SSC CHSL Tier-1 2021: Official Paper (Held On : 26 May 2022 Shift 3) (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 option that can substitute the underlined segment in the given sentence.

In order to win the competition, one has to be creative.

(a) most creative
(b) more creative
(c) creativest
(d) creativer

Q2. Select the option that can be used as a one-word substitute for the given group of words.

Eternal; lasting forever or indefinitely.

(a) Peristyle
(b) Perpetual
(c) Perplex
(d) Permissive

Q3. Select the INCORRECTLY spelt word.

(a) Cavalier
(b) Elegant
(c) Charishma
(d) Dominate

Q4. Select the most appropriate option to substitute the underline segment in the given sentence.

The Ukranian soldiers passed in for several weeks.

(a) hanged to
(b) get off
(c) held out
(d) hanged in

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

We should _____ his outfit as he has put on weight.

(a) alter
(b) altar
(c) ultra
(d) utter

Q6. Select the most appropriate synonym of the given word.

Sanguinity.

(a) Acrimony
(b) Despondence
(c) Optimism

(d) Distrust

Q7. Select the correct homonym from the given options to fill in the blank.

The French perfume has a wonderful_____.

(a) sent
(b) send
(c) scent
(d) cent

Q8. Select the option that expresses the given sentence in active voice.

The new bride is going to be admired by everyone in the family.

(a) Everybody in the family is going to admire the new bride.
(b) Everybody in the family was admiring the new bride.
(c) Everybody in the family has been going to admire the new bride.
(d) Everybody in the family was going to admire the new bride.

Q9. Select the option that can be used as a one-word substitute for the underlined group of words.

Mohan frequently wastes his money on luxurious objects such as cars and digital devices.

(a) Extravagant
(b) Businessman
(c) Consumer
(d) Capitalist

Q10. Select the most appropriate meaning of the given idiom.

Safe pair of hands.

(a) Miss an opportunity
(b) Speak rashly without thinking carefully
(c) A secret or hidden advantage
(d) A person who can be trusted to do something efficiently

Q11. Select the option that can be used as a one-word substitute for the given group of words.

An outlook that is influenced by people from all over the world.

(a) Cosmopolitan
(b) Epitome
(c) Unrefined
(d) Cantonment

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

Admittance was refused to him by the airport security.

(a) The airport security is refusing him admittance.
(b) The airport security has refused him admittance.
(c) The airport security had refused him admittance.
(d) The airport security refused him admittance.

Q13. Select the most appropriate option that can substitute the underlined segment in the given sentence.

I told Pooja that she could have use my car to get around while she is in my hometown.

(a) that she could have use my car to get around with
(b) that she can use my car to get around
(c) that she could have use my car to get away
(d) that she can use my car to get away with

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Q14. Select the INCORRECTLY spelt word.

(a) Gothic
(b) Neutron
(c) Frosty
(d) Decieve

Q15. From among the words given in bold, select the INCORRECTLY spelt word in the following sentence.

Almost all the governors of Bengal strongly resented the special privileges enjoyed by English company as it meant a huge loss to the provinciel exchequer.

(a) provinciel
(b) resented
(c) exchequer
(d) privileges

Q16. Select the option that expresses the given sentence in passive voice.

The government presented awards to eminent people.

(a) Eminent people were presented awards by the government.
(b) Eminent people are presented awards by the government.
(c) Eminent people are being presented awards by the government.
(d) Eminent people were being presented awards by the government.

Q17. Select the most appropriate option that can substitute the underlined word in the given sentence.

Due to his hard work, he established a succesful career.

(a) successful
(b) sucessful
(c) sucessfful
(d) sucessfull

Q18. 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. Dumbledore tells McGonagall that someone named Voldemort has killed a Mr. and Mrs. Potter and tried unsuccessfully to kill their baby son, Harry.

B. Dumbledore leaves Harry with an explanatory note in a basket in front of the Dursley home.

C. Mr. Dursley, a well-off Englishman, notices strange happenings on his way to work one day.

D. That night, Albus Dumbledore, the head of a wizardry academy called Hogwarts, meets Professor McGonagall, who also teaches at Hogwarts, and a giant named Hagrid outside the Dursley home.

(a) BCAD
(b) DCAB
(c) ADBC
(d) CDAB

Q19. Select the most appropriate synonym of the underlined word.

We expended most of our savings on this tour.

(a) exhausted
(b) earned
(c) enjoyed
(d) encashed

Q20. Select the most appropriate meaning of the given idiom.

Let down

(a) To hire
(b) To care about
(c) To fail
(d) To nurse

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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.

Trust is (1) _____ confidence, faith and hope in someone or something. There are many ways to show trust. If you want to be trusted, just be (2)_____. Trust takes years to build, seconds to (3) ____ and forever to repair. Trust is like a mirror you can fix if (4) ___ but still see the cracks in that reflection. Whether it is a friendship or a relationship, all (5)_____ are based on trust.

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

(a) bonding
(b) showing
(c) using
(d) choosing

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

(a) calm
(b) honest
(c) extraordinary
(d) heroic

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

(a) crack
(b) change
(c) break
(d) burst

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

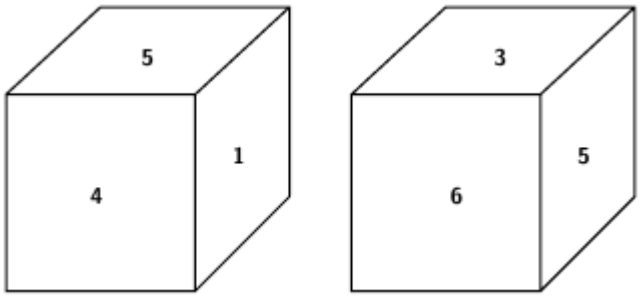
(a) broken
(b) bent
(c) changed
(d) mended

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

(a) strategies
(b) tricks
(c) practices
(d) bonds

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 '2'.



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

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Q27. 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.

SOCCER : OSFFRE :: ROLLER : OROORE :: TOPPER : ?

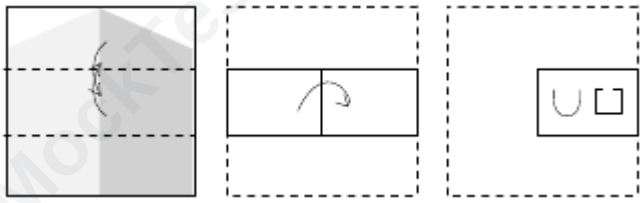
(a) TOERPK
(b) OTSSRE
(c) OTPPRE
(d) TOSSRE

Q28. If P denotes '×', Q denotes '÷', R denotes '+' and S denotes '−', then what will come in place of '?' in the following equation?

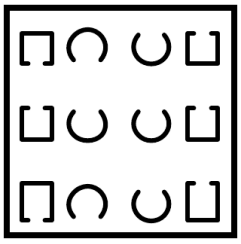
(40 Q 4) P 5 R (3 P 6) S (7 P 8) R 21 = ?

(a) 33
(b) 30
(c) 40
(d) 35

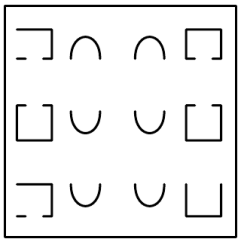
Q29. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



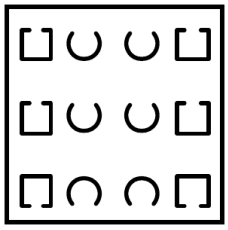
(a)



(b)

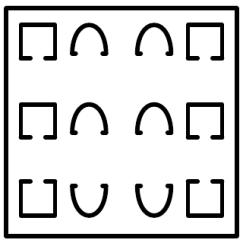


(c)



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(d)



Q30. Select the option that is related to the third term in the same way as the second term is related to the first term and the sixth term is related to the fifth term.

5 : 14 :: 12 : ? :: 17 : 86

(a) 51
(b) 56
(c) 67
(d) 63

Q31. In a certain code language, 'HELP' is written as '1652432' and 'SAVE' is written as '381445'. How will 'MAIL' be written in that language?

(a) 261926
(b) 261924
(c) 261934
(d) 261928

Q32. 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) 13 : 28.5
(b) 15 : 32.5
(c) 19 : 38.5
(d) 17 : 35.5

Q33. R is the brother of N. R is the only son of K. S is the only daughter-in-law of K. How is N related to S?

(a) Sister
(b) Daughter
(c) Mother
(d) Husband's sister

Q34. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(56, 8, 15)

(32, 16, 18)

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

(a) (75, 5, 15)
(b) (70, 5, 13)
(c) (66, 6, 17)
(d) (68, 4, 17)

Q35. Select the correct mirror image of the given combination when the mirror is placed at MN as shown.

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BanGAlORe



(a)



(b)



(c)



(d)



Q36. Three Statements are given followed by Three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

All ants are beetles.

No beetle is a frog.

Some frogs are bugs.

Conclusions:

I. Some bugs are ants.

II. No bug is a beetle.

III. No frog is an ant.

(a) Both conclusions I and II follow.

(b) Only conclusion III follows.

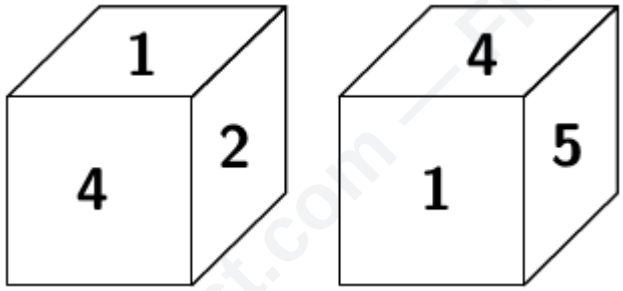
(c) Only conclusion I follows.

(d) Both conclusions I and III follow.

Q37. 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.

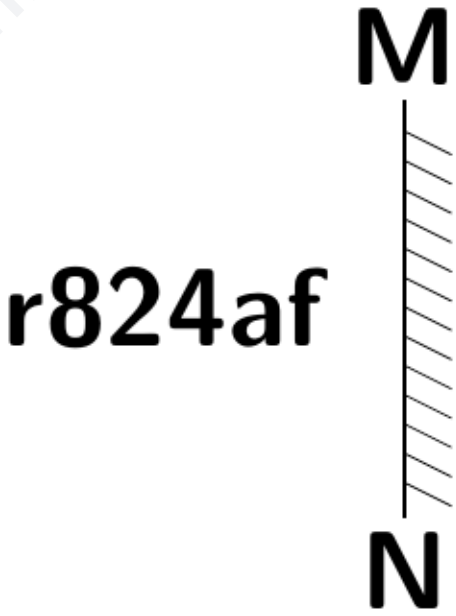
(a) 25 : 3
(b) 64 : 6
(c) 100 : 9
(d) 81 : 7

Q38. Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. When '3' is at the bottom, which number will be on the top?



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

Q39. Select the correct mirror image of the given combination when the mirror is placed at MN as shown.



(a)



(b)



(c)



(d)



Q40. In a certain code language, 'WAVE' is coded as ‘426522’ and ‘SOUND’ is coded as ’81261323’. How will 'LIGHT' be coded in that language?

(a) 131820197
(b) 151820197
(c) 151820166
(d) 151880197

Q41. The birth date of Viaan is 9 March 2002. Find the day of the week of that day.

(a) Saturday
(b) Tuesday
(c) Monday
(d) Friday

Q42. Which letter-cluster will replace the question mark (?) to complete the given series?

TBNF, CJUL, LRBR, UZIX, ?

(a) CHPC
(b) DHPC
(c) CHPD
(d) DHPD

Q43. Select the correct combination of mathematical signs to replace the * signs and to balance the given equation.

39 * 4 * 61 * 18 * 4 * 49 * 7 * 30

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

Q44. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

First row: 17, 26, 60

Second row: 8, 15, 31

Third row: 11, 19, ?

(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) 52
(b) 41
(c) 48
(d) 50

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

50 * 2 * 3 * 30 * 10 * 40 * 20

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

Q46. 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) 24 : 8
(b) 16 : 4
(c) 48 : 12
(d) 20 : 5

Q47. Which of the following numbers will replace the question mark (?) in the given series?

