SSC CHSL Tier-1 2021: Official Paper (Held On : 26 May 2022 Shift 1) (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 option that expresses the given sentence in active voice.

The incident was narrated by somebody to Naresh.

(a) Somebody was narrating the incident to Naresh.
(b) Somebody narrated the incident to Naresh.
(c) Somebody was about to narrate the incident to Naresh.
(d) Somebody will narrate the incident to Naresh.

Q2. Select the most appropriate ANTONYM of the highlighted word.

It was an impetuous decision to buy a car when he didn't have a job.

(a) dense
(b) arguable
(c) tangible
(d) sensible

Q3. Select the most appropriate option that can substitute the underlined segment in the given sentence.

I was waiting from two hours.

(a) since
(b) in
(c) for
(d) at

Q4. Select the most appropriate option to fill in the blank.

My success was complete and the delighted directors _____ me the privilege of developing automatic regulators which were much desired.

(a) contrasted
(b) accorded
(c) disagreed
(d) removed

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

She was laughing from the _____ exuberance of the performance.

(a) perfect
(b) sheer
(c) utter
(d) total

Q6. Select the most appropriate meaning of the given idiom.

Hard and fast

(a) Strict
(b) Quick witted
(c) Urgent
(d) Badly affected

Q7. Select the option that can be used as a one-word substitute for the underlined group of words.

Human beings are usually ones who are naturally able to eat both, plants and flesh.

(a) Cannibals
(b) Herbivorous
(c) Carnivorous
(d) Omnivorous

Q8. Directions: Each of the following questions has underlined idioms/phrases. Each sentence is followed by four options. Choose the option that best describes the meaning of the underlined idiom/phrase.

It was a Catch-22 situation for the manager.

(a) A difficult situation in which the solution to a problem is impossible
(b) Hailed as the ultimate champion
(c) Worthy successor to the throne
(d) A positive outcome in a tough situation

Q9. Select the most appropriate option to fill in the blank.

As soon as she opened the cages, the birds _____.

(a) flown away
(b) flew away
(c) fly away
(d) flies away

Q10. Select the INCORRECTLY spelt word.

(a) Appology
(b) Extrovert
(c) Lugubrious
(d) Collaborate

Q11. Select the option that expresses the given sentence in passive voice.

Siddharth is floating a grand plan by next week.

(a) Siddharth is being floated by a grand plan next week.
(b) A grand plan is being floated by Siddharth next week.
(c) Next week is keeping afloat by Siddharth's grand plan.
(d) A grand plan is being floating by Siddharth next week.

Q12. Select the most appropriate ANTONYM of the highlighted word.

They drank some spurious drink and fainted.

(a) genuine
(b) curious
(c) nefarious
(d) artificial

Q13. Select the most appropriate ANTONYM of the given word.

Former

(a) External
(b) Additional
(c) Featured

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(d) Latter

Q14. Select the most appropriate ANTONYM of the given word.

Savage

(a) Brutal
(b) Civilised
(c) Adequate
(d) Impartial

Q15. Select the sentence which has no spelling error.

(a) Geet runs a pharmasutical chemist shop at New Delhi.
(b) My elder brother works in a pharmaceutical company.
(c) The pharmaetuical company develops and market drugs.
(d) Many phramaeutical companies supplied vaccines in pandemic.

Q16. Select the correctly spelt word to fill in the blank.

The _____ of the worksheets is not an easy job.

(a) reconcilation
(b) reconsiliation
(c) reconsilation
(d) reconciliation

Q17. Select the option that expresses the given sentence in passive voice.

You have lost your note book.

(a) Your note book have been lost.
(b) Your note book has been lost.
(c) Your note book is lost.
(d) Your note book got lost.

Q18. Select the most appropriate option to substitute the underline segment in the given sentence.

The affection of her husband carried her up in the midst of all her problems.

(a) tore her up
(b) bore her up
(c) stood her up
(d) drove her up

Q19. Select the most appropriate option to fill in the blank.

The beauty of our festivals lies in ‘unity in _____’.

(a) richness
(b) belongingness
(c) diversity
(d) inclusion

Q20. 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. But while it may seem normal to you, your child may be negatively affected by you and your partner's actions.

B. There is no telling when a squabble between a couple may aggravate and escalate into something ugly, which when witnessed by a child, might devastate them gravely.

C. There's no relationship that does not falter.

D. Arguments, disagreements and conflicts are extremely common even in a healthy relationship.

(a) CBAD
(b) BCAD
(c) BACD
(d) CDAB

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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.

Poetry and novels became very (1)____ in the 18th century. Robinson Crusoe by Daniel Defoe was published in 1719. This is regarded as the first successful English novel. It is partly based on the true life adventures of a traveller called Alexander Selkirk. Jonathan Swift's Gulliver's travels was written in 1726 and (2)__ four imaginary journeys of a ship's doctor named Gulliver. Poetry (3)__around British people and places. Poets also considered nature as a source of (4)__. The poets wrote in a simple style and language so that the (5)____ masses could understand it.

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

(a) popular
(b) desired
(c) influential
(d) likely

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

(a) describes
(b) represents
(c) discloses
(d) expresses

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

(a) revolved
(b) encircled
(c) revolutionised
(d) executed

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

(a) incentive
(b) inspiration
(c) impulse
(d) motivation

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

(a) modern
(b) traditional
(c) ordinary
(d) typical

GENERAL INTELLIGENCE

Q26. If M denotes '−', N denotes '÷', O denotes '×' and P denotes '+', then what will come in place of '?' in the following equation?

(38 O 13) N 19 M 27 P (38 O 3) P 43 M 68 = ?

(a) 82
(b) 88
(c) 92
(d) 90

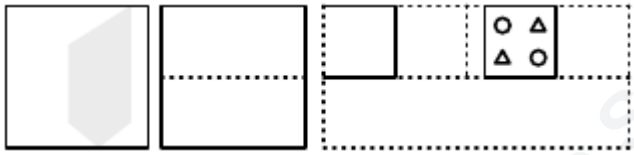
Q27. Which of the following numbers will replace the question mark (?) in the given series?

8, 16, 13, ?, 47, 282

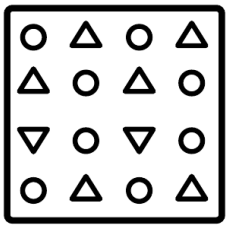
(a) 58
(b) 48
(c) 52

(d) 55

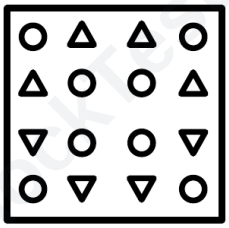
Q28. A paper is folded and cut as shown. How will it appear when unfolded?



