speed of an athlete = 3.6/0.2=18 km/h

Hence, the speed of an athlete is 18 km/h.

Q67. Answer: (b) 19404 cm3

Given:

Circumference of the base of a hemispherical bowl = 132 cm

Concept Used:

Volume of hemisphere = $2/3\pi r^3$

Circumference of the base of the hemisphere = $2\pi r$

Calculation:

=> Circumference of the base of hemisphere = $2\pi r=132$

=> $2\times 22/7\times r = 132$

=> $r=(132\times 7)/44=21$ cm

=> So, the capacity of hemispherical bowl = $2/3\times 22/7\times 21\times 21\times 21$

=> Capacity of hemispherical bowl = $44\times 21\times 21 = 19404$ cm^3

Hence, the capacity of the bowl is 19404 cm^3.

Q68. Answer: (a) 1 : 3

Calculation:

=> 3 : 4 = 3/4=0.75

=> 1 : 2 = 1/2=0.5

=> 2 : 5 = 2/5=0.4

=> 1 : 3 = 1/3=0.33

Hence, the smallest ratio is 1 : 3

Q69. Answer: (d) 15.4

Concept Used:

$a^3 + b^3 + c^3 – 3abc = (a + b + c)(a^2 + b^2 + c^2 – ab – bc – ca)$

Calculation:

=> $((6.9)^3+(2.7)^3+(5.8)^3-3\times6.9\times2.7\times5.8)/(6.9)^2+(2.7)^2+(5.8)^2-(6.9)(2.7)-(2.7)(5.8)-(5.8)(6.9)$

Applying the formula,

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=> (6.9+2.7+5.8)(6.9²+2.7²+5.8²-6.9× 2.7-2.7× 5.8-5.8× 6.9)/(6.9²+2.7²+5.8²-6.9× 2.7-2.7× 5.8-5.8× 6.9)

Cancelling the terms, we get

=> 6.9 + 2.7 + 5.8 = 15.4

Hence, the simplified value of the expression is 15.4

Q70. Answer: (a) June

Given:

Type 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

Calculation:

=> Scooters produced by all four types in January = 100

=> Scooters produced by all four types in February = 105

=> Scooters produced by all four types in March = 108

=> Scooters produced by all four types in April = 110

=> Scooters produced by all four types in May = 110

=> Scooters produced by all four types in June = 90

Hence, the company produces the lowest aggregate number of scooters of all the four types taken together in the month of June.

Q71. Answer: (a) 800 gm

Given:

Profit Percentage = 25%

Concept Used:

Gain Percentage = (SP-CP)/CP× 100

Calculation:

=> Let the cost price of 1 kg rice be Rs 100

=> Let the false weight used by the shopkeeper for 1 kg be x grams.

=> When false weight is used,

=> Selling Price = Cost Price = Rs 100 and Profit = 25%

=> Cost price for 1000 grams rice = Rs 100

=> So, the Cost price for 1 gram of rice = 100/1000=1/10 Rs

=> For x grams, Cost Price of rice = x/10 Rs

Putting the values in the formula,

=> (SP-CP)/CP× 100=25

=> SP – CP = 0.25CP

=> SP = 1.25CP = 1.25× x/10

=> x = (100× 10)/1.25=800 grams.

=> Therefore, the amount of rice given in 1 kg = 800 grams

Therefore The amount of rice given in 1 kg measurement is 800 grams.

Q72. Answer: (b) 90 marks

Calculation:

=> Total marks obtained by A = 30 + 40 + 50

=> Total marks obtained by A = 120

=> Total marks obtained by B = 70 + 60 + 80

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=> Total marks obtained by B = 210

=> Difference = 210 – 120 = 90 marks

Hence, the difference between the total marks obtained by B and the total marks obtained by A is 90 marks.

Q73. Answer: (a) 45 cm²

Given:

Concept Used:

Area of Square = Side × Side

Area of Rectangle = Length × Breadth

Calculation:

In the given figure, we are getting one rectangle and two squares.

=> Length of Rectangle = 9 cm

=> Breadth of Rectangle = 3 cm

=> So, Area of Rectangle = 9× 3= 27 cm²

=> Side of Square = 3 cm

=> Area of two squares of same dimensions = 2× 3× 3 = 18 cm²

=> Total area of shaded figure = 27 + 18 = 45 cm²

Hence, the total area of the shaded figure is 45 cm².