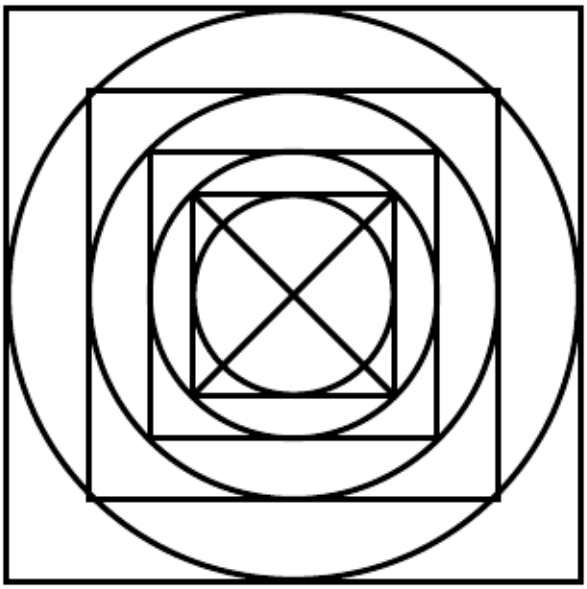
23, 28, 280, 295, 5900, ?

(a) 5920
(b) 5935
(c) 5925
(d) 5930

Q48. In a certain code language, 'DUCK' is written as 'FSEI' and ‘FISH’ is written as ‘HGUF’. How will 'FROG' be written in that language?

(a) HEPQ
(b) HQPE
(c) HPEQ
(d) HPQE

Q49. How many triangles are there in the given figure?



(a) 10

(b) 20
(c) 8
(d) 18

Q50. Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.

_ M o N _ _ _ o M _ _ o _ _o M _ N o J o

(a) o o J o o N J o M
(b) o o J o o N J o o
(c) o M J o o N J o o
(d) M o J o o N J o o

QUANTITATIVE APTITUDE

Q51. Simplify the following expression.

9 1/5 ÷ {(16 1/5 ÷ 122/3-92/3) + 17 1/2 of 3 1/21 }

(a) 139/881
(b) 137/881
(c) 140/881
(d) 138/881

Q52. If the diameter of a solid hemisphere is 14 cm, then what will be its total surface area? (π = 22/7)

(a) 462 cm^2
(b) 362 cm^2
(c) 486 cm^2
(d) 261 cm^2

Q53. A and B working separately can do a piece of work in 21 and 24 days, respectively. If they work for a day alternately with A beginning the work, it would be completed in _____.

(a) 24 1/8 days
(b) 22 3/8 days
(c) 22 2/5 days
(d) 22 1/8 days

Q54. The third proportional to 81 and 27 is:

(a) 8
(b) 6
(c) 7
(d) 9

Q55. The marked price of a study table is Rs. 3,200. It will be offered for Rs. 2,448 after two successive discounts. If the first discount is 10%, the second discount is:

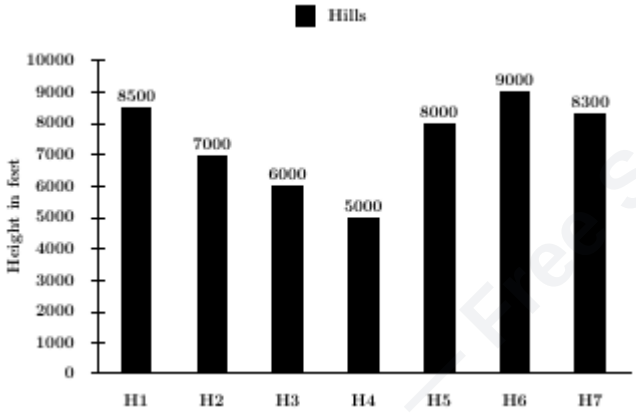
(a) 13%
(b) 10%
(c) 15%
(d) 18%

Q56. If the 3-digit number 2x3 is divisible by 3, then the value of x^2+ x is (consider the maximum value of x):

(a) 7
(b) 20
(c) 56
(d) 2

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Q57. A given bar chart shows the heights of seven hills. Study the graph and answer the questions that follows.



Which hill is the third highest?

(a) H3
(b) H2
(c) H7
(d) H5

Q58. In an election between two candidates, 10% of the voters did not cast their vote and 5% of the votes polled were found invalid. The successful candidate got 55% of the valid votes and won by a majority of 1710 votes. How many voters were enrolled?

(a) 20000
(b) 21000
(c) 19000
(d) 20500

Q59. 15 identical solid spherical balls of radius 5 cm are melted to form a single sphere. In this process, 35% of the mass is wasted. What is the radius (in cm) of the single sphere that is now formed? [Use π = 22/7, and give your answer correct to two decimal places.]

(a) 12.68 cm
(b) 16.68 cm
(c) 10.68 cm
(d) 34.68 cm

Q60. If $(x + 1/x) = 11/5$, what is the value of $(x^3 + 1/(x^3))$?

(a) 4 6/125
(b) 5 101/125
(c) 10 81/125
(d) 17 31/125

Q61. The side of a square is 5 cm. If the side is doubled, by how many times will the area of the square increase?

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

Q62. A bus goes to Mumbai from Delhi at the speed of 60 km/h for 60% of the journey, and covers the remaining part of its journey at the speed of 70 km/h. What is the average speed of the bus (in km/h) during the entire journey under consideration?

(a) 67
(b) 64
(c) 66
(d) 65

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Q63. The following table shows the production of five types of cars by a company for the years 2012 to 2015.

Types of cars	Years				
2012	2013	2014	2015	2016	
D1	7	21	17	6	51
D2	15	11	15	14	55
D3	20	15	12	13	60
D4	5	8	9	25	47
D5	19	15	18	15	67
Total	66	70	71	73	280

Which type of car constituted 30% of all cars produced by the company during 2013?

(a) D4
(b) D1
(c) D3
(d) D2

Q64. A manufacturer sells an item to a wholesale dealer at a profit of 11%. The wholesaler sells the same to a retailer at a profit of 15%. The retailer in turn sells it to a customer for Rs. 17,045, thereby earning a profit of 19%. The cost price of the manufacturer is (consider integral part only):

(a) Rs. 13,520
(b) Rs. 15,020
(c) Rs. 10,200
(d) Rs. 11,220

Q65. In an examination, the average marks of 60 girls is 15 and the average marks of 40 boys is 30. The average marks of the group in which the boys and girls are taken together is:

(a) 15
(b) 21
(c) 24
(d) 60

Q66. If $1 + x^2 + x^4 = 585$ and $1 - x + x^2 = 65$, then find the value of $1 + x + x^2$.

(a) 8
(b) 7
(c) 6
(d) 9

Q67. A grocer has a sale of Rs. 8,435, Rs. 8,927, Rs. 8,855, Rs. 9,230 and Rs. 8,562 in 5 consecutive weeks. How much sale must he have in the 6th week so that he gets an average sale of Rs. 8,500?

(a) Rs. 7009
(b) Rs. 6997
(c) Rs. 6991
(d) Rs. 7011

Q68. Ram is travelling at a speed of 72 km per hour while Shyam is travelling at a speed of 90 km per hour. What is the difference in their speeds (in metres per second)?

(a) 5
(b) 4
(c) 6
(d) 7

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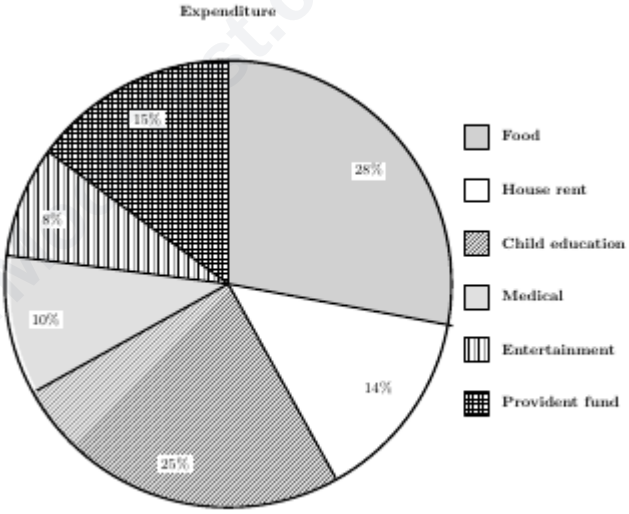
Q69. A tractor is sold by giving three successive discounts of 10%, 5% and 2%. If the marked price of the tractor is Rs 4,88,000, then find its net selling price

(a) Rs 5,08, 895.2
(b) Rs 4,49, 895.06
(c) Rs 4,18, 895.45
(d) Rs 4,08, 895.2

Q70. If a = 2022, b = 2021 and c = 2020, then value of $a^2 + b^2 + c^2 – ab – bc – ca$ is:

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

Q71. The pie-chart given below shows the monthly expenditure incurred by a family on various heads as a percentage of the total monthly income of the family. If the total monthly income of the family is Rs. 70,000, then what is the monthly expenditure incurred by the family on the house rent?



(a) Rs. 9,600
(b) Rs. 9,500
(c) Rs. 9,700
(d) Rs. 9,800

Q72. Calculate the difference between the compound interest and the simple interest on an amount of Rs. 5,000 at the rate of 8% for 3 years. (nearest Rs.)

(a) Rs. 108
(b) Rs. 105
(c) Rs. 102
(d) Rs. 99

Q73. Two parallel chords are drawn in a circle of diameter 10 m. The length of a chord is 8 m and the distance between the two chords is 6 m. Find the length of the second chord.

(a) 10 m
(b) 6 m
(c) 4 m
(d) 8 m

Q74. Evaluate the following expression:

$3 \tan^2 45° + 2 \cos 60° - 2 \sin 30°$

(a) 3
(b) 4

(c) 0
(d) 2

Q75. If the price of rice is increased by 20%, then by what percent should a person decrease the consumption of rice so that his expenditure remains the same? (correct to one decimal place)
(a) 14.7%
(b) 18.7%
(c) 16.7%
(d) 12.7%

GENERAL AWARENESS

Q76. Which Indian woman hockey player was made the brand ambassador of the Centre's 'Beti Bachao, Beti Padhao' scheme for Haridwar district in August 2021?
(a) Vandana Katariya
(b) Manpreet Kaur
(c) Rashmita Minz
(d) Rajani Etimarpu

Q77. What is the distance of the Marathon race?
(a) 42.195 km
(b) 46.195 km
(c) 43.195 km
(d) 44.195 km

Q78. Which Indian musician won a Grammy twice for Danny Boyle’s film Slumdog Millionaire in 2010?
(a) AR Rahman
(b) Vishal Bharadwaj
(c) Bappi Lahiri
(d) Pritam Chakraborty

Q79. Who among the following is associated with the Tabla?
(a) Hariprasad Chaurasia
(b) Sultan Khan
(c) Zakir Hussain
(d) Amjad Ali Khan

Q80. Which element replaced eka aluminium according to the Mendeleev’s periodic table?
(a) Boron
(b) Germanium
(c) Gallium
(d) Sodium

Q81. In which year was the POSHAN Abhiyaan launched to emphasise the nutritional status of adolescent girls, pregnant women, lactating mothers, and children in the age group of 0-6 years?
(a) 2016
(b) 2019
(c) 2017
(d) 2018

Q82. Who among the following versatile musicians of India won the Best Music Director National Award for the Hindi movie ‘Rudaali’ and was also known as the ‘Bard of Brahmaputra’?
(a) Bhupen Hazarika
(b) Manas Robin
(c) Joi Barua

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(d) Jayanta Hazarika

Q83. Ashish Sankrityayan is an exponent of _____ music.

(a) Odissi
(b) Dhrupad
(c) Thumri
(d) Kajari

Q84. Who among the following writers has written the famous Hindi novel ‘Godan’?

(a) Mahadevi Verma
(b) Jai Shankar Prasad
(c) Amrita Pritam
(d) Munshi Premchand

Q85. Who among the following personalities is a Padma Vibhushan, legendary Indian Classical Dancer behind reviving the classical dance form of Odissi in the 20th century?

(a) Surendra Nath Jena
(b) Gangadhar Pradhan
(c) Hare Krishna Behera
(d) Kelucharan Mohapatra

Q86. Identify the chemical name for Ge.

(a) Gallium
(b) Gold
(c) Germanium
(d) Gadolinium

Q87. What percentage of the rural population uses safe and functional toilets as per the 2019-20 National Sample Survey report?

(a) 83%
(b) 95%
(c) 82%
(d) 88%

Q88. The nineteenth century saw the golden age of Kathak under the patronage of Wajid Ali Shah, the last Nawab of _____.

(a) Hyderabad
(b) Rampur
(c) Awadh
(d) Jaunpur

Q89. The rate at which RBI lends to commercial banks for the short term is called _____.