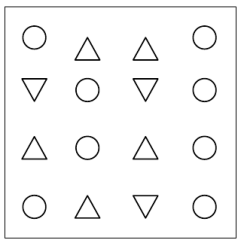
(a)



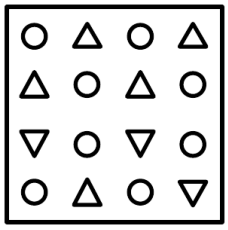
(b)



(c)



(d)



Q29. In a certain code language, ‘APRON’ is written as ‘CNTMP’ and ‘EARTH’ is written as ‘GYTRJ’. How will ‘HEAVY’ be written in that language?

(a) JCGUS
(b) JGUTA
(c) JGCTA
(d) JCCTA

Q30. Select the option that represents the letters that, when placed from left to right in the given blanks, will complete the letter series.

D E _ W G _ E F _ G D E F U _ D _ F T G

(a) F D G V E
(b) F D V G E
(c) D F F E V

(d) D F V G F

Q31. Select the correct combination of mathematical signs to replace the * signs and to balance the given equation.

34 * 4 * 15 * 51 * 27 * 9 * 40

(a) +, ×, −, =, ÷, +

(b) −, +, =, ×, −, +

(c) +, −, =, ×, ÷, −

(d) ÷, −, ×, =, +, −

Q32. If 28 February 2017 was Tuesday, then what was the day of the week on 28 February 2019?

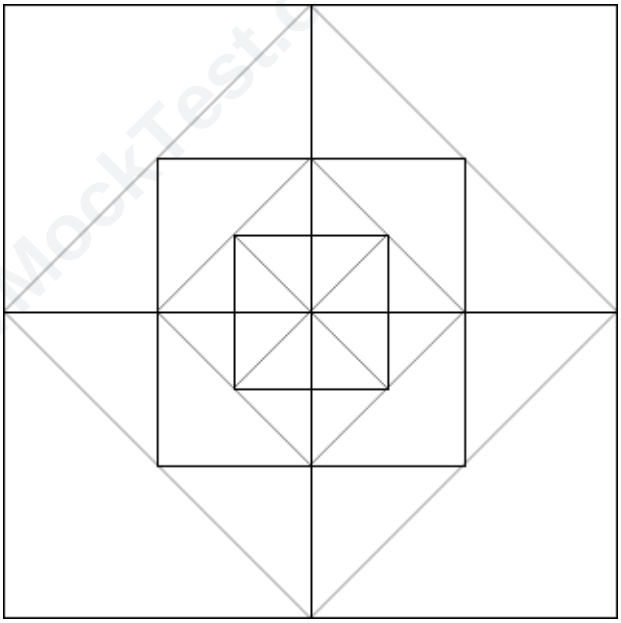
(a) Thursday

(b) Saturday

(c) Friday

(d) Monday

Q33. How many triangles are there in the given figure?



(a) 24

(b) 26

(c) 28

(d) 30

Q34. Seven friends M, N, O, P, Q, R and S, each has a different age. Only two people are older than Q. P is older than Q but younger than O. M is older than R but younger than S. Only three people are younger than S. N is the youngest among all. The age of how many persons is between the ages of Q and R?

(a) 1

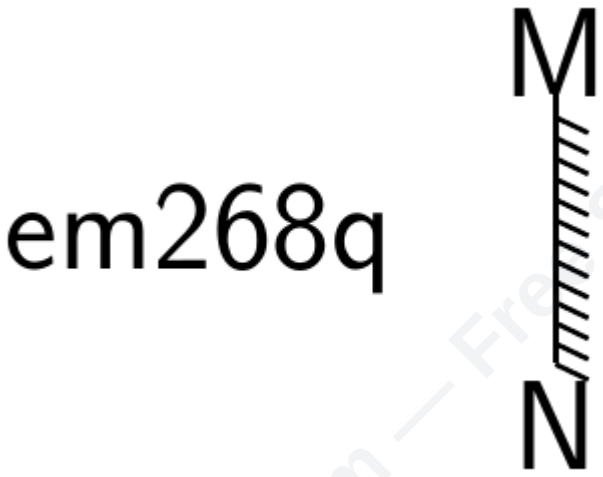
(b) 4

(c) 3

(d) 2

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

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(a)



(b)



(c)



(d)



Q36. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

First row – 13, 50, 104

Second row – 11, 42, ?

Third row – 18, 70, 144

(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) 80
(b) 96
(c) 88
(d) 98

Q37. If 09 April 2023 is Friday. What will be 30 April 2023?

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

(d) Friday

Q38. Which letter-cluster will replace the question mark (?) to complete the given series?

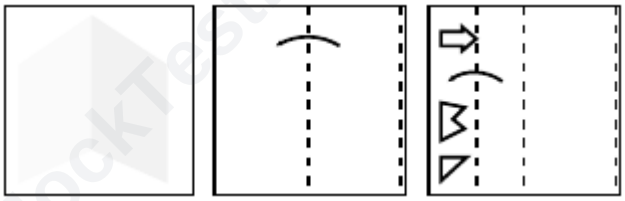
XAPE, BIBU, ?, JYZA, NGLQ

(a) YDVQ
(b) PSFZ
(c) FQNK
(d) QNAR

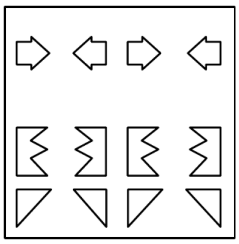
Q39. The second number in the given number pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) are followed in all the number pairs, EXCEPT one. Find that odd number pair.

(a) 8 : 64
(b) 8 : 512
(c) 6 : 216
(d) 4 : 64

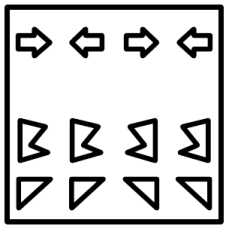
Q40. A paper is folded and cut as shown below. How will it appear when unfolded?



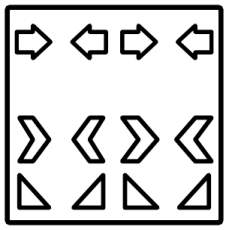
(a)



(b)

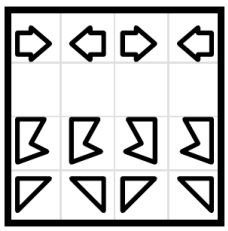


(c)



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(d)



Q41. If I denotes '÷', J denotes '×', K denotes '−' and L denotes '+', then what will come in place of '?' in the following equation?

37 L 25 K (14 J 2) L (2 J 13) K (62 I 31) = ?

(a) 58
(b) 56
(c) 60
(d) 62

Q42. In a certain code language, 'DANCE' is written as 'ADNEC' and 'DISCO' is written as 'IDSOC'. How will 'DREAM' be written in that language?