Q74. Answer: (a) 18

Given:

Average salary of all workers = Rs 8,850

Average salary of 9 technicians = Rs 10,000

Average salary of rest of the employees = Rs 7,780

Concept Used:

Total Sum of Values = Average × Number of values

Calculation:

=> Let the total numbers of workers be x.

=> Average salary of all workers = Rs 8850

=> Sum of total salary of all workers = 8850x

=> Sum of salary of 9 technicians = 10000 × 9 = Rs 90000

=> Employees left = x – 9

=> Sum of total salary of other employees = 7780 × (x – 9) = 7780x – 70020

=> Now, Equating with the total salary of all employees,

=> 90000 + 7780x – 70020 = 8850x

=> 8850x – 7780x = 19980

=> 1070x = 19980

=> x = 19980/1070≈ 18

Hence, the total number of workers in the workshop is 18

Q75. Answer: (d) 93%

Given:

The table showing the number of students with their least marks obtained.

Formula used:

Percentage = obtained/Total × 100

Calculations:

Total number of students who scored 40 and above marks in A

= 81

Total number of students who scored 20 and above marks in C

= 87

Percentage

= 81/87 × 100

= 0.93103 ≈ 93%

Hence, The required percentage value is 93%.

Q76. Answer: (b) Wladimir Koppen

The correct answer is Wladimir Koppen.

Key Points

• Wladimir Köppen, German meteorologist and climatologist best known for his delineation and mapping of the climatic regions of the world.

• The Köppen climate classification divides climates into five main climate groups, with each group being divided based on seasonal precipitation and temperature patterns.

• The five main groups are A (tropical), B (arid), C (temperate), D (continental), and E (polar). Each group and subgroup is represented by a letter.

• The Köppen climate classification system categorizes climate zones throughout the world based on local vegetation.

Additional Information

• Michael Wille is an American artist residing outside of Chicago in Normal, IL. Wille is a Full Professor of Art at Illinois State University.

• Rudolf Oskar Robert Williams Geiger was a German meteorologist and climatologist.

• Alfred Lothar Wegener was a German climatologist, geologist, geophysicist, meteorologist, and polar researcher.

Q77. Answer: (a) tabla

The correct answer is Tabla.

Key Points

• Ustad Alla Rakha Qureshi popularly known as Alla Rakha, was an Indian tabla player who specialized in Hindustani classical music.

• He was a frequent accompanist of sitar player Pandit Ravi Shankar and was largely responsible for introducing Tabla to the western audience.

• Alla Rakha left home at age 12 to learn tabla under the great master (ustad) Mian Qadir Baksh.

• He also trained under Ashik Ali Khan, a vocalist admired especially for his mastery of the khayal Hindustani song repertoire.

Additional Information

• Ravi Shankar, the renowned master of the Indian sitar.

• Ustad Amjad Ali Khan (born 9 October 1945) is an Indian classical sarod player, best known for his clear and fast ekhara taans.

• Hariprasad Chaurasia (born 1 July 1938) is an Indian music director and classical flautist, who plays the flute, in the Hindustani classical tradition.

Q78. Answer: (d) Lewis Hamilton

The correct answer is Lewis Hamilton.

Key Points

• Lewis Hamilton made history, winning the Russian Grand Prix at Sochi Autodrom to become the first Formula One racer ever to reach 100 victories.

• Hamilton's win put him back in the lead of the championship ahead of Max Verstappen, who finished in second place.

• In Formula One, Hamilton has won a joint-record seven World Drivers' Championship titles, and holds the records for the most wins, pole positions, and podium finishes, among others.

Additional Information

• George William Russell is a British racing driver currently competing in Formula One for Mercedes.

• Valtteri Viktor Bottas is a Finnish racing driver currently competing in Formula One for Alfa Romeo, having previously driven for Mercedes from 2017 to 2021 and Williams from 2013 to 2016.

• Carlos Sainz Vázquez de Castro, otherwise known as Carlos Sainz Jr. or simply Carlos Sainz, is a Spanish racing driver currently competing in Formula One for Scuderia Ferrari.