(a) repo rate
(b) reverse repo rate
(c) bank rate
(d) cash reserve rate

Q90. Who among the following won Arjuna Award 2021 in Para Archery discipline?

(a) Abhishek Verma
(b) Harvinder Singh
(c) Rishabh Yadav
(d) Aman Saini

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Q91. How many types of writs can be issued by the Supreme Court of India for the protection of Fundamental Rights?

(a) 5
(b) 4
(c) 7
(d) 6

Q92. Vannadil Pudiyaveettil Dhananjayan and Shanta Dhananjayan, popularly known as the Dhananjayans were awarded with Rashtriya Kalidas Samman for the year _____.

(a) 2018-19
(b) 2019-20
(c) 2020-21
(d) 2017-18

Q93. Which Manipuri Classical Dancer opened the 'Govindji Nartanalaya' dance school for women in Imphal?

(a) Chandrakanta Singh
(b) Bipin Singh
(c) Senarik Rajkumar
(d) Nileshwar Mukherjee

Q94. Which of the following was the venue of the first ICC Test Championship final between India and New Zealand?

(a) South Africa
(b) England
(c) New Zealand
(d) India

Q95. In January 2021, which state/Union Territory issued its 'School Bag Policy 2020', according to which the weight of the school bag should be at a maximum of 3.5 kgs to 5 kgs?

(a) Telangana
(b) Maharashtra
(c) West Bengal
(d) Delhi

Q96. Which of the following groups consists of elements that are non-reactive, monoatomic elements with extremely low boiling points?

(a) Group 18
(b) Group 16
(c) Group 15
(d) Group 13

Q97. Which of the following books is an autobiography of the Indian constitutional jurist Fali S Nariman?

(a) Courage and Commitment
(b) Before Memory Fades: An Autobiography
(c) Wandering in Many Worlds
(d) All From Memory: An Autobiography

Q98. Which of the following is a mountain pass in the Pir Panjal range at a maximum altitude of 2832 metres that connects the Kashmir Valley in the Union Territory of Jammu and Kashmir with the Outer Himalayas and the plains in the south?

(a) Mana Pass
(b) Banihal Pass
(c) Bara-Lacha Pass
(d) Zoji La

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Q99. 'I, Me, Mine' is the autobiography of which international musician?

(a) George Harrison
(b) Justin Bieber
(c) AR Rahman
(d) Elton John

Q100. Identify the cell that is amoeboid in shape.

(a) Nerve cell
(b) Columnar epithelial cell
(c) Red blood cell
(d) White blood cell

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ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) more creative

The correct answer is more creative.

Key Points

• The use of a comparative degree is appropriate here.
• In the sentence it is written that a person can win a competition only if he/she is better or more creative than others.
• Example: One has to be faster in order to win a race.

Hence, more creative should substitute creative in the given sentence.

• The correct answer is option 2.

Additional Information

• To describe, quantify, modify or identify nouns/pronouns, adjectives are used or reused. Adjectives have their own degrees called degrees of adjectives or degrees of comparison that compare one thing/person to another.
• There are three degrees of comparison: Positive, Comparative, and Superlative.
• Example:
• Riya is beautiful. (Positive degree)
• Riya is more beautiful than Diya. (Comparative degree)
• Riya is the most beautiful girl in our class. (Superlative degree)

Q2. Answer: (b) Perpetual

The correct answer is Perpetual.

Key Points

• Perpetual: continuing for a long period of time without stopping.
• Eternal: existing or continuing for ever.
• Thus, the one-word substitute for the given group of words is Perpetual.

The correct answer is option 2.

Additional Information

• Peristyle: a row of columns surrounding a space within a building such as a court or internal garden or edging a veranda or porch.

• Perplex: make (someone) feel completely baffled.

• Permissive: having, allowing or showing a lot of freedom that many people do not approve of

Q3. Answer: (c) Charishma

The erroneous spelling is Charishma.

Key Points

• The correct spelling and meaning of the selected option are as follows:

• Charisma: a powerful personal quality that some people have to attract and influence other people.

Thus, the incorrectly spelt word is Charishma.

• Thus,the correct answer is option 3.

Additional Information

• Cavalier: showing a lack of proper concern; offhand.

• Elegant: having a good or attractive style.

• Dominate: to be more powerful, important.

Q4. Answer: (c) held out

The correct answer is held out.

Key Points

• Hold out: refuse to accept something that does not think is good enough or large enough.

• Pass in: to give something to a person who will review it.

• The given sentence is in Simple Past tense. Hence, V2 of hold out will be used here.

Therefore, the most appropriate option in the given context is held out.

Additional Information

• Hang to: to hold or clutch tenaciously.

• Get off: escape a punishment; be acquitted.

• Hang in: remain persistent and determined in difficult circumstances.

Q5. Answer: (a) alter

The correct answer is alter.

Key Points

• Alter: to make something different in some way, but without changing it completely.

• Example: There is a need to alter this dress as it is very long.

• In the given context, alter is the most appropriate word.

Hence, the correct word for filling the blank is 'alter'.

Thus, the correct answer is option 1.

Additional Information

• Altar: a high table that is the center of a religious ceremony.

• Ultra: extremely.

• Utter: to say something.

Q6. Answer: (c) Optimism

The correct answer is Optimism.

Key Points

• Let's understand the meaning of the given word.

• Sanguinity: the quality or condition of being optimistically cheerful and confident.

• Example: He becomes immensely disappointed, and lies to his family about the sanguinity of his job prospects.

• **Let's understand the meaning of the marked option :

• Optimism: the feeling that the future will be good or successful.

• Example: There is growing optimism that the problem can be corrected.

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• **From the given meaning and the example given above, we are sure that both words are in similar meanings to each other.
• Thus, the correct synonym of Sanguinity is Optimism.
• Therefore, the correct answer is option 3.
Additional Information
Let's understand the meaning of the other given options:
• Acrimony: angry and bitter feelings or words.
• Despondence: feeling or showing extreme discouragement, dejection, or depression.
• Distrust: a lack of trust.

Q7. Answer: (c) scent

The correct answer is scent.
Key Points
• Scent: a pleasant smell.
• The sentence is about French perfume, therefore scent is the appropriate word here.
Hence, the correct homonym to fill in the blank is scent.
Additional Information
• Homonym: a word that is spelled and pronounced like another word but that has a different meaning.
• Sent: V2 of send.
• Send: to tell somebody to go somewhere.
• Cent: a monetary unit in various countries, equal to one-hundredth of a dollar, euro, or other decimal currency units.

Q8. Answer: (a) Everybody in the family is going to admire the new bride.

The correct answer is Everybody in the family is going to admire the new bride.
Key Points
• The given sentence is in Future (going to) tense.
• The structure of this tense in active and passive forms is as follows:
• Active voice: Subject + is/am/are going to + V1 + Object.
• Passive voice: Object + is/am/are going to + be + V3 + by + Subject.
• Example:
• Active voice: I am going to do that work.
• Passive voice: That work is going to be done by me.
Hence, the correct option is Option 1.

Q9. Answer: (a) Extravagant

The correct answer is Extravagant.
Key Points
• Extravagant: spending or costing too much money.
Therefore, the option that can be used as a one-word substitute for the underlined group of words is Extravagant.
Additional Information
• Businessman: a man who works in business.
• Consumer: a person who buys things or uses services.
• Capitalist: Someone who hopes to profit by investing money or financing business ventures.

Q10. Answer: (d) A person who can be trusted to do something efficiently

The solution is in Hindi. Read it online.

Q11. Answer: (a) Cosmopolitan

The correct answer is Cosmopolitan.
Key Points
• Cosmopolitan: containing people from all over the world.
• Example: London is a cosmopolitan city.
• Thus, the correct answer is option 1.
Thus, the one-word substitute for the given group of words is Cosmopolitan.
Additional Information

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• Epitome: a perfect example of something.
• Unrefined: not processed to remove impurities or unwanted elements.
• Cantonment: a military garrison or camp.

Q12. Answer: (d) The airport security refused him admittance.

The correct answer is The airport security refused him admittance.

Key Points

• The given sentence is in Simple Past tense.
• The structure of active and passive forms in Simple Past tense is as follows:
• Active: Subject + V2 + Object
• Passive: Object + was/were + V3 + by + Subject
• Example:
• Active: Our teacher taught this chapter in the last class.
• Passive: This chapter was taught by our teacher in the last class.

Hence, the option that expresses the given sentence in active voice is The airport security refused him admittance.

Q13. Answer: (b) that she can use my car to get around

The correct answer is 'that she can use my car to get around.'

Key Points

• While is a conjunction that is used to express what happens when something else important takes place.
• Both time and the main clause should be in same tense.
• Time clause is in the present tense, hence the main clause should also be in present tense.
• Get around: to be able to go to different places without difficulty.
• So, the given sentence is talking about a person who was told to use a car to visit different places while she is in their hometown.
• We will use 'get around' and that is in marked option 2.
• Thus, the correct answer is option 2.

Additional Information

• Get away: escape.

Q14. Answer: (d) Decieve

The correct answer is Decieve.

Key Points

• The correct spelling and meaning of the chosen option are as follows:
• Deceive: to try to make somebody believe something that is not true

Therefore, the incorrectly spelled word is Decieve.

Additional Information

• Gothic: the extinct language of the Goths.
• Neutron: one of the three types of particles that form all atoms.
• Frosty: very cold.

Q15. Answer: (a) provinciel

The correct answer is provinciel.

Key Points

• The correct spelling and meaning of the selected option are:
• Provincial: connected with one of the large areas that some countries are divided into.

Thus, the incorrectly spelled word in the given sentence is provinciel.

• Thus, the correct answer is option 1.

Additional Information

• The spellings of all other given words are correct.
• The meanings of other given words are as follows:
• Resented: to feel angry about something because you think it is unfair
• Exchequer: the public or national supply of money
• Privileges: a special right or advantage that only one person or group has

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Q16. Answer: (a) Eminent people were presented awards by the government.

The correct answer is Eminent people were presented awards by the government.

Key Points

• The given sentence is in Simple Past tense.

• The structure of active and passive forms in Simple Past tense is as follows:

• Active: Subject + V2 + Object

• Passive: Object + was/were + V3 + by + Subject

• Example:

• Active: My father cooked food yesterday.

• Passive: Food was cooked by my father yesterday.

Thus, the correct passive voice of the given sentence is Eminent people were presented awards by the government.

Q17. Answer: (a) successful

The correct answer is successful.

Key Points

• The spelling of successful is incorrect in the given sentence.

• Successful: having achieved what one wanted.

• Thus, the most appropriate option that can substitute the underlined word in the given sentence is successful.

Therefore, the correct answer is option 1.

Q18. Answer: (d) CDAB

The correct answer is CDAB.

Key Points

• Sentence C should be the first in order as it marks the beginning of a story.

• Next sentence should be D because it states what strange things were noticed by Mr. Dursley. Albus Dumbledore and McGonagall were meeting outside the Dursley home.

• The next sentence in order should be A as it states the conversation of Dumbledore and McGonagall.

• The last sentence should be sentence B because it states that Dumbledore left Harry with an explanatory note.

Hence, the correct order is CDAB.

Thus, the correct answer is option 4.

Q19. Answer: (a) exhausted

The correct answer is exhausted.

Key Points

• Expended: spent or used money, time, care, etc. in doing something.

• Exhausted: depleted of energy, force, or strength.

• Example: "We've exhausted all our options to solve this problem."

• Thus, the most appropriate synonym of the underlined word is exhausted.

Thus, the correct answer is option 1.

Additional Information

• Earned: The verb "earned" refers to having received something in return for labor or services, it can also be used to suggest that something was deserved because of actions or qualities.

• Example: "She earned a good salary from her job."

• Enjoyed: The verb "enjoyed" means to have derived pleasure from something or to have a pleasant or satisfying experience.

• Example: "We really enjoyed our vacation in Hawaii."

• Encashed: The verb "encashed" means to convert a check or other financial instrument into cash; it is often used in contexts like encashing a check or bond.

• Example: "I encashed my paycheck at the bank." e.g., "He encashed his savings bonds when he needed the money."

Q20. Answer: (c) To fail

The correct answer is to fail.

Key Points

• Let down: a disappointment, because something is not as good as one thought it would be.

• Example: I will never let my parents down.

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• Hence, the most appropriate meaning of the given idiom is to fail.
• Thus, the correct answer is option 3.

Q21. Answer: (b) showing

The correct answer is showing.