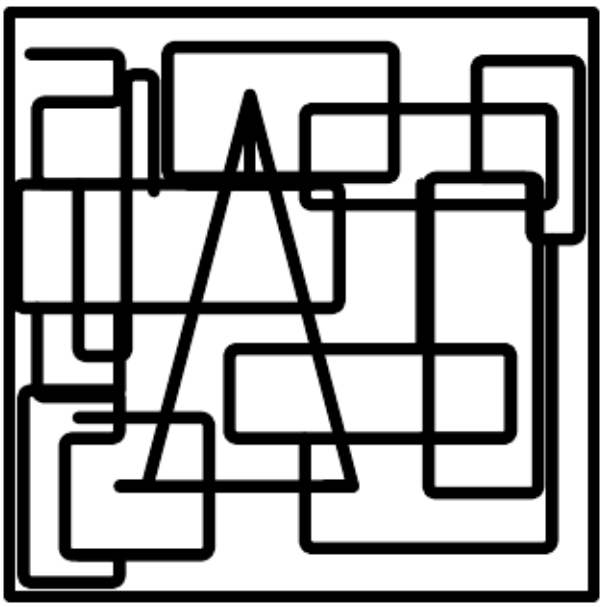
(a) DREMA
(b) RAEMD
(c) RDEAM
(d) RDEMA

Q43. 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.

GENIUS : IUNGES :: HOLDER : DELHOR :: LIGHTS : ?

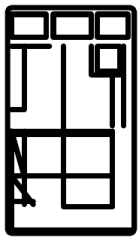
(a) HTGLIS
(b) TGLHSI
(c) TGLSHI
(d) HTGLSI

Q44. Select the option figure which is embedded in the given figure as its part (rotation is NOT allowed).

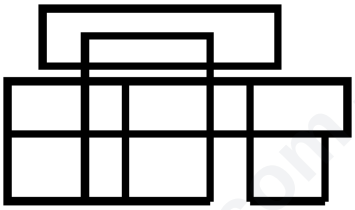


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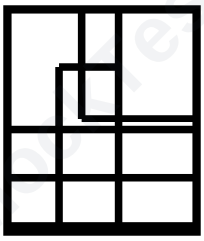
(a)



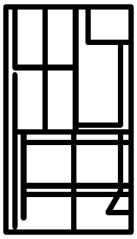
(b)



(c)



(d)



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

45 * 9 * 3 * 7 * 5 * 133

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

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

199, 211, 196, ?, 193, 217

(a) 205
(b) 214
(c) 207
(d) 210

Q47. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.

19 : 80 :: 23 : 96 :: 16 : ?

(a) 76
(b) 68
(c) 70

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(d) 62

Q48. Select the correct combination of mathematical signs to replace the * signs and to balance the given equation.

67 * 88 * 8 * 14 * 3 * 19 * 17

(a) -, ×, =, −, ÷, +

(b) +, ÷, -, ×, -, =

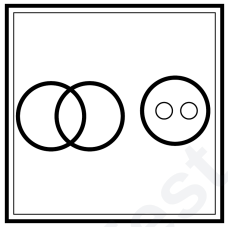
(c) -, ÷, ×, +, =, -

(d) +, -, =, ×, -, ×

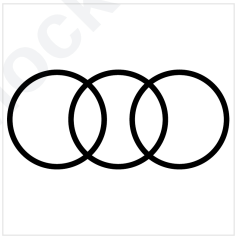
Q49. Select the Venn diagram that best illustrates the relationship between the following classes.

Fruit, Apple, Vegetable

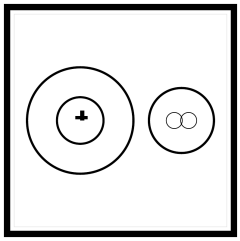
(a)



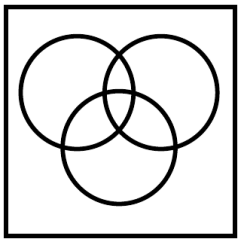
(b)



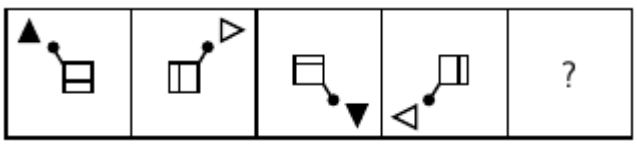
(c)



(d)

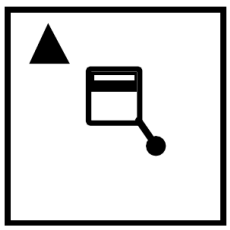


Q50. Select the figure from among the given options that can replace the question mark (?) in the following series.

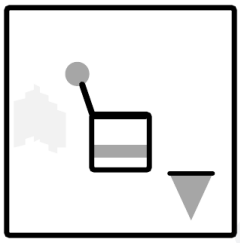


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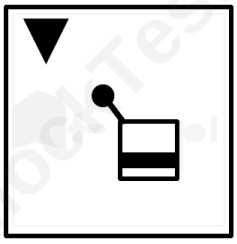
(a)



(b)



(c)



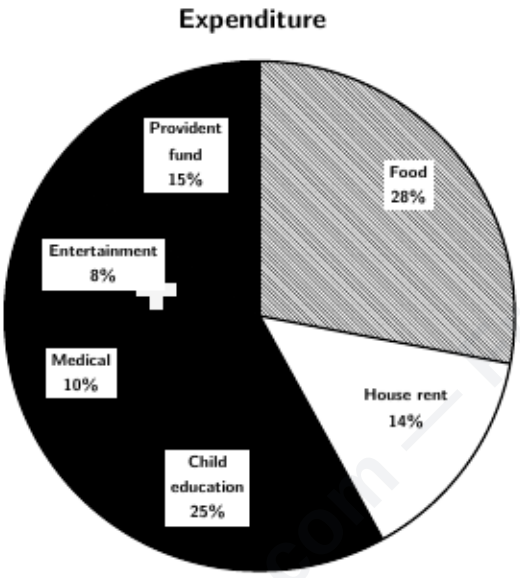
(d)



QUANTITATIVE APTITUDE

Q51. The pie-chart given below shows the monthly expenditures made by a family under different heads as percentages of the total monthly income of the family. If the total monthly income of the family is Rs. 70,000, then what is the amount that is left with the family after only the food and medical expenditures for the month are made?

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(a) Rs. 43,500
(b) Rs. 43,600
(c) Rs. 43,400
(d) Rs. 43,700

Q52. The speed of a boat is 12 km/h in still water. It goes 18 km downstream and comes back in a total time of 6 6/7 hours. Find the speed of the stream (in km/h).