Q79. Answer: (a) Hindustani music vocalist

The correct answer is Hindustani music vocalist.

Key Points

• Pt Bhimsen Joshi is known for the khayal form of singing, as well as for his popular renditions of devotional music (bhajans and abhangs).

• Joshi belongs to the Kirana gharana tradition of Hindustani Classical Music.

• He received his training in singing and harmonium from Shamacharya Joshi.

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• Joshi heard Ustad Abdul Kareem Khan and decided to sing like him.

Additional Information

• Ustad Amjad Ali Khan is an Indian classical sarod player, best known for his clear and fast ekhara taans. Khan was born into a classical musical family and has performed internationally since the 1960s.

• Ravi Shankar KBE was an Indian sitarist and composer.

• Subbaraya Sastri, born 1803 - rare honour to learn from the Trinity of Carnatic Music.

Q80. Answer: (a) Bacillus cereus

The correct answer is Bacillus cereus.

Key Points

• The bacterium Bacillus cereus causes spoilage of cream, cheese and milk and makes them taste rancid, sour or bitter.

• Bacillus cereus is a Gram-positive, rod-shaped, facultatively anaerobic, motile, beta-hemolytic, spore-forming bacterium commonly found in soil, food and marine sponges.

• The specific name, cereus, meaning "waxy" in Latin, refers to the appearance of colonies grown on blood agar.

• Bacillus cereus is a foodborne pathogen that can produce toxins, causing two types of gastrointestinal illness: the emetic (vomiting) syndrome and the diarrhoeal syndrome.

Additional Information

• Streptococcus thermophilus also known as Streptococcus salivarius subsp. thermophilus is a gram-positive bacterium, and a fermentative facultative anaerobe, of the viridans group.

• Bifidobacterium is a genus of gram-positive, nonmotile, often branched anaerobic bacteria.

• Lactiplantibacillus plantarum is a widespread member of the genus Lactiplantibacillus and commonly found in many fermented food products as well as anaerobic plant matter.

Q81. Answer: (b) Gandak River

The correct answer is Gandak River.

Key Points

• The Chambal is famous for its badland topography called the Chambal ravines.

• The Gandak comprises two streams, namely Kaligandak and Trishulganga.

• The Gandaki River, also known as the Narayani and the Gandak, is one of the major rivers in Nepal and a left bank tributary of the Ganges in India.

• Its total catchment area amounts to 46,300 km², most of it in Nepal.

• In the Nepal Himalayas, it is notable for its deep canyon.

Additional Information

• The Mahananda River is a trans-boundary river that flows through the Indian states of Bihar and West Bengal, and Bangladesh.

• The Kosi or Koshi is a transboundary river which flows through China, Nepal and India.

• Ghaghara, also called Karnali, is a perennial trans-boundary river originating on the Tibetan Plateau near Lake Manasarovar.

Q82. Answer: (a) Bharatanatyam

The correct answer is Bharatanatyam.

Key Points

• Madras Kadiravelu Saroja, is an Indian classical dancer, known for her expertise, as an exponent and as a teacher, in the classical dance form of Bharatanatyam.

• The Government of India honored her, in 2011, with the Padma Shri, the fourth highest civilian award, for her services to the field of art and culture.

• Bharatanatyam is a major form of Indian classical dance that originated in Tamil Nadu.

• The dance form is also briefly mentioned in Kannada text Manasollasa written by Someshwara III.

Additional Information

• Mohiniyattam, is an Indian classical dance form that developed and remained popular in the state of Kerala.

• Odissi, also referred to as Orissa in old literature, is a major ancient Indian classical dance that origin in the Hindu temples of Odisha – an eastern coastal state of India.

• Kuchipudi is one of the eight major Indian classical dances.

Q83. Answer: (c) Nirad C. Chaudhuri

The correct answer is Nirad C. Chaudhuri.

Key Points

• The Autobiography of an Unknown Indian is the 1951 autobiography of Indian writer Nirad C. Chaudhuri.

• Written when he was around 50, it records his life from his birth in 1897 in Kishoreganj, a small town in present-day Bangladesh.

• Nirad Chandra Chaudhuri CBE was an Indian writer.

• In 1990, Oxford University awarded Chaudhuri, by then a long-time resident of the city of Oxford, an Honorary Degree in Letters.