Key Points

• Showing is the most appropriate word here because in the next sentence it is mentioned that there are many ways of showing trust.
• All other given options do not show any parallelism with the context of the passage.
• Thus, the most appropriate option to fill in the blank is showing.

The correct answer is option 2.

Q22. Answer: (b) honest

The correct answer is honest.

Key Points

• Honest: telling the truth; not lying to people or stealing.
• Only that person can be trusted who is honest.
• All other given options are also positive characteristics of a person. But, honesty is necessary for being trusted.
• Thus, the most appropriate option to fill in the blank is honest.
• The correct answer is option 2.

Q23. Answer: (c) break

The correct answer is break.

Key Points

• Break trust: to betray someone
• In the given sentence, it is stated that trust takes years to build but seconds to break.
• It means that it takes years to build trust but seconds to break it.
• Thus, the correct word to fill in the blank is break.

The correct answer is option 3.

Q24. Answer: (a) broken

The correct answer is broken.

Key Points

• Broken is the most appropriate word here
• It is mentioned that trust is like a broken mirror that can be fixed but one can still see cracks.
• All other given options do not show any parallelism with the context of the passage.
• Thus, the most appropriate option to fill in the blank is broken.

The correct answer is option 1.

Q25. Answer: (d) bonds

The correct answer is bonds.

Key Points

• The context of the given sentence is that trust is important for every relationship.
• Bonds: something that joins two or more people or groups of people together, such as a feeling of friendship.
• Therefore, the most appropriate option to fill in the blank is bonds.
• The correct answer is option 4.

Q26. Answer: (d) 5

In this case, we make two different arrangements of the digits from the positions of the dice. We note the digits in clockwise direction starting from the common digit. In both the arrangements, the digits written after the common digit are opposite to each other.

5 is the common digit in both the side, so the clockwise order of the digits is

5, 1, 4 (in first dice)

5, 6, 3 (in the second dice)

Therefore, 1 is opposite to 6, 4 is opposite to 3 and 5 is opposite to 2(remaining digit).

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Hence, the correct answer is .5

Q27. Answer: (b) OTSSRE

In the above question, following pattern is followed,

Ist and 2nd letters interchange their position, 5th and 6th letters interchange their position and 3 letters are added to 3rd and 4th letters.

SOCCER = OSFFRE (S, O interchange their position, E,R interchange their position and C= 3 + 3 = 6, 6th letter = F, come in place of 3rd and 4th letter)

And, ROLLER= OROORE (R, O interchange their position, E,R interchange their position and L= 12+3=15, 15th letter = O come in place of 3rd and 4th letter.

Therefore, TOPPER= OTSSRE (T, O interchange their position, E,R interchange their position and P= 16+3=19, 19th letter = S, come in place of 3rd and 4th letter)

Hence, the correct answer is OTSSRE

Q28. Answer: (a) 33

According to the given information:

Symbol	Meaning
P	×
Q	÷
R	•
S	•

And using BODMAS

Given equation:- (40 Q 4) P 5 R (3 P 6) S (7 P 8) R 21 = ?

(40 ÷ 4) × 5 +(3 × 6) - (7 × 8) + 21= ?

10 × 5 + 18 - 56 + 21 = ?

50 + 18 - 56 + 21 = ?

68 - 56 + 21 = ?

89 - 56 = ?

33 = ?

'?' will be replaced by 33

Hence, the correct answer is 33.

Q29. Answer: (b) [figure]

We unfold the paper step by step as given in the question:

Now we consider the given options:

Option 1) Right half of the pattern is incorrect.

Option 2) The pattern is correct.

Option 3) First layer of the pattern is incorrect.

Option 4) Third layer of the pattern is incorrect.

Hence the correct answer is option 2)

Q30. Answer: (b) 56

Logic : First number * 6 = A - 16 = second number

5 : 14

5 * 6 = 30 - 16 = 14

17 : 86

17 * 6 = 102 - 16 = 86

Similarly,

Option 2) follows the pattern

12 : 56

12 * 6 = 72 - 16 = 56

Hence, 56 is the correct answer.

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Q31. Answer: (b) 261924

The positional value table is as follows:

The logic followed here is:

The position of the consonants in the alphabets series is multiplied by 2 and the position of the vowels remains same.

H = 8 × 2 = 16

E = 5 (vowel)

L= 12 × 2 = 24

P = 16 × 2 = 32

HELP = 1652432

Similarly,

S = 19 × 2 = 38

A = 1 (vowel)

V = 22 × 2 = 44

E = 5 (vowel)

SAVE = 381445

Therefore,

M= 13 × 2 = 26

A= 1 (Vowel)

I= 9(Vowel)

L= 12 × 2 = 24

MAIL = 261924

Hence, the correct answer is 261924.

Q32. Answer: (a) 13 : 28.5

The pattern followed in the given set is:

(First term × 2.5) - (First term - 10) = Second term

Now we apply the pattern in the given options:

Option 1) 13 : 28.5

(First term × 2.5) - (First term - 10) = Second term

(13 × 2.5) - (13 - 10) = 28.5

32.5 - 3 = 28.5

29.5 ≠ 28.5

LHS ≠ RHS

Option 2) 15 : 32.5

(First term × 2.5) - (First term - 10) = Second term

(15 × 2.5) - (15 - 10) = 32.5

37.5 - 5 = 32.5

32.5 = 32.5

LHS = RHS

Option 3) 19 : 38.5

(First term × 2.5) - (First term - 10) = Second term

(19 × 2.5) - (19 - 10) = 38.5

47.5 - 9 = 38.5

38.5 = 38.5

LHS = RHS

Option 4) 17 : 35.5

(First term × 2.5) - (First term - 10) = Second term

(17 × 2.5) - (17 - 10) = 35.5

42.5 - 7 = 35.5

35.5 = 35.5

LHS = RHS

So option 1) is the odd number pair.

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Hence the correct answer is option 1)

Q33. Answer: (d) Husband's sister

Blood relation chart is as follows,

According to the question,

R is the brother of N.

R is the only son of K.

S is the only daughter-in-law of K

Therefore, N is the husband's sister for S.

Hence, the correct answer is an option (4)

Q34. Answer: (c) (66, 6, 17)

The logic followed here is:

Divide the first number with second number and add the quotient to the second number to get the third number.

56 ÷ 8 = 7, 7 + 8 = 15

32 ÷ 16 = 2, 2+16 = 18

Option (1) 75 ÷ 5 = 15, 15+ 5 = 20 → Does not follow the pattern

Option (2) 70 ÷ 5 = 14, 14 + 5 = 19 → Does not follow the pattern

Option (3) 66 ÷ 6 = 11, 11 + 6 = 17 → Follows the pattern

Option (4) 68 ÷ 4 = 17, 17 + 4 = 21 → Does not follow the pattern

Therefore, Only option (3) is following this pattern.

Hence, the correct answer is (66, 6, 17).

Q35. Answer: (b) [figure]

The logic followed here is:

In a mirror image, when mirror is placed vertically to the object, the image will be laterally inverted. In other words, the Left Hand Side and Right Hand Side will interchange their positions while top and bottom will be same.

Only option (2) is following this pattern.

Hence, the correct answer is option (2).

Q36. Answer: (b) Only conclusion III follows.

The least possible Venn diagram is as follows:

Conclusions:

I. Some bugs are ants.→ False (it is possible but not definite)

II. No bug is a beetle. → False (it is possible but not definite)

III. No frog is an ant. → True (as no frog is beetle and and all ants are beetles)

Hence, only conclusion III follows

Q37. Answer: (c) 100 : 9

The logic followed here is:

In the above question, take the square root of the first number and subtract 2 from it to get the second number.

√25 - 2 = 3

√64 - 2 = 6

√81 - 2 =7

√100 - 2 = 8

Therefore, only option 3 is not following this mathematical operation.

Hence, the correct answer is 100 : 9.

Q38. Answer: (d) 4

The dice shown is a standard dice(because the sum of the adjacent sides is not equal to 7).

In a standard dice the opposite faces are as follows

1 and 6,or 1 is opposite to 6

2 and 5,or 2 is opposite to 5

3 and 4,or 3 is opposite to 4

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In standard dice, the sum of opposite faces is equal to 7

Therefore, when '3' is at bottom, 4 will be on the top.

Hence, the correct answer is 4.

Q39. Answer: (d) [figure]

The logic followed here is:

When mirror is placed vertically, the objects get laterally inverted. In other words, the Left Hand Side and Right Hand Side of an object interchange their places while top and bottom remain the same.

Therefore, the correct answer is option (4)

Q40. Answer: (b) 151820197

The logic follows here:

• The place value of the opposite letter is coded as a number.

Similarly,

W → Opposite → D = 4

A → Opposite → Z = 26

V → Opposite → E = 5

E → Opposite → V = 22

And,

S → Opposite → H = 8

O → Opposite → L = 12

U → Opposite → F = 6

N → Opposite → M = 13

D → Opposite → W = 23

Therefore,

L → Opposite → O = 15

I → Opposite → R = 18

G → Opposite → T = 20

H → Opposite → S = 19

T → Opposite → G = 7

Hence, the correct answer is 151820197.

Q41. Answer: (a) Saturday

The number of odd days is zero in a century leap year (ie. 2000)

for 9 March 2002 = 1 odd day (2001) + 3 odd days (January 2002) + 2 odd days (9 days in March 2002)

= 1 + 3 + 2 = 6 odd days

6 Odd days indicate Saturday.

Hence the correct answer is Saturday.

Q42. Answer: (d) DHPD

The pattern in the given series is:

Hence the correct answer is DHPD.

Q43. Answer: (c) ×,−,=, ×,−,÷,+

Given:

39 * 4 * 61 * 18 * 4 * 49 * 7 * 30

Let's apply each option on the given equation:

Option 1) + ,− ,= ,× ,− ,+ ,÷

39 + 4 - 61 = 18 × 4 - 49 + 7 ÷ 30

39 + 4 - 61 = 18 × 4 - 49 + 0.2

39 + 4 - 61 = 72 - 49 + 0.2

43 - 61 = 72.2 - 49

-18 ≠ 23.2

LHS ≠ RHS

Option 2) + ,− ,= ,× ,− ,× ,+
39 + 4 - 61 = 18 × 4 - 49 × 7 + 30
39 + 4 - 61 = 72 - 343 + 30
43 - 61 = 102 - 343
• 18 ≠ - 241
LHS ≠ RHS
Option 3) × ,− ,=, × ,− ,÷ ,+
39 × 4 - 61 = 18 × 4 - 49 ÷ 7 + 30
39 × 4 - 61 = 18 × 4 - 7 + 30
156 - 61 = 72 - 7 + 30
156 - 61 = 102 - 7
95 = 95
LHS = RHS
Option 4) = ,− ,+ ,× ,− ,÷ ,−
39 = 4 - 61 + 18 × 4 - 49 ÷ 7 - 30
39 = 4 - 61 + 18 × 4 - 7 - 30
39 = 4 - 61 + 72 - 7 - 30
39 = 76 - 61 - 7 - 30
39 ≠ -21
LHS ≠ RHS
Hence the correct answer is "× ,− ,=, × ,− ,÷ ,+"

Q44. Answer: (b) 41

The pattern in the given series is:
First term × 2 + Second term = Third term
Let's apply the pattern on each row:
First row: 17, 26, 60
First term × 2 + Second term = Third term
17 × 2 + 26 = 60
34 + 26 = 60
60 = 60
LHS = RHS
Second row: 8, 15, 31
First term × 2 + Second term = Third term
8 × 2 + 15 = 31
16 + 15 = 31
31 = 31
LHS = RHS
Third row: 11, 19, ?
First term × 2 + Second term = Third term
11 × 2 + 19 = Third term
22 + 19 = Third term
41 = Third term
Hence the correct answer is 41.

Q45. Answer: (d) ×, =, ×, ×, −, ×

Given:
50 * 2 * 3 * 30 * 10 * 40 * 20
Let's apply each option on the given equation:
Option 1) =, ×, ×, +, –, ÷
50 = 2 × 3 × 30 + 10 - 40 ÷ 20
50 = 2 × 3 × 30 + 10 - 2

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50 = 180 + 10 - 2
50 = 190 - 2
50 ≠ 188
LHS ≠ RHS
Option 2) –, ÷, ×, ×, =, ×
50 - 2 ÷ 3 × 30 × 10 = 40 × 20
50 - 0.6 × 30 × 10 = 40 × 20
50 - 199.9 = 800
-149.9 ≠ 800
LHS ≠ RHS
Option 3) =, ×, +, ×, –, ÷
50 = 2 × 3 + 30 × 10 - 40 ÷ 20
50 = 2 × 3 + 30 × 10 - 2
50 = 6 + 300 - 2
50 = 306 - 2
50 ≠ 304
LHS ≠ RHS
Option 4) ×, =, ×, ×, −, ×
50 × 2 = 3 × 30 × 10 - 40 × 20
100 = 900 - 800
100 = 100
LHS = RHS
Hence the correct answer is option 4.