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

Q53. The table below gives the numbers of three types of trees that were planted by government agencies in six consecutive years.

Year	Banyan	Neem	Teak
2013	30000	25000	15000
2014	35000	30000	5000
2015	35000	45000	10000
2016	40000	40000	25000
2017	45000	55000	35000
2018	55000	50000	40000

What was the percentage increase in the number of teak trees that were planted by these agencies in 2017 compared to the number of teak trees that were planted by these agencies in 2016?

(a) 35%
(b) 30%
(c) 44%
(d) 40%

Q54. If $(x^2)/(y^2) + (y^2)/(x^2) = 7$, A possible of $(x^3)/(y^3) + (y^3)/(x^3)$ is :

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

Q55. After allowing 15% discount, a dealer wishes to sell a machine for Rs. 1,22,700. At what price must the machine be marked?

(Consider up to two decimals)

(a) Rs. 1,22,352.94
(b) Rs. 1,44,352.94
(c) Rs. 1,48,352.94
(d) Rs. 1,36,352.94

Q56. If $8r/(r^2 - 8r + 1) = 1/14$, then the value of $(r + 1/r)$ is _____.

(a) 88
(b) 100
(c) 120
(d) 60

Q57. The average weight of 15 athletes and three trainers is 60 kg. When four more athletes of average weight 63 kg are included in the group, what is the average weight (in kg, rounded off to the nearest integer) of the group?

(a) 61
(b) 62
(c) 59
(d) 60

Q58. If $[36/7 \div 54/7 - \{3 - (23/4 - 3/2)\}] + A \div 4 = 0$, then what is the value of A?

(a) 9
(b) 6
(c) 5
(d) 4

Q59. How many 25 cm × 11.25 cm × 6 cm bricks will be required to construct an 8 m × 6 m × 22.5 cm wall? (ignoring other material used)

(a) 7020
(b) 6400
(c) 5800
(d) 6800

Q60. If triangles ABC and PQR are both isosceles with AB = AC and PQ = PR, respectively. If also AB = PQ and BC = QR and angle B = 50°, then what is the measure of angle R?

(a) 50°
(b) 80°
(c) 90°
(d) 60°

Q61. A dealer professes to sell his goods at cost price, but uses 900 gm weight for a kilogram. Find his profit per cent.

(a) 9%
(b) 111/9%
(c) 101/9%
(d) 10%

Q62. The average marks scored by a student in 4 subjects is 75. But when the marks of English are added to it, the overall average became 70. How much did he score in English?

(a) 50
(b) 60
(c) 55
(d) 65

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Q63. Find the greatest among the following options.

(a) 0.62
(b) 2/3
(c) 0.57
(d) 4/5

Q64. If P : Q = 10 : 11 and Q : R = 11 : 12, then P + Q : Q + R : R + P is:

(a) 21 : 23 : 22
(b) 22 : 21 : 23
(c) 11 : 12 : 10
(d) 23 : 22 : 21

Q65. The total surface area of a solid hemisphere is 16632 cm^2. Its volume is: (Take $\pi = 22/7$)

(a) 145232 cm^3
(b) 140232 cm^3
(c) 150032 cm^3
(d) 155232 cm^3

Q66. How many two-digit numbers are divisible by 3 or 5?

(a) 48
(b) 41
(c) 42
(d) 40

Q67. The price of an article is raised by 45% and then two successive discounts of 15% each are allowed. Ultimately the price of the article is _____.

(a) decreased by 7.7625%
(b) increased by 4.7625%
(c) decreased by 4.7625%
(d) increased by 7.7625%

Q68. What is the volume of the largest right circular cone that can be cut out from a cube whose edge is 10 cm?

(a) $250\pi/3cm^3$
(b) $351\pi/3cm^3$
(c) $145\pi/3cm^3$
(d) $150\pi/3cm^3$

Q69. The difference between the compound interest and the simple interest on a given principal is Rs. 1,725 in 2 years and the rate of interest in both cases is 25% per annum, and in the case when interest is compunded, it is compounded annually. Find the principal.

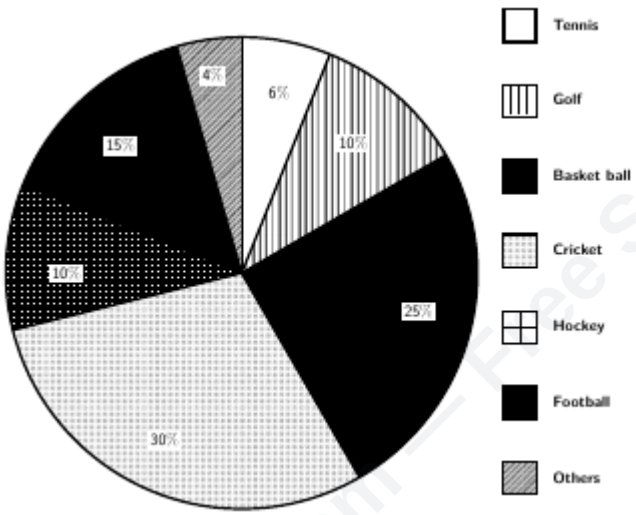
(a) Rs. 25,600
(b) Rs. 26,500
(c) Rs. 26,400
(d) Rs. 27,600

Q70. If $2a + 5b = 12$ and $ab = 3$, find the value of $4a^2 + 25b^2$.

(a) 64
(b) 44
(c) 84
(d) 24

Q71. The given circle graph shows the spending of a country on various sports during a year. Study the graph carefully and answer the question that follows.

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The country spent the same amount of money on:

(a) Cricket and Football
(b) Golf and Basketball
(c) Hockey and Tennis
(d) Hockey and Golf

Q72. X's salary is increased by 20% and then decreased by 20%. What is the change in salary?

(a) 4% decrease
(b) 4% increase
(c) 2% decrease
(d) 2% increase

Q73. If Mona and Sona together can finish a typing work in 18 days and Sona alone can finish it in 24 days, find the number of days in which Mona alone can finish the work.

(a) 48
(b) 60
(c) 64
(d) 72

Q74. The population of a town is 80,000. It decreases by 8% in the first year and increases by 5% in the second year. What will be the population of the town at the end of 2 years?

(a) 76150
(b) 86140
(c) 77280
(d) 82540

Q75. In a ΔABC, right angled at B, if tan A = 1/(√3), then sin A. cos C + cos A. sin C = _____.

(a) 0
(b) 2
(c) -1
(d) 1

GENERAL AWARENESS

Q76. Who among the following is the author of the book 'Fasting, Feasting'?

(a) Preeti Shenoy
(b) Anuja Chauhan
(c) Namita Gokhale
(d) Anita Desai

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Q77. On the basis of the track width of Indian Railways, what type of gauge is Matheran Hill Railways?