Additional Information

• Swaminatha Iyer published his autobiography, En Saritham, serialised in the Tamil weekly Ananda Vikatan, from January 1940 to May 1942.

• Justice Anna Chandy, also known as Anna Chandi, was the first female judge and then High Court judge in India.

• Inder Kumar Gujral was an Indian diplomat, politician and freedom activist who served as the 12th prime minister of India from April 1997 to March 1998.

Q84. Answer: (a) Padma Shri

The correct answer is Padma Shri.

Key Points

• The Government of India awarded him the fourth highest civilian honour of the Padma Shri, in 1970, for his contributions to Dance.

• Vedantam Satyanarayana Sarma (1935–2012), popularly known as Satyam, was an Indian classical dancer and choreographer, considered by many as one of the leading exponents of the classical dance form of Kuchipudi.

• Padma Shri, also spelled Padma Shree, is the fourth-highest civilian award of the Republic of India, after the Bharat Ratna, the Padma Vibhushan and the Padma Bhushan.

• Padma Awards were instituted in 1954 to be awarded to citizens of India in identification of their eminent contribution in various spheres of activity as well as the arts, education, industry, literature, science, acting, medicine, social service and public affairs.

Additional Information

• The Padma Bhushan is the third-highest civilian award in the Republic of India, preceded by the Bharat Ratna and the Padma Vibhushan and followed by the Padma Shri.

• The Padma Vibhushan is the second-highest civilian award of the Republic of India, after the Bharat Ratna. Instituted on 2 January 1954, the award is given for "exceptional and distinguished service".

• All persons without distinction of race, occupation, position or sex are eligible for these awards.

Q85. Answer: (c) Alcoholic fermentation

The correct answer is Alcoholic fermentation.

Key Points

• Alcoholic fermentation is a complex biochemical process during which yeasts convert sugars to ethanol, carbon dioxide, and other metabolic byproducts that contribute to the chemical composition and sensorial properties of the fermented foodstuffs.

• Alcoholic fermentation is the process of using yeast to convert sugars into alcohol.

• The main purpose of alcohol fermentation is to produce ATP, the energy currency for cells, under anaerobic conditions.

• So from the yeast's perspective, carbon dioxide and ethanol are waste products.

Additional Information

• Pasteurisation is a process in which packaged and non-packaged foods are treated with mild heat, usually to less than 100 °C, to eliminate pathogens and extend shelf life.

• Lactic acid fermentation is a metabolic process by which glucose or other six-carbon sugars are converted into cellular energy and the metabolite lactate, which is the lactic acid in solution.

• Glycolysis is a cytoplasmic pathway that breaks down glucose into two three-carbon compounds and generates energy.

Q86. Answer: (a) Swaran Bhoomi

The correct answer is Swaran Bhoomi.

Key Points

• Swaran Bhoomi

• 'Swaran Bhoomi' was used for the Indian subcontinent by ancient travellers like Megasthenes, FaHien, Huen Tsang, Al Beruni, Ibn Batuta etc.

• Between the first to seventh centuries, India was the largest economy of the ancient and Medieval World.

• Approximately one-third to one-fourth of the world's wealth is under their control.

• In the writings of several travelers, the country was referred to as Swaranbhumi and Swaran deep.

Additional Information

• Suvarnabhumi appears in many ancient Indian literary sources and Buddhist texts.

• Suvarnabhumi means "Golden Land".
• Ancient sources have associated it with one of a variety of places throughout the Southeast Asia region.
• There were texts mentioning Suvarnabhumi as a land of fortune where an Ancient Prince's ship was boarded for trade.
• Suvarnabhumi is known to be a land of richness and abundance.

Q87. Answer: (a) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• The 'Kalidas Samman' is given by Madhya Pradesh government.
• It is a prestigious award presented annually by the government of Madhya Pradesh.
• The award is named after Kalidasa, a writer of ancient history.
• Dharwad: Renowned Hindustani classical vocalist Pt M Venkateshkumar of Dharwad was recently conferred the prestigious Kalidas Samman for his outstanding contribution in the field of classical music.

Additional Information

• 'Kalidas Samman was established in the year 1980-81.
• In this award, Rs. 2,00,000 and a citation are presented in the fields of classical music, classical dance, theatre, and visual art.
• First recipients: Semmangudi Srinivasa Iyer and Mallikarjun Mansur.