Q46. Answer: (a) 24 : 8

The operation performed on the terms is:
First term ÷ 4 = Second term
Let's apply the operation on the given options:
Option 1) 24 : 8
First term ÷ 4 = Second term
24 ÷ 4 = 8
6 ≠ 8
LHS ≠ RHS
Option 2) 16 : 4
First term ÷ 4 = Second term
16 ÷ 4 = 4
4 = 4
LHS = RHS
Option 3) 48 : 12
First term ÷ 4 = Second term
48 ÷ 4 = 12
12 = 12
LHS = RHS
Option 4) 20 : 5
First term ÷ 4 = Second term
20 ÷ 4 = 5
5 = 5
LHS = RHS
Hence, the correct answer is 24 : 8.

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Q47. Answer: (c) 5925

The pattern in the given series:

There is an alternate use of '+' & '×'

Hence the correct answer is 5925.

Q48. Answer: (d) HPQE

The pattern in the given clusters is:

DUCK becomes FSIE ;

FISH becomes HGUF;

Similarly,

By following the same pattern we get:

FROG becomes HPQE

Hence the correct answer is HPQE.

Q49. Answer: (c) 8

In the given image:

Hence the correct answer is 8.

Q50. Answer: (b) o o J o o N J o o

Given: _ M o N _ _ _ o M _ _ o _ _o M _ N o J o

Let's check each option:

1) o o J o o N J o M → o M o N o J o o M o N o J o o M M N o J o

2) o o J o o N J o o → o M o N o J o o M o N o J o o M o N o J o

3) o M J o o N J o o → o M o N M J o o M o N o J o o M o N o J o

4) M o J o o N J o o → M M o N o J o o M o N o J o o M o N o J o

So, In 2) "o M o N o J o" is repeating itself.

Hence, ‘o o J o o N J o o’ is the correct answer.

Q51. Answer: (d) 138/881

Given:

9 1/5 ÷ {(16 1/5 ÷ 122/3-92/3) + 17 1/2 of 3 1/21 }

Concept Used:

BODMAS

Calculations:

9 1/5 ÷ {(16 1/5 ÷ 122/3-92/3) + 17 1/2 of 3 1/21 }

=> (9×5+1)/5 ÷ {((16 × 5 + 1)/5 ÷ (12×3+2)/3 - (9×3+2)/3) + 35/2 of 64/21 }

=> 46/5 ÷ {(81/5 ÷ 38/3-29/3) + 35/2 of 64/21 }

=> 46/5 ÷ {(81/5 ÷ (38-29)/3) + 35/2 of 64/21 }

=> 46/5 ÷ {(81/5 ÷ 3) + 35/2 × 64/21 }

=> 46/5 ÷ {(27/5) + 160/3 }

=> 46/5 ÷ 881/15

=> 138/881

Therefore The simplified value is 138/881.

Q52. Answer: (a) 462 cm²

Given:

The diameter of the hemisphere is 14 cm

Formula Used:

The total surface area of the hemisphere = $3\pi r^2$

Radius = Diameter/2

Calculation:

The radius of the hemisphere = 14/2 cm

=> 7 cm

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The total surface area of hemisphere = 3 × π × (7)2 cm2

=> 3 × (22/7) × 49 cm2

=> 3 × 22 × 7 cm2

=> 462 cm2

Therefore The total surface area of the hemisphere is 462 cm2

Q53. Answer: (b) 22 3/8 days

Shortcut Trick

Total Work (LCM of 21, 24) = 168 units.

Efficiency: A = 8, B = 7. Combined (2 days) = 15 units.

In 11 cycles (22 days), work done = 11 × 15 = 165 units.

Remaining work = 168 − 165 = 3 units.

A starts on day 23: Time taken = 3 ÷ 8 = 3/8 days.

Total time = 22 + 3/8 = 22 3/8 days.

Therefore The correct answer is 22 3/8 days.

Alternate Method

Given: Time taken by A = 21 days, Time taken by B = 24 days.

Person	Days	Total Work	Efficiency
A	21	168	8
B	24	7	

=> Total Work = LCM(21, 24) = 168 units.

=> Efficiency of A = 168 ÷ 21 = 8 units/day.

=> Efficiency of B = 168 ÷ 24 = 7 units/day.

=> Work done in 1st cycle (2 days: A then B) = 8 + 7 = 15 units.

=> Number of complete cycles = 168 ÷ 15 = 11 cycles (with remainder).

=> Work done in 11 cycles (22 days) = 11 × 15 = 165 units.

=> Remaining work = 168 − 165 = 3 units.

=> On the 23rd day, it is A's turn. Time taken by A = Remaining work ÷ Efficiency of A.

=> Time = 3 ÷ 8 = 3/8 days.

=> Total time = 22 + 3/8 = 22 3/8 days.

Therefore The correct answer is 22 3/8 days.

Additional Information

Alternate Day Work

In alternate work, calculate the work done in one full cycle (sum of efficiencies) and divide the total work by this cycle value to find the number of full cycles.

Efficiency and Time

Efficiency is inversely proportional to the time taken to complete the work. Total Work = Efficiency × Time.

Work and Wages

Wages are always distributed in the ratio of the actual work done by each individual, which is (Efficiency × Days worked).

Q54. Answer: (d) 9

Given:

Two numbers 81 and 27.

Formula Used:

Third proportional to x, y is y^2/x.

Calculation:

Third proportional to 81 and 27

=> $(27^2)/81 = 729/81 = 9$

Therefore Third proportional to 81 and 27 is 9.

Q55. Answer: (c) 15%

Given:

Marked price = Rs. 3200

First Discount % = 10%

S.P = Rs. 2,448

Formula used:

Total discount% = - X - Y + (XY/100)

Calculation:

Let the second discount be x%.

Because Discount % = - 10 - x + 10x/100 = (100+9x)/10

Now, S.P = (100-D%)/100 × M.P

=> 2448 = (100 -(100+9x)/10)/100 × 3200

=> 2448 = (900-9x)/1000 × 3200

=> 2448/16 ×5 = 900 - 9x

=> 765 = 900 - 9x

=> 9x = 135

=> x = 15

Therefore The second discount on the item is 15%.

Alternate MethodMarked Price = 3200

First discount 10%, after the first discount Selling price

=> 3200 × (100 - 10)/100

=> 2880

Final Selling price = 2448

Second discount % = (2880 - 2448)/2880 × 100

=> 432/2880 × 100

=> 15%

Therefore The second discount on the item is 15%.

Q56. Answer: (c) 56

Given:

2x3 is divisible by 3.

Concept used:

Divisibility rule of 3.

Calculations:

According to the question,

2 + x + 3 = 5 + x is divisible by 3

Hence, possible values of x are 1, 4, and 7.

But we have to take the maximum possible value i.e., 7.

Hence, x = 7

=> $x^2 + x = 7^2 + 7 = 56$

Therefore The value required is 56.

Q57. Answer: (c) H7

Given:

The heights of hills H1, H2, H3, H4, H5, H6 and H7 are

8500, 7000, 6000, 5000, 8000, 9000 and 8300 feets respectively as shown in the bar graph.

Calculations:

The highest hill is H6with 9000 feets height.

The second highest hill is H1 with 8500 feets height.

and the third highest hill is H7with 8300 feets height.

Therefore The third highest hill is H7.

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Q58. Answer: (a) 20000

Given:

10% of voters did not cast their votes i.e., 90% percent of eligible votes were caste,

In 5% were invalid and the successful candidate got 55% of the valid votes and won by a majority of 1710 votes.

Calculations:

55% of votes got by the successful candidate so, the rest votes i.e., (100 - 55)% = 45 % of valid votes got by the unsuccessful candidate.

According to the question,

1710 votes are (55 - 45) % = 10 % of total valid votes.

1710 = 10% of total valid votes

=> 1710 = 10% of (95% of the votes cast)

=> 1710 = 10% of {95% of (90% of enrolled voters)}

=> 1710 = (10/100) × (95/100) × (90/100) enrolled voters

=> 1710 × 1000000 = 85500 × enrolled voters

Enrolled voters = 20000

Therefore No. of enrolled voters is 20, 000.

Q59. Answer: (c) 10.68 cm

Given:

15 identical solid spherical balls of radius 5 cm are melted to form a single sphere.

In the process, 35 % of the mass is wasted.

Formula used:

mass = Volume x Density

mass prop. to Volume

Volume of sphere = 4/3 πR^3

Calculations:

Let the radius of the single sphere be R.

Since 35 % of the sphere is wasted, 65 % would have been used for transforming.

65% of 15 × (Volume of identical solid spherical balls having radius 5cm) = volume of a single sphere

$0.65 \times 15 \times 4/3 \times \pi \times 5^3 = 4/3 \times \pi \times R3$

=> $0.65 \times 15 \times 5^3 = R3$

=> $1218.75 = R^3$

=> R = (1218.75)^(1/3)

=> R = 10.68 cm

Therefore The radius of the single sphere is 10.68 cm.

Note:

R = (1218.75)1/3

We can find the correct answer by using approximation. We can see that 1218 is the value between the cube of 10 ($10^3 = 1000$) and 11 ($11^3 = 1331$) and by observing options we can easily choose the correct answer.

Q60. Answer: (a) 4 6/125

Shortcut Trick

Direct formula: If $x + 1/x = a$, then $x^3 + 1/x^3 = a^3 - 3a$

Here, a = 11/5

$x^3 + 1/x^3 = (11/5)^3 - 3 \times (11/5)$

$x^3 + 1/x^3 = 1331/125 - 33/5 = (1331 - 825) / 125$

$x^3 + 1/x^3 = 506/125 = 4\ 6/125$

Therefore The correct answer is 4 6/125.

Alternate Method

Given:

$x + 1/x = 11/5$

Formula Used:

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

Calculations:

=> Cubing both sides of the given equation:

=> $(x + 1/x)^3 = (11/5)^3$

=> $x^3 + 1/x^3 + 3 \times x \times 1/x \times (x + 1/x) = 1331/125$

=> $x^3 + 1/x^3 + 3 \times 1 \times 11/5 = 1331/125$

=> $x^3 + 1/x^3 + 33/5 = 1331/125$

=> $x^3 + 1/x^3 = 1331/125 - 33/5$

=> $x^3 + 1/x^3 = 1331/125 - (33 \times 25) / (5 \times 25)$

=> $x^3 + 1/x^3 = (1331 - 825) / 125$

=> $x^3 + 1/x^3 = 506/125 = 4\ 6/125$

Therefore The correct answer is 4 6/125.

Additional Information

Higher Power Algebraic Identities

If $x + 1/x = a$, the square relation is $x^2 + 1/x^2 = a^2 - 2$, and the fourth power relation is x^4 + 1/x^4 = $(a^2 - 2)^2 - 2$.

Negative Form Algebraic Identities

If $x - 1/x = a$, the square relation is $x^2 + 1/x^2 = a^2 + 2$, and the cube relation is $x^3 - 1/x^3 = a^3 + 3a$.

Q61. Answer: (a) 3 times

Given:

Side of square = 5 cm

Concept Used:

Area of Square = $Side^2$

Calculation:

=> Area of Square = $5^2 = 5 \times 5$

=> Area of Square = 25 cm^2

=> When the side is doubled,

=> Side of a square = $2 \times 5 = 10$ cm

=> Now, Area of Square = $10^2 = 10 \times 10$

=> Area of Square = 100 cm^2

=> Number of times the area of the square increases = (100 - 25)/25=3 times.

Hence, the number of times the area of the square increase when the side is doubled is 3 times.

Mistake Points

There is a difference in the final area & increase in area.

NOTE: Students usually get confused about how many times increment and how many times become.