(a) Narrow gauge
(b) Medium gauge
(c) Broad gauge
(d) Standard gauge

Q78. A R Rahman, the famous musician won the 52nd Grammy Award for which of the following songs?

(a) Rubaroo
(b) Vande Mataram
(c) Jai Ho
(d) Dilli 6

Q79. Which plateau, with an average elevation of about 600 meters (2000 feet), is bounded by three mountain ranges: the Satpura range to the north and the Eastern and Western Ghats on either side?

(a) Marwar Plateau
(b) Meghalaya Plateau
(c) Deccan Plateau
(d) Chota Nagpur Plateau

Q80. Lack of financial discipline by the government can lead to _____.

(A) excess expenditure

(B) inflation

(a) Only B
(b) Only A
(c) A and B
(d) Neither A nor B

Q81. Which is a slow cooking process that begins around 320°F, removes water from a sugar, and breaks down the sugar into complex polymers with a sweet, nutty, or bitter taste and thus produces a golden-brown to dark brown colour?

(a) Gelatinisation
(b) Dextrinisation
(c) Caramelisation
(d) Maillard reaction

Q82. When was the National Hydrogen Mission (NHM) launched?

(a) 1 January 2022
(b) 2 October 2020
(c) 15 August 2021
(d) 26 January 2019

Q83. Pandit Bhawani Shankar is a _____ player.

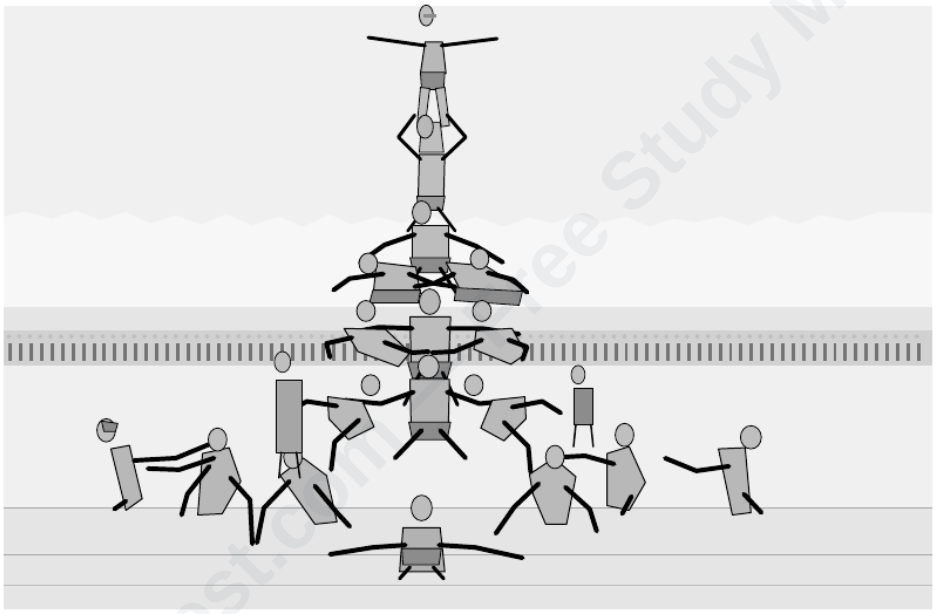
(a) pakhawaj
(b) tanpura
(c) dholak
(d) tabla

Q84. Which cricket player's autobiography is titled '281 and Beyond'?

(a) Anil Kumble
(b) Javagal Srinath
(c) Virender Sehwag
(d) VVS Laxman

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Q85. What is the name of the traditional Indian sport shown in the picture below?



(a) Chaupar
(b) Gilli Danda
(c) Malkham
(d) Kho Kho

Q86. Which of the following is the oldest High Court?

(a) Karnataka High Court
(b) Calcutta High Court
(c) Allahabad High Court
(d) Delhi High Court

Q87. Who arranged the elements with chemically similar properties, such as lithium, sodium, and potassium, and showed that the properties of the middle element could be predicted from the properties of the other two?

(a) Johann Dobereiner
(b) Lothar Meyer
(c) John Newlands
(d) Dmitri Mendeleev

Q88. Maitya Ram Reang (Satyaram) was conferred with the Padma Shri for his contributions to which of the folk dances?

(a) Hojagiri
(b) Gussadi
(c) Sattriya
(d) Bihu

Q89. Which is the first of India's traditional dance to be refashioned as a theatre art and to be exhibited widely both at home and abroad?

(a) Kuchipudi
(b) Manipuri
(c) Kathakali
(d) Bharatanatyam

Q90. Which of the following is a meteorological instrument consisting of a funnel-shaped collector attached to a measuring tube used to measure rainfall per unit area at a given time?

(a) Anemometer
(b) Sling psychrometers
(c) Standard Rain Gauge

(d) Hygrometer

Q91. Identify the word that means horizontal rows in periodic table.

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

Q92. Who won the Bronze medal in badminton women's singles at Tokyo Olympics 2020?

(a) An Se-Young
(b) Chen Yu Fei
(c) PV Sindhu
(d) Tai Tzu-ying

Q93. Which of the following is NOT a symptom of Beriberi caused due to the deficiency of Vitamin B1?

(a) Slowly healing wounds
(b) Involuntary eye movement
(c) Difficulty speaking
(d) Pain in the limbs

Q94. 'Straight from the Heart: An Autobiography' is an autobiography of which of following sportspersons?

(a) Mahendra Singh Dhoni
(b) Sunil Gavaskar
(c) Kapil Dev
(d) Anil Kumble

Q95. Who among the following personalities was awarded the Officer of the Legion of Honour award?

(a) Asha Bhosle
(b) Shamshad Begum
(c) S Janki
(d) Lata Mangeshkar

Q96. As per statistics published by National Crime Records Bureau for 2020, which state registered the highest number of crimes against children [Indian Penal Code (IPC) and Special and Local Laws (SLL)]?

(a) Maharashtra
(b) Uttar Pradesh
(c) Bihar
(d) Madhya Pradesh

Q97. Padma Bhushan awardee Uma Sharma is a _____ dancer.

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

Q98. Teejan Bai, Jhaduram Devangan, Ritu Verma, Usha Barle and Shantibai Chelak are famous for which of the following forms of folk music?

(a) Pandavani
(b) Lavani
(c) Bihugeet
(d) Bhatiali

Q99. Which of the following is an adventure sport?

(a) Snow hockey
(b) Cycling
(c) Paragliding

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(d) Paralympics

Q100. Veteran classical dance guru from _____, Jatin Goswami was given the National Kalidas Samman for 2017.

(a) Chhattisgarh
(b) Assam
(c) Odisha
(d) West Bengal

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) Somebody narrated the incident to Naresh.

The solution is in Hindi. Read it online.