Q88. Answer: (b) Observation of bacteria and protozoa

The correct answer is Observation of bacteria and protozoa.

Key Points

• Leeuwenhoek is universally acknowledged as the father of microbiology.
• He discovered both protists and bacteria.
• More than being the first to see this unimagined world of 'animalcules', he was the first even to think of looking—certainly, the first with the power to see.
• Antonie van Leeuwenhoek used single-lens microscopes, which he made, to make the first observations of bacteria and protozoa.

Additional Information

• The key properties of a stem cell were first defined by Ernest McCulloch and James Till at the University of Toronto and the Ontario Cancer Institute in the early 1960s.
• The ATP molecule was discovered in the year 1929 by German chemist Karl Lohmann.
• Robert Brown discovered the nucleus of the cell in 1804.

Q89. Answer: (b) 2022-2027

The correct answer is 2022-2027.

Key Points

• The Union of India has approved a Centrally Sponsored Scheme, namely, “New India Literacy Programme (NILP)”.
• The NILP has been approved for the next five financial years (2022-27) in order to integrate all the aspects of adult education with the National Education Policy, 2020 (NEP).
• The literacy rate in the country is 74.04 per cent, 82.14 for males and 65.46 for females.
• Kerala retained its position by being on top with a 93.91 per cent literacy rate, closely followed by Lakshadweep (92.28 per cent) and Mizoram (91.58 per cent).

Additional Information

• New India literacy program aims to support the States and Union Territories in promoting literacy among non-literates in the age group of 15 and above.
• It will cover across the country covering 5 crore non-literates during the implementation period from 2022-23 to 2026-27.
• Kerala is the Most literate state in India. The literacy rate of Kerala is 96.2%.

Q90. Answer: (b) AR Rahman

The correct answer is AR Rahman.

Key Points

• A. R. Rahman: Mozart of Madras Isai Puyal.
• Rahman, in full Allah Rakha Rahman, original name A.S. Dileep Kumar, Indian composer whose extensive body of work for film and stage earned him the nickname “the Mozart of Madras.” Rahman's father, R.K.
• A R Rahman is an Indian Music Director, Singer and also a Music producer.

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• He has won many awards till date and is a popular face in the Indian music industry.

Additional Information

• Manayangath Subramanian Viswanathan, also known as M.S.V., was an Indian music director, singer and actor who predominantly worked in Tamil film industry.

• Shankar Mahadevan is an Indian singer and composer who is part of the Shankar–Ehsaan–Loy composing trio team for Indian films.

• Rahul Dev Burman was an Indian music director. From the 1960s to the 1990s, Burman composed musical scores for 331 films.

Q91. Answer: (d) Ruskin Bond

The correct answer is Ruskin Bond.

Key Points

• The Room on the Roof is a novel written by Ruskin Bond. It was Ruskin Bond's first literary venture.

• Ruskin Bond wrote the novel when he was seventeen and won the John Llewellyn Rhys Prize in 1957.

• The novel revolves around Rusty, an orphaned seventeen-year-old Anglo-Indian boy living in Dehradun.

• Due to his guardian, Mr. Harrison's strict ways, he runs away from his home to live with his Indian friends.

• The first official Bengali version of Ruskin Bond's The Room on the Roof has been translated by Partha Pratim Das and published by Book Farm in 2022 as "Chilekothar Ghar".

• Ruskin Bond is an Anglo Indian author. He has authored more than 500 short stories, essays, and novels, including 64 books for children.

Additional Information

• Khushwant Singh was an Indian author, lawyer, diplomat, journalist and politician. His experience in the 1947 Partition of India inspired him to write Train to Pakistan in 1956, which became his most well-known novel.

• Arundhati Roy is an Indian author best known for her novel The God of Small Things, which won the Man Booker Prize for Fiction in 1997 and became the best-selling book by a non-expatriate Indian author.

• Manohar Malgonkar was an Indian author of both fiction and nonfiction in the English language.He was also an army officer, a big game hunter, a civil servant, a mine owner and a farmer.

Q92. Answer: (c) Mumbai

The correct answer is Mumbai.

Key Points

• The Indian Olympic Association (IOA) won the bid to host the International Olympic Committee’s (IOC) next session in Mumbai in 2023.