Q62. Answer: (b) 64

Given:

Speed of bus for 60% of the journey = 60 km/h

Speed of bus for the remaining journey = 70 km/h

Concept Used:

Average Speed = Total Distance traveled ÷ Total Time taken

Calculation:

Let the distance from Delhi to Mumbai be x

Time is taken for 60% of the journey = frac60/100×x60

Time is taken for 60% of the journey = x/100

Time is taken for the remaining part of the journey which is 40% = frac40/100×x70

Time is taken for the remaining part of the journey which is 40% = x/175

=> Average Speed of bus for complete journey = x/(x/100+x/175)

=> Average Speed of bus for complete journey = x/((175x+100x)/17500)=17500x/275x=63.63≈64 km/h

Hence, the average speed of the bus during the entire journey under consideration is 64 km/h.

Q63. Answer: (b) D1

Given:

Cars produced by the company during 2013 = 70

Concept Used:

Percentage Composition = Percentage of cars × Total cars

Calculation:

=> Total cars produced in 2013 = 70

=> Number of cars according to percentage composition in 2013 = 30% × 70

=> Number of cars according to percentage composition in 2013 = 30/100×70=21

Therefore The type of car which constituted 30% of all cars produced during 2013 is D1.

Q64. Answer: (d) Rs. 11,220

Given:

Item sold to customer by retailer at profit percentage = 19%

Item sold to customer by retailer = Rs 17,045

Profit percentage made by wholesaler by selling an item to retailer = 15%

Profit percentage made by manufacturer by selling an item to wholesale dealer = 11%

Concept Used:

Cost Price = 100timesSP/(100+Profit Percent)

Calculation:

=> Cost price of the item when the retailer sells an item to a customer = 100×17045/(100+19)

=> Cost price of the item when the retailer sells an item to a customer = 1704500/119=14,323

=> Selling price for the wholesaler who sells to a retailer = Rs 14,323

=> Cost Price of an item for wholesaler at a profit of 15% = 100×14323/(100+15)

=> Cost Price of item for wholesaler at a profit of 15% = 1432300/115=12,455

=> Selling price for the manufacturer who sells to wholesale dealer = Rs 12,455

=> Cost price of item for the manufacturer at a profit of 11% = 100×12455/(100+11)

=> Cost price of item for the manufacturer at a profit of 11% = 1245500/111=11,220

Therefore The cost price of an item for the manufacturer is Rs 11,220

Q65. Answer: (b) 21

Given:

Average marks of 60 girls = 15

Average marks of 40 boys = 30

Concept Used:

Average = Total Marks ÷ Total number of people

Calculation:

=> Average marks of 60 girls = 15

=> Average Marks = Total Marks ÷ 60

=> Putting the values, we get

=> 15 = Total Marks ÷ 60

=> Total Marks of 60 girls = 15 × 60 = 900

=> Average marks of 40 boys = 30

=> Average Marks = Total Marks ÷ 40

=> Putting the values, we get

=> 30 = Total Marks ÷ 40

=> Total Marks of 40 boys = 30 × 40 = 1200

=> Total Marks of boys and girls combined = 1200 + 900 = 2100

=> Average marks of the group in which boys and girls are taken together = 2100/(60+40)=2100/100=21

Therefore The average mark of the group in which boys and girls are taken together is 21.

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Q66. Answer: (d) 9

Shortcut Trick

Apply the Algebraic Identity: $(1 + x + x^2) \times (1 - x + x^2) = 1 + x^2 + x^4$

Substitute the given values into the formula: $(1 + x + x^2) \times 65 = 585$

Calculate the required value: $1 + x + x^2 = 585 \div 65$

$1 + x + x^2 = 9$

Therefore The correct answer is 9.

Alternate Method

Given:

$1 + x^2 + x^4 = 585$

$1 - x + x^2 = 65$

Formula Used:

The fourth-power polynomial identity is: $a^4 + a^2b^2 + b^4 = (a^2 + ab + b^2)(a^2 - ab + b^2)$

For a = x and b = 1, the identity becomes: $x^4 + x^2 + 1 = (x^2 + x + 1)(x^2 - x + 1)$

Calculations:

=> $(1 + x + x^2) \times (1 - x + x^2) = 1 + x^2 + x^4$

=> $(1 + x + x^2) \times 65 = 585$

=> $1 + x + x^2 = 585 \div 65$

=> $1 + x + x^2 = 9$

Therefore The correct answer is 9.

Additional Information

Standard Polynomial Identity

The expression $x^4 + x^2y^2 + y^4$ can always be factored as $(x^2 + xy + y^2)(x^2 - xy + y^2)$.

Sum and Difference Relations

If $A = (x^2 + x + 1)$ and $B = (x^2 - x + 1)$, then the linear term can be found as $x = (A - B) \div 2$.

Quadratic Component

The quadratic sum $(x^2 + 1)$ can be found as $(A + B) \div 2$, where A and B are the factors of $(x^4 + x^2 + 1)$.

Q67. Answer: (c) Rs. 6991

Given:

Earning in consecutive five weeks = Rs 8435, Rs 8927, Rs 8855, Rs 9230 and Rs 8562

Average sale after 6th week = Rs 8,500

Concept Used:

Average = Total sum of values ÷ Number of values

Calculation:

=> Let the sale for the 6th week be Rs x

=> Sale average for 6 weeks = (8435+8927+8855+9230+8562+x)/6

=> Putting the given value of average after 6 weeks,

=> (8435+8927+8855+9230+8562+x)/6=8500

=> 8435 + 8927 + 8855 + 9230 + 8562 + x = 8500 × 6 = 51,000

=> 44009 + x = 51000

=> x = 51000 – 44009 = 6991

Therefore The sale required for the 6th week is Rs 6,991

Q68. Answer: (a) 5

Given:

Speed of Ram = 72 km/h

Speed of Shyam = 90 km/h

Concept Used:

1 km/h = 1000/3600 m/sec

Calculation:

=> Difference in speed of Ram and Shyam = 90 – 72 = 18 km/h

=> Change km/h into m/sec by multiplying 1000/3600

=> 18 km/h = 18 × 1000/3600 = 5 m/sec

Therefore The difference in their speeds (in metres per second) is 5 m/sec.

Q69. Answer: (d) Rs 4,08, 895.2

given:

Successive discounts = 10%, 5% and 2%

The marked price of the tractor = Rs 4,88,000

Concept used:

Discount = Discount Percentage × Face Value

Calculation:

For the first 10% discount on MP,

Selling price = 488000 - 10% × 488000

Selling price = 488000 – = 488000 - 48800 = Rs 4,39,200

Now another 5% discount on new MP,

Selling price = 439200 - 5% × 439200

Selling price = 439200 - = 439200 – 21960 = Rs 4,17,240

Now, 2% final discount on new MP,

Net selling price = 417240 - 2% × 417240

Net selling price = 417240 - = 417240 - 8344.8 = Rs 4,08,895.2

Therefore The net selling price of the tractor is Rs 4,08,895.2

Shortcut Trick 4,88,000 × (90/100) × (95/100) × (98/100) = 4,08,895.2

and we don't have to solve whole calculations use digital sum and unit digit techniques to find the answer.

Q70. Answer: (c) 3

Given:

a = 2022

b = 2021

c = 2020

Concept Used:

$(a – b)^2 = a^2 + b^2 – 2ab$

Calculation:

=> Let, $X = a^2 + b^2 + c^2 – ab – bc – ca$

=> Multiply both the sides by 2,

=> 2X = 2(a2 + b2 + c2 – ab – bc – ca)

=> 2X = 2a2 + 2b2 + 2c2 – 2ab – 2bc – 2ca

=> $2X = a2 – 2ab + b^2 + b2 – 2bc + c2 + c2 – 2ca + a^2$

=> $2X = (a – b)^2 + (b – c)^2 + (c – a)^2$

=> $2X = (2022 – 2021)^2 + (2021 – 2020)^2 + (2020 – 2022)^2$

=> 2X = 1 + 1 + 4 = 6

=> X = 6 ÷ 2 = 3

Therefore The required value of the given equation is 3

Q71. Answer: (d) Rs. 9,800

given:

Expenses on house rent = 14%

Total monthly income of the family = Rs.70,000

Concept used:

Percentage share = Percentage × Total amount

Calculation:

Amount spent by the family on house rent = 14% × 70000

Amount spent by the family on house rent = 14/100×70000

Amount spent by the family on house rent = 700 × 14 = Rs 9,800

The monthly expenditure incurred by the family on the rent of the house is Rs 9,800

Q72. Answer: (d) Rs. 99

Given:

Principal amount = 5,000. Rupees

Rate = 8%

time = 3 years

Concept used:

simple interest = (P × N × R)/100,

compound interest = P(1 + R/100)^N - P,

where,

P is Principle,

R is the rate of interest

N is the number of years

Calculation:

Now by using the formulae,

Simple interest = (5000 × 8 × 3)/100 = 1200,

compound interest = 5000 $(1 + 8/100)^3$ - 5000

=> compound interest = 5000 × $(27/25)^3$ - 5000

=> compound interest = 6298.56 - 5000

=> compound interest = 1298.56 ≈ 1299

Difference between compound interest and simple interest

=> 1299 – 1200 = Rs.99

Therefore The difference between simple interest and compound interest is Rs 99.

Shortcut Trick

Difference between compound interest and simple interest,

for 3 years = P {(300 + R)/100} × $\{R/100\}^2$

So,

CI - SI = 5000 × (300 + 8)/100 × $(8/100)^2$

=> CI - SI = 5000 × 308/100 × 2/25 × 2/25

=> CI - SI = 98.56 ≈ Rs. 99

Therefore The correct answer is option (4).

Q73. Answer: (d) 8 m

given:

Diameter of a circle = 10 m

Length of a chord of a circle = 8 m

Distance between two chords of a circle = 6 m

Concept used:

(hypotenuse) 2 = (base) 2 + (vertical) 2

Calculation:

AB and PQ are two chords and O is the center of the circle.

M is the mid-point of AB and N is the mid-point of PQ.

OB = OQ = 5 m (Radius of a circle)

AB = 8 m and MN = 6 m

Let OM be x, then

MB = 8 ÷ 2 = 4 m

=> In right-angled triangle MOB, (OB)2 = (OM)2 + (MB)2

=> 5 2 = OM 2 + 4 2

=> OM 2 = 25 – 16 = 9

=> IF = 3 m

=> Putting the value of x, ON = 6 – 3 = 3 m

=> In right-angled triangle ONQ, (OQ)2 = (ON)2 + (NQ)2

=> 5 2 = 3 2 + NQ 2

=> NQ 2 = 25 – 9 = 16

=> NQ = √16=4 m

=> PQ = 2NQ

=> PQ = 2 × 4 = 8 m

Therefore The length of the other chord of a circle is 8 m.

Q74. Answer: (a) 3

Given:

3 tan245° + 2 cos 60° − 2 sin 30°

Concept Used:

tan 45º = 1

cos 60° = 1/2

sin 30° = 1/2

Calculation:

=> 3 tan² 45° + 2 cos 60° – 2 sin 30°

=> 3 × 1² + 2 × 1/2 – 2 × 1/2

=> 3 × 12 + 2 × 1/2 – 2 × 1/2 = 3 × 1 + 1 – 1

=> 3 × 1 + 1 – 1 = 3

Therefore The required value of the given expression is 3

Q75. Answer: (c) 16.7%

Given:

Increase in price of rice = 20%

Concept used:

Expenditure = Price × Consumption

Calculation:

Let the original price of rice = Rs. 100 and Consumption = 1kg

=> Expenditure = Rs. 100 × 1 kg = Rs. 100

Now, When the price increases by 20%, then New Price = Rs. 120

=> New Expenditure = Rs. 120 × 1 kg = Rs. 120

But, we have to remain the expenditure the same.

Percentage decrease in consumption of rice

=> ((120-100)/120) × 100 % = 16.67 %

Therefore The correct answer is option (3)

Shortcut TrickThe price of rice increased by 20% = 1/5

=> Change in consumption = (1/6) × 100 ~% = 16.67~%

Q76. Answer: (a) Vandana Katariya

The correct answer is Vandana Katariya.

• Indian hockey star Vandana Katariya was named the brand ambassador of the Centre's 'Beti Bachao, Beti Padhao' scheme for the Haridwar distric

Key Points

• India’s hockey star Vandana Katariya was named the brand ambassador of the women and child development department of Uttarakhand as well as the brand ambassador of the Centre’s ‘Beti Bachao, Beti Padhao’ scheme for the Haridwar district.

• Uttarakhand Chief Minister Pushkar Singh Dhami announced a cash reward of Rs 25 lakh to Indian women's hockey team member Vandana Katariya for her performance at the Tokyo Olympics.