Q2. Answer: (d) sensible

The correct answer is "sensible".

Key Points

• Let's look at the meaning of the highlighted word.

• impetuous:

acting or done quickly and without thought or care.

• Example: His decision to confront his manager regarding the promotion was more impetuous than logical.

• Let's look at the meaning of the given options.

• Dense:

(of a person) stupid.

• Arguable:

open to disagreement; not obviously correct.

• Tangible:

clear and definite; real.

• Sensible:

done or chosen in accordance with wisdom or prudence; likely to be of benefit.

• As per the meaning of the given words, "sensible" is the antonym of the highlighted word "impetuous".

• Example: He made a sensible decision by buying a house in a developing area.

Hence, the correct answer is option 4.

Q3. Answer: (c) for

The correct answer is "for"

Key Points

• In the given sentence, the usage of the preposition "from" is incorrect.

• We use the preposition 'from' to show where something starts or originates. We also use from to show movement from one thing

to another.

• In the given sentence, we need to use the preposition "for".

• We use the preposition 'for' to state how long something lasts or continues.

• Example: I waited at the metro station for about 45 minutes so that I could catch the first metro.

• We also use the preposition "for" as a conjunction to link the first and second clauses of a sentence.

• The implied meaning of the given sentence is that the speaker is expressing how long they waited.

The correct sentence is: I was waiting for two hours.

Hence, the correct answer is option 3.

Q4. Answer: (b) accorded

The solution is in Hindi. Read it online.

Q5. Answer: (b) sheer

The correct answer is "sheer".

Key Points

• Let's look at the meaning of the given words:

• perfect:

having all the required or desirable elements, qualities, or characteristics; as good as it is possible to be.

• sheer: not mixed with anything else; pure or complete. It is an adjective used to create emphasis.

• utter: extreme. or absolute. It also means to express oneself in words.

• total: consisting of the whole number or amount.

• As per the meaning of the given words, "sheer" is the appropriate word choice for the blank.

• Example: It was a moment of sheer bliss for his family and friends when he crossed the finishing line of the marathon.

• The meaning of the given sentence is that the person was laughing as she was completely overjoyed after the performance.

The correct sentence is: She was laughing from the sheer exuberance of the performance.

Hence, the correct answer is option 2.

Q6. Answer: (a) Strict

The correct answer is "Strict".

Key Points

• The meaning of the given idiom is "not to be modified or evaded or strict."

• We use the given idiom in a situation where some rules or something in question is rigid and cannot be changed so easily.

• Example: Tina said, "My company has a hard and fast policy when it comes to granting leaves to its employees."

Hence, the correct answer is option 1.

Q7. Answer: (d) Omnivorous

The correct answer is "Omnivorous"

Key Points

• Let's look at the meaning of the given words:

• Cannibals:

a person who eats the flesh of other human beings.

• Herbivorous:

(of an animal) feeding on plants.

• Carnivorous:

(of an animal) feeding on other animals.

• Omnivorous: (of an animal or person) feeding on a variety of food of both plant and animal origin.

• As per the meaning of the given words, "omnivorous" is the one-word substitute for the underlined group of words.

The correct sentence is: Human beings are usually the ones who are omnivorous..

Hence, the correct answer is option 4.

Q8. Answer: (a) A difficult situation in which the solution to a problem is impossible

The correct answer is "A difficult situation in which the solution to a problem is impossible"

Key Points

• The meaning of the given idiom is "a dilemma or difficult circumstance from which there is no escape because of mutually

conflicting or dependent conditions."

• We use the given idiom to refer to a situation where one is in a difficult circumstance and there are no easy escapes.

• Example: When we discovered that the application we made had some glitches before a major launch, we were caught in a Catch-22 situation.

**Hence, the correct answer is option 1.

Q9. Answer: (b) flew away

The correct answer is "flew away"

Key Points

• The meaning of the idiom "fly away" is "to leave some place or area by flying."

• The first clause of the given sentence is in the past tense.

• So, we need to use the past tense of the verb "fly" which is "flew" in the given sentence.:

The correct sentence is: As soon as she opened the cages, the birds flew away.

Hence, the correct answer is option 2.

Q10. Answer: (a) Appology

The solution is in Hindi. Read it online.

Q11. Answer: (b) A grand plan is being floated by Siddharth next week.

The correct answer is "A grand plan is being floated by Siddharth next week."

Key Points

• There are a few things to keep in mind when changing a sentence from active to passive voice.

• The subject in the active voice becomes the agent in the passive voice. The agent is indicated with the preposition "by" in the given sentence.

• In the given sentence, "Siddharth" becomes the agent in a passive voice indicated with the preposition "by".

• The object in the active voice becomes the subject of the sentence in the passive voice.

• In the given sentence, "A grand plan" is the subject of the passive voice.

• The given sentence is in the present continuous tense so we need to use the present participle of "be" which is "being" in the passive voice sentence.

• The main verb "floating" of the given sentence will take the past participle form (V3) which is "floated" in the passive voice sentence.

Hence the correct answer is option 2

The correct sentence is: A grand plan is being floated by Siddharth next week.

Q12. Answer: (a) genuine

The solution is in Hindi. Read it online.

Q13. Answer: (d) Latter

The correct answer is "Latter".

Key Points

• Let's look at the meaning of the given word:

• Former:

having previously been a particular thing.

• Example: He was a former pilot at a reputed airline but now he is pursuing law.

• Let's look at the meaning of the given words:

• External: belonging to or forming the outer surface or structure of something.

• Additional:

added, extra, or supplementary to what is already present or available.

• Featured:

having distinctive attributes or aspects of a specified kind.

• Latter:

denoting the second or second mentioned of two people or things.

As per the meaning of the given words, "latter" is the antonym of the word "former".

• Example: Among the two new people we met at the party, the former was a cop and the latter was a lawyer.

Hence, the correct answer is option 4.

Q14. Answer: (b) Civilised

The solution is in Hindi. Read it online.

Q15. Answer: (b) My elder brother works in a pharmaceutical company.

The correct answer is "My elder brother works in a pharmaceutical company."

Key Points

• Let's try to identify the correct sentence.

• Option 1: In the given sentence, the erroneous spelling is "pharmasutical".

• Option 3: In the given sentence, the erroneous spelling is "pharmaetuical".

• Option 4: In the given sentence, the erroneous spelling is "phramaeutical".

• Option 2: In the given sentence, the spelling of "pharmaceutical " is correct.

• Let's look at the meaning of the word.

• Pharmaceutical: relating to medicinal drugs, or their preparation, use, or sale.

The correct sentence is: My elder brother works in a pharmaceutical company.

Hence, the correct answer is option 2.