• The IOC Session is the general meeting of the Members of the IOC and is held at least once every year.

• Important decisions regarding host cities for upcoming events, inclusion or exclusion of sports and federations and changes in the Olympic Charter are made at the IOC Sessions.

• Olympic gold medallist Abhinav Bindra, IOC member Nita Ambani, IOA president Narinder Batra and sports minister Anurag Thakur presented India’s proposal for the hosting rights at this year’s IOC Session, the 139th edition, in Beijing.

• Beijing is currently hosting the 2022 Winter Olympics.India won the bid after 75 members voted in favour of Mumbai while one voted against it.

• The IOC Session 2023, returning to the country after 40 years, will be held in May or June at the state-of-the-art Jio World Centre in Mumbai.

• India last hosted an IOC Session in 1983 in New Delhi.

Additional Information

• The International Olympic Committee is a non-governmental sports organisation based in Lausanne, Switzerland.

• The IOC is the governing body of the National Olympic Committees (NOCs) and of the worldwide "Olympic Movement", the IOC's term for all entities and individuals involved in the Olympic Games.

• As of 2020, there are 206 NOCs officially recognised by the IOC.

• The current president of the IOC is Thomas Bach.

• The Indian Olympic Association or Indian Olympic Committee is the body responsible for selecting athletes to represent India at the Olympic Games, Asian Games and other international athletic meets and for managing the Indian teams at these events.

Q93. Answer: (c) Nandini Sengupta

The correct answer is Nandini Sengupta.

Key Points

• "The King Within" is authored by Nandini Sen Gupta, written in an extremely easy flowing language and vivid detailing, makes

the characters come alive.

• Nandini Sengupta is a Pondicherry-based writer and journalist.

• After a chance trip to the Ajanta and Ellora caves in 2007, she began researching third and fourth-century India which quickly deepened into an obsession with India's glorious past.

• Her first book of fiction, The King Within, was published by HarperCollins India in 2017.

• Her first published work as an author was a non-fiction title called Babies from the Heart published by Random House India.

Additional Information

• Krishna Sobti was an Indian Hindi-language fiction writer and essayist. She won the Sahitya Akademi Award in 1980 for her novel Zindaginama and in 1996, was awarded the Sahitya Akademi Fellowship, the highest award of the Akademi.

• Indu Sundaresan is an Indian-American author of historical fiction. She is also the author of The Splendor of Silence, historical fiction set in a fictional Indian princely state just before Indian independence in 1947. Her work has been translated into some 23 languages worldwide.

• Kiran Nagarkar was an Indian novelist, playwright and screenwriter. A noted drama and film critic, he was one of the most significant writers of post-colonial India.

Q94. Answer: (c) Rahul Dravid

The correct answer is Rahul Dravid.

Key Points

• Rahul Dravid was appointed head coach of India men's cricket team, to take over from the New Zealand series starting November 17.

• Batting legend and former captain Rahul Dravid has been officially appointed as the new head coach of the Indian cricket team, the BCCI announced.

• Rahul Dravid will take over the new role and begin his tenure as India's full-time coach from the home T20I series against New Zealand starting November 17.

• Rahul Dravid replaced coach Ravi Shastri, whose stint comes to an end after the T20 World Cup.

• Rahul Dravid was appointed as the head of the National Cricket Academy in 2019, a position which he will leave before taking over as India’s head coach.

• Before this, he was serving as the Head Coach for the India Under-19 and India A teams from 2016 to 2019.

• Under his mentorship, the India under-19 team was runners-up at the 2016 under-19 Cricket World Cup and winners at the 2018 u-19 Cricket World Cup.

• Known as "The Wall' and Dependable, Dravid is widely regarded as one of the greatest batsmen in the history of cricket.

Additional Information

• Sourav Ganguly, affectionately known as Dada, is an Indian cricket administrator, commentator and former national cricket team captain who is the 39th and current president of the Board of Control for Cricket in India.

• Sachin Tendulkar is an Indian former international cricketer who captained the Indian national team. He is regarded as one of the greatest batsmen in the history of cricket.

• Ravishankar Shastri is the former head coach of the India national cricket team, a cricket commentator and former captain of Indian Cricket Team

Q95. Answer: (b) Groups

The correct answer is Groups.