• The announcement was made at a program organized to felicitate the recipients of the Tilu Rauteli Award and the Anganwadi Workers Award This program was held at the IRDT Auditorium at Survey Chowk.

• Vandana Katariya created her piece of history at the Olympics when she became the first Indian woman hockey player to score a hat-trick at the Games.

Additional Information

• Manpreet Kaur is a professional Olympic shot putter from India.

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• Rashmita Minz is a hockey player from India.

• Rajani Etimarpu is an Indian field hockey and member of the Indian women's national field hockey team.

Q77. Answer: (a) 42.195 km

The correct answer is 42.195 Km.

• The distance of the Marathon race is 42.195 Km.

Key Points

• The Marathon is a long-distance foot race with a distance of 42.195 kilometres, usually run as a road race, but the distance can be covered on trail routes.

• The Marathon can be completed by running or with a run/walk strategy. There are also wheelchair divisions.

• The Marathon has been an Olympic distance since the modern Olympics started in 1896, but nothing like it was ever seen in the ancient Olympics, run from 776BC to 261AD.

• The marathon was one of the original modern Olympic events in 1896. The distance did not become standardized until 1921.

Additional Information

• Ram Singh Yadav is an Indian marathon runner. Ram represented India at the 2012 Summer Olympics, London.

• Nitendra Singh Rawat is one of the best marathoners in India.

• A barefooted long-distance runner from Bihar, Shivnath is the greatest Indian marathon runner.

Q78. Answer: (a) AR Rahman

The correct answer is AR Rahman.

• AR Rahman won twice in the same year for his work on 'Slumdog Millionaire' taking home two Grammys: Best Song Written for Visual Media and Best Compilation Soundtrack Album For Visual Media.

Key Points

• Among his long list of accolades are two Oscar Awards, and two Grammy Awards. Speaking of Grammys, the singer won two titles in 2008 in the 'Best Compilation Soundtrack Album' and 'Best Song Written for Visual Media' category for the Oscar-winning film 'Slumdog Millionaire'.

• Sitar maestro Pandit Ravi Shankar was the first Indian to win the Grammy Award.

• AR Rahman is one of the most prominent musical geniuses in India.

• The 64th Annual Grammy Awards took place today in Las Vegas. With several renowned personalities from music in attendance, MGM Garden Grand Arena witnessed a star-studded affair as they put their best foot forward on the red carpet.

Additional Information

• The Grammy Award, or just Grammy, is an award presented by the Recording Academy to recognize "Outstanding Achievement in the music industry" of the United States.

• The trophy depicts a gilded gramophone.

• The Grammys are the first of the Big Three networks' major music awards held annually.

• There is no money related to winning a Grammy. It is just an honor that increases an artist's profile.

• The process of voting for GRAMMY Award nominees includes hundreds of music experts in various genres.

Q79. Answer: (c) Zakir Hussain

The correct answer is Zakir Hussain.

• Zakir Hussain is an Indian tabla player, composer, percussionist, music producer and film actor.

Key Points

• Popularly known as the Tabla Maestro, Ustad Zakir Hussain is arguably the most famous Tabla player in our country in the post-independence era.

• He was awarded the Padma Shri in 1988, and the Padma Bhushan in 2002, by the Government of India presented by President Abdul Kalam.

• The pre-eminent tabla virtuoso of time, Zakir is one of the world's great musicians, esteemed as a groundbreaking collaborator, composer, and cultural icon.

• Born to tabla maestro, Alla Rakha and Bavi Begum in Mahim, Mumbai on March 9, 1951, Zakir Hussain had an inclination for playing the tabla at a very young age.

• Hussain learned to play the mridang (a classical percussion instrument) from his father when he was just 3 and began performing at concerts by the age of 12.

Additional Information

• Hariprasad Chaurasia is an Indian music director and classical flautist, who plays the flute, in the Hindustani classical tradition

• Ustad Sultan Khan was an Indian sarangi player and classical vocalist belonging to Sikar Gharana. He was one of the founding

members of the Indian fusion group Tabla Beat Science, with Zakir Hussain and Bill Laswell.

• 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.

Q80. Answer: (c) Gallium

The correct answer is Gallium.

• Gallium replaced eka-Aluminium in Mendeleev's Periodic Table. While developing his Periodic Table of the elements, Mendeleev found some elements missing, which later would be found and named Gallium, aka-Aluminum.

Key Points

• When Mendeleev proposed his periodic table, he noted gaps in the table and predicted that then-unknown elements existed with properties appropriate to fill those gaps.

• He named them eka-boron, eka-aluminum, eka-silicon, and eka-manganese, with respective atomic masses of 44, 68, 72, and 100.

• Eka prefix means that element occuring after suffix atom. Means Eka aluminium is Gallium. And Eka silicon is Germanium.

• It lies in group 3 of the Mendeleev's periodic table and thus, has a valency of 3.

• The formula of its chloride is GaCl3.

Additional Information

• Mendeleev created a periodic table of all the elements that were known at the time.

• The rows of the table, called periods, each contained eight elements that increased in atomic mass from left to right.

• The columns of the table, called groups, contained elements with similar properties.

Q81. Answer: (d) 2018

The correct answer is 2018.

• Poshan Abhiyaan was launched by Hon'ble Prime Minister on 8th March, 2018 in Jhunjhunu district of Rajasthan.

Key Points

• The focus of Abhiyaan is to lay emphasis on nutritional status of adolescent girls, pregnant women, lactating mothers and children from 0-6 years age.

• The programme, through use of technology, convergence and community involvement with a targeted approach strives to reduce the level of stunning, under-nutrition, Anemia and low birth weight in children, as also focus on adolescent girls, pregnant women and lactating mothers, thus holistically addressing malnutrition.

• The Abhiyaan is being implemented in all districts of Haryana. Nuh and Panipat districts were selected for Phase-I.

• For Phase-II, 10 districts, namely Kaithal, Karnal, Kurukshetra, Bhiwani, Yamuna Nagar, Gurugram, Palwal, Rohtak, Sirsa and Sonipat were selected. Remaining districts are covered in the Phase III.

Additional Information

• In order to ensure community mobilisation and bolster people's participation, every year, the month of September is celebrated as POSHAN Maah across the country.

• This month highlights the importance and role of the right nutrition for the human body.

• POSHAN Abhiyaan (National Nutrition Mission) is a flagship programme of the Ministry of Women and Child Development (MWCD), Government of India,

• The Ministry of Women and Child Development is headed by Hon'ble Minister Smt. Smriti Zubin Irani.

Q82. Answer: (a) Bhupen Hazarika

The correct answer is Bhupen Hazarika.

• Bhupen Hazarika won the Best Music Director National Award for Rudaali in 1993.

Key Points

• The bard of Brahmaputra, Bhupen Hazarika was born on September 8, 1926.

• A multifaceted genius, he was a good poet, music composer, singer, actor, journalist, author and film-maker of the very highest repute.

• Bhupen Hazarika was known widely for his songs on unity in humanity.

• One of his major contributions to Hindi cinema was composing music for well-known films such as Arop, Ek Pal, and Rudaali

• He received the National Film Award for Best Music Direction in 1975, the Sangeet Natak Akademi Award (1987), Padma Shri (1977), and Padma Bhushan (2001), Dada Saheb Phalke Award (1992), the highest award for cinema in India and Sangeet Natak Akademi Fellowship (2008), the highest award of the Sangeet Natak Akademi.

Additional Information

• Manas Robin is an Indian music director, singer, musician, lyricist, filmmaker, Bihu artist, and music producer.

• Joi Barua is an Indian singer and music composer.

• Jayanta Hazarika was an Indian singer and composer associated with Assamese music.

Q83. Answer: (b) Dhrupad

The correct answer is Dhrupad.

• Ashish Sankrityayan is an exponent of Dhrupad music.

Key Points

• Ashish Sankrityayan is a dhrupad exponent and since 2011 has worked as the guru and director of the Dhrupad Kendra, Bhopal – an institution of the Madhya Pradesh Government established in 1981 to give training in the traditional guru-shishya system of apprenticeship to aspiring dhrupad singers.

• As an exponent of the Dagar Tradition of Dhrupad, Ashish S has trained for twenty years under three maestros of the Dagar family and is well known for his frequent concert appearances and teaching.

• Ashish S started his musical training at an early age, first learning the sitar and subsequently vocal music.

Additional Information

• Dhrupada is possibly the oldest surviving musical form of North India. T

• The word Dhrupada is a combination of the two words Dhruva & Pada.

• Dhruva which means structured fixed or rigid, that does not alter its course, and pada, means word or syllable, a metrical foot, denoting the composition.

• The word Dhrupada therefore means a composition in which the padas or words are set in a definite structure or pattern.

Q84. Answer: (d) Munshi Premchand

The correct answer is Munshi Premchand.

Key Points

• Munshi Premchand has written the famous Hindi Novel "Godan".

• It was first published in 1936 and is considered one of the greatest Hindi novels of modern Indian literature.

• Premchand was a pioneer of Hindi and Urdu social fiction.

• It highlights the struggle between the peasant and the money-lender backed by various forces.

Additional Information

• Gillu is written by the famous writer Mahadevi Verma. It is a touching story of a squirrel named Gillu.

• Kamayani is a Hindi epic poem by Jaishankar Prasad. It is considered one of the greatest literary works written in modern times in Hindi literature.

• Amrita Pritam is one of the best known Punjabi authors and poets.

• She wrote fiction, non-fiction, poetry and essays. She has over 100 works to her name and had been honored with some of the highest awards in the country including the Sahitya Akademi, Bharatiya Jnanpith, and Padma Vibhushan.

Q85. Answer: (d) Kelucharan Mohapatra

The correct answer is Kelucharan Mahapatra.

Key Points

• Kelucharan Mohapatra was a legendary Indian classical dancer, guru, and exponent of the Odissi dance.

• Who is credited with the revival and popularizing of this classical dance form in the 20th century

• He is the first person to receive the Padma Vibhushan from Odisha.

• Kelucharan Mohapatra performed Gotipua - a traditional dance form of Odisha where young boys dress up as women to praise Lord Jagannath.

Additional Information

• Surendra Nath Jena created an entirely new Odissi dance style with an oeuvre of many compositions.

• This dance style incorporates the various aspects of Indian culture, such as temple sculpture, ancient dance, Sanskrit and vernacular literature, yoga, traditional painting, manuscripts, and philosophy.

• Gangadhar Pradhan Guruji was awarded the Sangeet Natak Akademi Award in 1998 and the Padma Shri award (India's fourth highest civilian award) in 2008.

• Hare krushna Behera was awarded by Sangeet Natak Akademi Award for Dance in Odissi.

Q86. Answer: (c) Germanium

The correct answer is Germanium.

Key Points

• Germanium is a chemical element with the symbol Ge and atomic number 32.

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• It is a lustrous, hard-brittle, grayish-white metalloid in the carbon group, chemically similar to its group neighbors silicon and tin.

• Pure germanium is a semiconductor with an appearance similar to elemental silicon.

• Germanium atom forms four covalent bonds with the four neighboring atoms.

Additional Information

• Gallium is a chemical element with the symbol Ga and atomic number 31.

• Gold is a chemical element with the symbol Au and atomic number 79, making it one of the higher atomic number elements that occur naturally.

• Gadolinium is a chemical element with the symbol Gd and atomic number 64. Gadolinium is a silvery-white metal when oxidation is removed.

• Covalent Bond:

• The interatomic linkage that results from the sharing of an electron pair between two atoms.

• The binding arises from the electrostatic attraction of their nuclei for the same electrons.

• Example: Water (H2O) A water molecule consists of two hydrogens and one oxygen (O) atom. Oxygen has a valency of two, and hydrogen has only one electron in its orbital. So, each hydrogen atom will share its electron and covalently bond with the oxygen.

Q87. Answer: (b) 95%

The correct answer is 95%.

Key Points

• As per the results of NARSS 2019-20, 99.6% of the households who had access to toilets, and had availability of water, and 95.2% of the rural population who had access to a toilet, were using it.

• Government launched Jal Jeevan Mission in 2019 with the goal to provide functional household tap connection to every rural household by 2024.

• According to 2019 data, 98.21% of the country has achieved ODF Status and has full access to toilets.

• The National Annual Rural Sanitation Survey, 2019-2020, showed that 0.8 percent of the population in rural areas had no toilets and practiced open defecation; the figure was 6.8 per cent in 2018-2019; and 23 percent in 2017-2018.