Q16. Answer: (d) reconciliation

The correct answer is "reconciliation"

Key Points

• Options 1, 2, and 3 have erroneous spellings of the word.

• Let's look at the correct spelling and meaning of the word.

• Reconciliation:

the restoration of friendly relations.

• Example: The husband and wife were no longer interested in reconciliation so they decided to file for divorce.

The complete sentence is: The reconciliation of the worksheets is not an easy job.

Hence, the correct answer is option 4.

Q17. Answer: (b) Your note book has been lost.

The correct answer is "Your note book has been lost."

Key Points

• There are a few things to keep in mind before changing a sentence from active to passive voice.

• We can omit the subject in the passive voice if the sentence is meaningful without it.

• In the given sentence, the subject pronoun "your" modifies the meaning of the entire sentence so we don't need to use another relative pronoun for the sentence.

• The object of the active voice becomes the subject of the passive voice.

• In the given sentence, "notebook" is the subject of the sentence in the passive voice.

• The given sentence is in the present perfect tense. So we need to use "has been" when changing the sentence from active to passive voice.

• We need to use the past particle form of "be" in the given sentence as it becomes the main verb of the sentence. We always use the past participle form of the main verb in passive voice." Been" is the past participle of "be".

• In the given sentence, we need to use the auxiliary verb "has" for the subject-verb agreement as the sentence begins with the singular subject "your notebook".

Hence, the correct answer is option 2.

The correct sentence is: Your note book has been lost.

Q18. Answer: (b) bore her up

The solution is in Hindi. Read it online.

Q19. Answer: (c) diversity

The correct answer is "diversity".

Key Points

• Let's look at the meaning of the given words:

• richness:

the state of existing in or containing plentiful quantities of something desirable.

• belongingness: the state or feeling of belonging to a particular group.

• diversity:

the practice or quality of including or involving people from a range of different social and ethnic backgrounds and of different genders, sexual orientations, etc.

• inclusion:

the action or state of including or of being included within a group or structure.

• As per the meaning of the words, "diversity" is the appropriate word choice for the blank.

• Example: The variety of food choices at the wedding represents the diversity of Indian culture.

The correct sentence is: The beauty of our festivals lies in ‘unity in diversity'.

Hence, the correct answer is option 3.

Q20. Answer: (d) CDAB

The correct answer is "CDAB"

Key Points

• Let's look at the correct sequence of the passage.

• Statement C is the opening sentence of the passage as it begins with a general opinion about relationships. Opening statements are usually general statements about a topic. The given sentence is a general statement about relationships.

• Statement D is the second sentence of the passage it elaborates on the general statement in the previous sentence. The authors state that arguments, disagreements and conflicts are extremely common even in a healthy relationship.

• Statement A is the third sentence of the passage as it begins with a conjunction "but" depicting a contrast to the previous statement. The given sentence talks about the negative impact of arguments, disagreements, and conflicts of the parents on their children.

• Statement B is the concluding statement of the passage as it summarizes the core ideas in one sentence. The author states that there is no telling when a squabble between a couple may aggravate and escalate into something ugly, which when witnessed by a child, might devastate them gravely.

Hence, the correct answer is option 4.

Q21. Answer: (a) popular

The correct answer is "popular"

Key Points

• Let's look at the meaning of the given options.

• Popular:

liked or admired by many people or by a particular person or group.

• Desired:

strongly wished for or intended.

• Influential:

having a great influence on someone or something.

• Likely: such as well might happen or be true; probable.

• As per the meaning of the given words, "popular" is the appropriate word choice for the blank.

• The implied meaning of the given sentence is that poetry and novels were very

liked or admired by many people in the 18th century.

Hence, the correct answer is option 1.

The complete passage is: Poetry and novels became very (1) popular in the 18th century. Robinson Crusoe by Daniel Defoe was published in 1719. This is regarded as the first successful English novel. It is partly based on the true-life adventures of a traveller called Alexander Selkirk. Jonathan Swift’s Gulliver’s travels were written in 1726 and (2) describes four imaginary journeys of a ship’s doctor named Gulliver. Poetry (3) revolved around British people and places. Poets also considered nature as a source of (4)inspiration. The poets wrote in a simple style and language so that the (5)ordinary masses could understand it.

Q22. Answer: (a) describes

The correct answer is "describes".

Key Points

• Let's look at the meaning of the given options.

• describes:

give a detailed account of something in words.

represents: describe or portray in a particular way.

• discloses:

make (secret or new information) known.

• expresses:

convey (a thought or feeling) in words or by gestures and conduct.

• As per the meaning of the given words, "describes" is the appropriate word choice for the blank.

• Example: The tourist describes her experience of travelling in India in a memoir after she returned to her country.

• The implied meaning of the given sentence is that Jonathan Swift's Gulliver's travels were written in 1726. It gives a detailed account of four imaginary journeys of a ship's doctor named Gulliver.

Hence, the correct answer is option 1.

The complete passage is: Poetry and novels became very (1) popular in the 18th century. Robinson Crusoe by Daniel Defoe was published in 1719. This is regarded as the first successful English novel. It is partly based on the true-life adventures of a traveller called Alexander Selkirk. Jonathan Swift's Gulliver's travels were written in 1726 and (2) describes four imaginary journeys of a ship's doctor named Gulliver. Poetry (3) revolved around British people and places. Poets also considered nature as a source of (4)inspiration. The poets wrote in a simple style and language so that the (5)ordinary masses could understand it.

Q23. Answer: (a) revolved

The correct answer is "revolved"

Key Points

• Let's look at the meaning of the given options.

• revolved:

treat as the most important element.

• encircled:

form a circle around; surround.

• revolutionized:

change (something) radically or fundamentally.

• executed: put (a plan, order, or course of action) into effect.

• As per the meaning of the given words, "revolved" is the appropriate word choice for the blank.

• Example: "Me too" is a social movement that revolved around sexual abuse or sexual harassment.

• The implied meaning of the given sentence is that 18^(th)-century poetry was about British people and places.

Hence, the correct answer is option 1.

The complete passage is: Poetry and novels became very (1) popular in the 18th century. Robinson Crusoe by Daniel Defoe was published in 1719. This is regarded as the first successful English novel. It is partly based on the true-life adventures of a traveller called Alexander Selkirk. Jonathan Swift's Gulliver's travels were written in 1726 and (2) describes four imaginary journeys of a ship's doctor named Gulliver. Poetry (3) revolved around British people and places. Poets also considered nature as a source of (4)inspiration. The poets wrote in a simple style and language so that the (5)ordinary masses could understand it.

Q24. Answer: (b) inspiration

The correct answer is "inspiration".

Key Points

• Let's look at the meaning of the given options.

• incentive:

a thing that motivates or encourages someone to do something.