Key Points

• The vertical columns of Periodic Table is called Groups.

• In chemistry, a group is a column of elements in the periodic table of the chemical elements.

• There are 18 numbered groups in the periodic table; the f-block columns (between groups 2 and 3) are not numbered.

• The elements in a group have similar physical or chemical characteristics of the outermost electron shells of their atoms (i.e., the same core charge), because most chemical properties are dominated by the orbital location of the outermost electron.

• Groups may also be identified using their topmost element, or have a specific name.

• For example, group 16 is also described as the "oxygen group" and as the "chalcogens".

• An exception is the "iron group", which usually refers to "group 8", but in chemistry may also mean iron, cobalt, and nickel, or some other set of elements with similar chemical properties.

• In astrophysics and nuclear physics, it usually refers to iron, cobalt, nickel, chromium, and manganese.

Additional Information

• In chemistry and physics, a valence electron is an electron in the outer shell associated with an atom, and that can participate in the formation of a chemical bond if the outer shell is not closed.

• A period in the periodic table is a row of chemical elements. All elements in a row have the same number of electron shells.

• The k, l, m, and n are called atomic orbitals. Filling up these orbitals with electrons builds atoms, and the way in which atoms are built up gives rise to the periodic table.

Q96. Answer: (c) Kuchipudi

The correct answer is Kuchipudi.

Key Points

• Vedantam Satyanarayana Sarma, popularly known as Satyam, was an Indian classical dancer and choreographer, considered by many as one of the leading exponents of the classical dance form of Kuchipudi.

• He was known for his portrayal of female characters such as Usha, Satyabhama, Deva Devi, Mohini, Sasirekha, and Gollabhama.

• He was a recipient of several honors including Kalidas Samman, Sangeet Natak Akademi Award, and Sangeet Natak Akademi Fellowship.

• The Government of India awarded him the fourth highest civilian honor of the Padma Shri, in 1970, for his contributions to Dance.

• It is said that once even Prime Minister Jawaharlal Nehru sat coyly next to Vedantam in the audience recollecting the role that Vedantam had played as a female and the immediate reaction to consider him as the character itself and the basic etiquette that a female is required to show in public.

Additional Information

• Odissi, also referred to as Orissa in old literature, is a major ancient Indian classical dance that origin in the Hindu temples of Odisha – an eastern coastal state of India.

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

• Kathak is one of the eight major forms of Indian classical dance.It is the classical dance form of Uttar Pradesh. The origin of Kathak is traditionally attributed to the traveling bards in the of ancient northern India known as Kathakars or storytellers.

Q97. Answer: (d) Jamshedpur

The correct answer is Jamshedpur.

Key Points

• The JRD Tata Sports Complex Stadium is a 40,000-capacity stadium in Jamshedpur, India.

• It is currently used mostly for association football matches and athletics competitions.

• It has been the home stadium of Jamshedpur FC since the 2017–18 season.

• The stadium holds 24,424-40,000 spectators for sports matches.

• The JRD Tata Sports Complex is the largest sports arena in Jamshedpur, India.

• The sports complex is also used for conducting the Annual Sports Day of many reputed schools in Jamshedpur.

• As a multi-use stadium, it provides athletes facilities to board, train and compete in the same sports arena.

• The complex has an international size football pitch with an eight-lane mono-synthetic running track around the field.

Additional Information

• Visakhapatnam is a port city and industrial center in the Indian state of Andhra Pradesh, on the Bay of Bengal.

• Ranchi is the capital of the Indian state of Jharkhand. Ranchi was the centre of the Jharkhand movement, which called for a separate state for the tribal regions of South Bihar, northern Orissa, western West Bengal and the eastern area of what is present-day Chhattisgarh.

• Rourkela is a planned city located in the northern part of Odisha, India. It is the third-largest Urban Agglomeration in Odisha.

Q98. Answer: (d) 62

The correct answer is 62.

Key Points

• The judge of High court retires at the age of 62.

• According to Article 124(2) of the Constitution, the age of retirement for Supreme Court judges is 65.

• As per Article 217(1) of the Constitution, High Court judges retire at 62.

• Initially, the retirement age of High Court judges was 60, which was later in 1963 increased to 62 through the 15th constitutional amendment Bill.