Additional Information

• A recent joint monitoring program(JMP) on water, sanitation, and hygiene by the World Health Organization and UNICEF released July 1, 2021, stated that at least 15 percent of the total population in India defecates in the open.

• The Joint Monitoring Report also emphasized universal access to water, sanitation, and hygiene (WASH) to achieve the United Nations-mandated Sustainable Development Goal (SDG) .

• According to census 2011 data, only 30.7% of rural households had access to toilets in 2011. According to rural sanitation scheme data, the number was considerably larger at 79.9%.

• Over 67 per cent of rural households do not have access to toilets, according to government data.

Q88. Answer: (c) Awadh

The correct answer is Oudh.

Key Points

• The 19th century saw the golden age of Kathak under the patronage of Wajid Ali Shah, the last Nawab of Awadh.

• He established the Lucknow Gharana with its strong accent on bhava.

• Kathak grew into a major art form under the patronage of Wajid Ali Shah, the last Nawab of Awadh.

• The significant supporters of Kathak were the Mughal rulers, their aristocrats, the courts of Rajasthan and Lucknow, and the last Nawab of Awadh - Wajid Ali Shah.

Additional Information

• The first name that comes with the mention of dance forms in Hyderabad is the Kuchipudi.

• Kuchipudi is a dance form that also uses some amount of acting which is accompanied by Carnatic music.

• Kathak is the principal dance of northern India and is widely practiced in Uttar Pradesh(Rampur, Jaunpur), Rajasthan, Delhi, Madhya Pradesh, and even parts of western and eastern India today.

Q89. Answer: (a) repo rate

The correct answer is Repo Rate.

Key Points

• Repo rate is the rate at which the central bank of a country (Reserve Bank of India in case of India) lends money to commercial banks in the event of any shortfall of funds.

• Repo rate is used by monetary authorities to control inflation.

• Current Repo Rate: 6.5% (June 2024 MPC))

• It is a rate on short-term, collateral-backed borrowing.

Additional Information

• Reverse Repo rate is the rate at which the Reserve Bank of India borrows funds from the commercial banks in the country.

• The bank rate is the rate of interest that is charged by a central bank while lending loans to a commercial bank.

• In the event of a fund deficiency, a bank can borrow money from the central bank of a country.

• Cash reserve ratio or CRR is a part of the RBI's monetary policy, which helps eliminate liquidity risk and regulate the money supply in the economy.

Q90. Answer: (b) Harvinder Singh

The correct answer is Harvinder Singh.

Key Points

• Harvinder Singh won the Arjuna award in 2021 in the Para Archery discipline.

• Arjuna Award:

• Arjuna Award for outstanding performance in Sports and Games is given for good performance over a period of the previous four years and for showing qualities of leadership, sportsmanship, and a sense of discipline.

• The Arjuna award was the highest sporting honor in India.

Additional Information

• 15 August 2015, Abhishek Verma won a gold medal in the compound men's individual section at the Archery World Cup Stage 3 in Wroclaw, Poland.

• Rishabh Yadav, and Jawkar Samadhan have won the second gold for India at Asia Archery Cup.

• Aman Saini is an Indian archer. He won the silver medal Asian Games 2018 in the Men's compound archery team event.

Q91. Answer: (a) 5

The correct answer is Five.

Key Points

• The Supreme Court of India is the defender of the fundamental rights of the citizens. For that, it has original and wide powers.

• It issues five kinds of writs for enforcing the fundamental rights of the citizens.

• Writs:

• Writs are a written order from the Supreme Court or High Court that commands constitutional remedies for Indian Citizens against the violation of their fundamental rights.

• Article 32 in the Indian Constitution deals with constitutional remedies that an Indian citizen can seek from the Supreme Court of India and the High Court against the violation of his/her fundamental rights.

• The same article gives the Supreme Court power to issue writs for the enforcement of rights whereas the High Court has the same power under Article 226.

Additional Information

• There are five types of Writs which are:

• Habeas Corpus.

• Mandamus.

• Certiorari.

• Quo Warranto.

• Prohibition.

• All these writs are an effective method of enforcing the rights of the people and compelling the authorities to fulfill the duties which are bound to perform under the law.

Q92. Answer: (b) 2019-20

The correct answer is 2019-20.

Key Points

• The award is named after Kālidāsa, a renowned Classical Sanskrit writer of ancient India.

• The Kalidas Samman was first awarded in 1980.

• It was initially conferred in alternate years in the fields of Classical Music, Classical Dance, Theatre and Plastic Arts.

• The Madhya Pradesh government has honoured the Dhananjayans, a celebrated Bharatanatyam couple from Chennai, with the prestigious Rashtriya Kalidas Samman for 2019-2020.

Additional Information

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• Noted artist Anjolie Ela Menon received the National Kalidas Samman award 2018 for visual arts from the Madhya Pradesh government.

• The award was conferred in recognition of her insightful and sensitive portrayal of the identity and spirit of women through her meaningful paintings in a variety of media.

• Kalidasa was a Classical Sanskrit author who is often considered ancient India's greatest poet and playwright.

Q93. Answer: (b) Bipin Singh

The correct answer is Bipin Singh.

Key Points

• In spite of the fact that Bipin Singh earned a living as a film choreographer, he did not lose focus on his desire to expand knowledge of the traditional dance form.

• As part of that effort, he created the Govindji Nartanalaya dance school for women in Imphal and, in 1972, the Manipuri Nartanalaya dance school in Calcutta.

• He was born on 23 August 1918 into a Bishnupriya Manipuri Family. He is regarded as the Father of Manipuri Dance.

• He choreographed many dance-dramas and solo dances and produced many students including Jhaveri Sisters (Darshana Jhaveri), Kalavati Devi, Binodini Devi, Guneswori Devi, Priti Patel, Sruti Bannerjee, Latasana Devi, Laily Basu, Indrani Devi, Manorama Devi, Poushali Chatterjee, Sohini Ray, Bimbavati Devi, Ranjini Basu.

Additional Information

• The Manipuri Dance, also referred to as the Manipuri Raas Leela (Meitei: Jagoi Raas, Raas Jagoi), is one of the eight major Indian classical dance forms, originating from the state of Manipur.

• Lai Haraoba is the earliest form of dance in Manipur, and it forms the basis of all such dances.

Q94. Answer: (b) England

The correct answer is England.

Key Points

• The final of the 2019–2021 ICC World Test Championship, the inaugural ICC World Test Championship, was played from 18 to 23 June 2021 at the Rose Bowl, Southampton, England, between India and New Zealand.

• The inaugural ICC WTC 2019-21 cycle final was also scheduled to be played at the Lord's Cricket Ground but due to the Covid-19 pandemic, the final was shifted.

• It was played at the Ageas Bowl in Southampton, where Kane Williamson-led New Zealand defeated Virat Kohli-led India to become the first-ever World Test.

• India dropped to the 4th spot on the World Test Championship table after they were penalized for slow over-rate in the rescheduled 5th Test against England in Birmingham.

Additional Information

• South Africa has consolidated the second spot in the ICC World Test Championship points table.

• New Zealand won the match by eight wickets to be crowned as the winners of the inaugural ICC World Test Championship.

Q95. Answer: (d) Delhi

The correct answer is Delhi.

Key Points

• School Bag Policy 2020: The government of Delhi has issued guidelines to reduce the weight of school bags for the students in primary, secondary as well as senior secondary levels, according to news agency ANI.

• According to the new guidelines, the weight of the school bag should be at a maximum of 3.5 kgs to 5 kgs.

• The guidelines have been issued under the School Bag Policy 2020, which had been drawn by experts from NCERT, CBSE, Kendriya Vidyalaya Sangathan (KVS), and Navodaya Vidyalaya Samiti (NVS).

• It was released by the Union Ministry of Education and NCERT in November previous year and shared with the Education Secretaries of all the states too the Union Territories.

Additional Information

• The State of Karnataka has recently limited a load of school bags in May 2019.

• The National Education Policy (NEP) of 2020 provides an important opportunity to move Indian education from “sorting and selection” to “human development,” enabling every student to develop to their maximum potential.

• NEP 2020 aims to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035.

• 3.5 Crore new seats will be added to Higher education institutions.

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Q96. Answer: (a) Group 18

The correct answer is Group 18.

Key Points

• The Group 18 elements include Helium(He), Neon(Ne), Argon(Ar), Krypton(Kr), Xenon(Xe), and Radon(Rn).

• They are mentioned as noble gases or inert gases.

• This means that these elements are chemically inert and do not participate in any reaction.

• The noble gases have a weak interatomic force and accordingly have very low melting and boiling points.

Additional Information

• Group-16 elements are also called chalcogens. They are called so because most of the copper ores have copper in the form of oxides and sulphides.

• Group 15 of the periodic table is also called the nitrogen group.

• The elements of the Boron Family are called Icosagens as this name was proposed to design the elements in Group 13.

Q97. Answer: (b) Before Memory Fades: An Autobiography

The correct answer is Before Memory Fades: An Autobiography.

Key Points

• Fali Sam Nariman (born 10 January 1929) is an Indian jurist.

• He is the senior advocate to the Supreme Court of India since 1971 and was the President of the Bar Association of India from 1991 to 2010.

• Nariman is an internationally recognised jurist in international arbitration.

• Nariman's autobiography is called "Before Memory Fades".

Additional Information

• Autobiography is the biography of oneself narrated by oneself.

• In her autobiography, Courage and Commitment, Ms. Alva put the blame on senior leader A.K. Antony for her removal from organisational positions and held that it was because she had once recommended his [Mr. Antony] removal as the Kerala Chief minister earlier.

Q98. Answer: (b) Banihal Pass

The correct answer is Banihal Pass.

Key Points

• Banihal Pass is a mountain pass across the Pir Panjal Range at a maximum elevation of 2,832 m (9,291 ft).

• It joins the Kashmir Valley in the union territory of Jammu and Kashmir to the outer Himalayas and the plains to the south.

• The road from Jammu to Srinagar transversed Banihal Pass until 1956 when the Jawahar Tunnel was constructed under the pass.

• The road now passes through the underpass and the Banihal Pass is no longer used for road transport.

Additional Information

• Mana Pass is located within the Nanda Devi Biosphere Reserve, 47 km north of the town of Mana, India, and 52 km north of the Hindu pilgrimage town of Badrinath in Uttarakhand.

• Bara-lacha la also known as Bara-lacha Pass, (el. 4,850 m or 15,910 ft) is a high mountain pass in the Zanskar range, connecting Lahaul district in Himachal Pradesh to Leh district in Ladakh.

• Zoji-La Pass is a high mountain pass that runs through the Kashmir valley to Ladakh.

Q99. Answer: (a) George Harrison

The correct answer is George Harrison.

Key Points

• "I Me Mine" is a song by the English rock band the Beatles from their 1970 album Let It Be.

• Written by George Harrison, it was the last new track recorded by the band before their breakup in April 1970.

• The song reflects Harrison's absorption in Hindu texts such as the Bhagavad Gita and their denouncement of ego in favour of universal consciousness.

• George Harrison – lead and harmony vocals, acoustic guitars, lead guitars.

• It is George Harrison's Autobiography.

Additional Information

• Justin Drew Bieber is a Canadian singer. Bieber is widely recognised for his genre-melding musicianship and has played an influential role in modern-day popular music.

• A.R. Rahman is known for his extensive body of work for film and stage, for his stylistic range as a composer, and for his integration of assorted styles of music in his compositions.

• Sir Elton Hercules John (born Reginald Kenneth Dwight; 25 March 1947) is an English singer, pianist and composer.

Q100. Answer: (d) White blood cell

The correct answer is White blood cells.

Key Points

• At the site of infection, white blood cells accumulate to destroy pathogens.

• Their amoeboid shape assists them to squeeze through blood capillaries and at the same time their pseudopodia help to kill pathogens by the process of phagocytosis.

• White blood cells are part of the body's immune system.

• They help the body fight infection and other diseases.

• Types of white blood cells are granulocytes (neutrophils, eosinophils, and basophils), monocytes, and lymphocytes (T cells and B cells).

Additional Information

• The basic unit of communication in the nervous system is the nerve cell (neuron).

• The simple columnar epithelium is a single layer of columnar epithelial cells that are tall and slender with oval-shaped nuclei located in the basal region, attached to the basement membrane.

• Red blood cells contain a protein called hemoglobin, which carries oxygen from the lungs to all parts of the body.

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