• The idea of increasing the age of retirement for judges has been mooted for decades as a solution for dealing with mounting pendency of cases and judicial vacancies. It has also been discussed in the context of ensuring serving judges do not look for post-retirement jobs from the executive.

• Attorney General for India K K Venugopal has been one of the vocal advocates of increasing tenure of the judges, and has consistently spoken about it at every farewell of Supreme Court judges since 2017.

Additional Information

• The High Courts of India are the highest courts of appellate jurisdiction in each State and Union Territory of India.

• Judges in a high court are appointed by the president of India in consultation with the chief justice of India and the governor of the state under Art 217 of the Constitution but through subsequent judicial interpretations, the primacy of the appointment process is in the hands of the Judicial Collegium. High courts are headed by a chief justice.

• The chief justices rank fourteenth (within their respective states) and seventeenth (outside their respective states) on the Indian order of precedence.

• The number of judges in a court is decided by dividing the average institution of main cases during the last five years by the national average, or the average rate of disposal of main cases per judge per year in that high court, whichever is higher.

Q99. Answer: (a) 1976

The correct answer is 1976.

Key Points

• The Regional Rural Banks Act was passed in 1976.

• Regional Rural Banks were established under the provisions of an ordinance passed on 26 September 1975 and the RRB Act 1976 to provide sufficient banking and credit facility for agriculture and other rural sectors.

• As a result, five RRBs were set up on 2 October 1975 on the recommendations of the Narasimham Committee on Rural Credit, during the tenure of Indira Gandhi's government.

• The purpose was to include rural areas into the economic mainstream since around 70% of the Indian population was rural.

• Prathama Bank, with head office in Moradabad, Uttar Pradesh was the first RRB. It was sponsored by Syndicate Bank and had an authorised capital of Rs. 5 crore.

• The other four RRBs were Gaur Gramin Bank (sponsored by UCO Bank), Gorakhpur Kshetriya Gramin Bank (sponsored by State Bank of India), Haryana Kshetriya Gramin Bank (sponsored by Punjab National Bank), and Jaipur-Nagaur Anchalik Gramin Bank (sponsored by UCO Bank).

• The RRBs were owned by the central government, state government, and the sponsoring bank with 50%, 15%, and 35% shareholding respectively

Additional Information

• The Companies Act 1956 was an Act of the Parliament of India, enacted in 1956, which enabled companies to be formed by registration, and set out the responsibilities of companies, their directors and secretaries.

• The Consumer Protection Act,1986 was an Act by the Parliament of India enacted to protect the interests of consumers in India. It was replaced by the Consumer Protection Act, 2019.

• The Seed Act 1966 was passed by the Indian Parliament on 29th December 1966 and it came into force from 2nd October, 1969. In addition, Seed Regulation Order was also passed in December 1983. The sole objective of this Act and Order has been to ensure that the Indian farmers get good quality seeds of important crops.

Q100. Answer: (c) Kathak

The correct answer is Kathak.

Key Points

• Dr. Purushottam Dadheech is a Kathak dancer. He is a choreographer and educator of Indian classical dance and is known for his pioneering work in the field of Kathak.

• The oldest Kathak department which was formed in 1956 at Indira Kala Sangeet Vishwavidyalaya Public University located in Khairagarh, Purushottam Dadheech instated the first Kathak syllabus in 1961.

• He is the holder of the first Doctorate in Kathak Classical Dance and emphasizes the relevance of Shastras (Indian Ancient Dance treatises like Natyashastra and Nandikeshvara's Abhinaya Darpana) in the Kathak repertoire.

• He was awarded Padma Shri, the 4th highest civilian award in India.

• He is currently serving as the Director of the world’s first dedicated Kathak Research Centre at the Sri Sri University, Cuttack called Sri Sri Centre for Advanced Research in Kathak.

Additional Information

• Mohiniyattam, is an Indian classical dance form that developed and remained popular in the state of Kerala.

• Kuchipudi is one of the eight major Indian classical dances. It originates from a village named Kuchipudi in the Indian state of Andhra Pradesh.

• Odissi, also referred to as Orissa in old literature, is a major ancient Indian classical dance that origin in the Hindu temples of Odisha – an eastern coastal state of India.

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