• inspiration:

the process of being mentally stimulated to do or feel something, especially to do something creative.

• impulse:

a sudden strong and unreflective urge or desire to act.

• motivation:

desire or willingness to do something; enthusiasm.

• As per the meaning of the given words, "inspiration" is the appropriate word choice for the blank.

• The implied meaning of the given sentence is that poets derived their source of mental stimulation from nature.

Hence, the correct answer is option 2.

The complete passage is: Poetry and novels became very (1) popular in the 18th century. Robinson Crusoe by Daniel Defoe was published in 1719. This is regarded as the first successful English novel. It is partly based on the true-life adventures of a traveller called Alexander Selkirk. Jonathan Swift's Gulliver's travels w written in 1726 and (2) describes four imaginary journeys of a ship's

doctor named Gulliver. Poetry (3) revolved around British people and places. Poets also considered nature as a source of (4)inspiration. The poets wrote in a simple style and language so that the (5)ordinary masses could understand it.

Q25. Answer: (c) ordinary

The correct answer is "ordinary".

Key Points

• Let's look at the meaning of the given options.

• modern:

relating to the present or recent times as opposed to the remote past.

• traditional:

habitually done, used, or found.

• ordinary:

with no special or distinctive features; normal.

• typical:

having the distinctive qualities of a particular type of person or thing.

• As per the meaning of the given words, "ordinary" is the appropriate word choice for the blank.

• The implied meaning of the given sentence is that the style and language of poetry were accessible to the common folks of the time.

Hence, the correct answer is option 3.

The complete passage is: Poetry and novels became very (1) popular in the 18th century. Robinson Crusoe by Daniel Defoe was published in 1719. This is regarded as the first successful English novel. It is partly based on the true life adventures of a traveller called Alexander Selkirk. Jonathan Swift's Gulliver's travels was written in 1726 and (2) describes four imaginary journeys of a ship's doctor named Gulliver. Poetry (3) revolved around British people and places. Poets also considered nature as a source of (4)inspiration. The poets wrote in a simple style and language so that the (5)ordinary masses could understand it.

Q26. Answer: (b) 88

The logic followed here is :

LETTERS REPRESNTION OPERATIONS:

| Symbol | P | N | M | O | | --- | --- | --- | --- | --- | | Meaning | + | ÷ | - | × |	**Symbol**	**P**	**N**	**M**	**O**	**Meaning**	**•**	**÷**	**•**	**×**
Symbol	P	N	M	O						
Meaning	•	÷	•	×						

Therefore the equation will be:

(38 × 13) ÷ 19 - 27 + (38 × 3) + 43 - 68 =

Using BODMAS rule,

B: BRACKETS

O: ORDER OF POWER

D: DIVISION

M: MULTIPLICATION

A: ADDITION

S: SUBTRACTION

(38 × 13) ÷ 19 - 27 + (38 × 3) + 43 - 68 =

494 ÷ 19 - 27 + 114 + 43 - 68

26 - 27 + 114 + 43 - 68

183 - 27 - 68

88

Hence, the correct answer is 88.

Q27. Answer: (c) 52

Given : 8, 16, 13, ?, 47, 282

In the following series, two operations are going on simultaneously, first multiplication with even number and then subtraction of a prime number.

Therefore, following pattern is followed

Hence, the correct answer is 52.

Q28. Answer: (b) [figure]

Here, we have a paper and the paper is folded three times to make a small square.

In that, they have cut the small square paper as in the image given in the figure 1.

And then when we open one fold of the paper we get the same image but the position of the circle and the triangle is changed.

Next we will open the last fold of the paper and we will get the opposite image in the next half of the paper, as shown below:

Hence, we will get this as the final answer, i.e. option 2.

Q29. Answer: (d) JCCTA

According to the English alphabets and their positional values:

The pattern followed in the given series is:

• Alphabets placed at even places are decreased to 2 positional values.

• Alphabets placed at odd places are increased to 2 positional values.

Similarly,

Hence the correct answer is JCCTA.

Q30. Answer: (b) F D V G E

Given: D E _ W G _ E F _ G D E F U _ D _ F T G

Let's check each option:

1) F D G V E → D E F W G - D E F G G - D E F U V - D E F T G → Does not follow the pattern

2) F D V G E → D E F W G - D E F V G - D E F U G - D E F T G → Follow the pattern

Here 4th letter is decreased by -1.

• W - 1 = V; V -1 = U; U - 1 = T

3) D F F E V → D E D W G - F E F F G - D E F U E - D V F T G → Does not follow the pattern

4) D F V G F → D E D W G - F E F V G - D E F U G - D F F T G → Does not follow the pattern

So, Option 2) gives a pattern of D E F W G - D E F V G - D E F U G - D E F T G.

Hence, ‘ F D V G E ’ is the correct answer.

Q31. Answer: (a) +, ×, −, =, ÷, +

Let us examine each option,

OPTION 1)

34 + 4 × 15 - 51 = 27 ÷ 9 + 40

34 + 60 - 51 = 3 + 40

94 - 51 = 43

43 = 43

Therefore, LHS = RHS

OPTION 2)

34 - 4 + 15 = 51 × 27 - 9 + 40

34 - 11 = 1377 - 9 + 40

33 is not equal to 1328

OPTION 3)

34 + 4 - 15 = 51 × 27 ÷ 9 - 40

38 - 15 = 51 × 3 - 40

23 = 153 - 40

23 is not equal to 113

OPTION 4)

34 ÷ 4 - 15 = 51 × 27 ÷ 9 - 40

8.5 - 15 = 51 × 3 - 40

-6.5 is not equal to 113

Hence, The correct answer is " +, ×, -, =, ÷, +"

Q32. Answer: (a) Thursday

The logic followed here is as follows:

28th February 2017 was Tuesday,

And 28th February 2018 = Tuesday + 1(Odd day in 1 year) = Wednesday.

So, 28th February 2019 = Wednesday + (Odd day in 1 year) = Thursday.

Hence, the correct is Thursday.

Q33. Answer: (b) 26

Here, we are given a figure.

First, we will count all the triangles which we can see directly, as shown below:

So, in the above figure, we can see there are 22 triangles.

Next, we will combine two triangles to make a big triangle as shown below.

Thus, from the above figure, we can see there are 26 triangles.

Hence, there are 26 triangles in the given figure.

Confusion point: Make sure to first count the small triangles and then see it combine the small ones we get the big triangles or not.

Q34. Answer: (d) 2

Given: Seven friends M, N, O, P, Q, R, and S

STEP 1: So first in the question, it is given that only two people are older than Q so the resulting framework will be

> Q > > > >

STEP 2: 5th line of the question states that only 3 people are younger than S so the resulting formation

> Q > S > > > __

STEP 3: Now please focus on two lines stating that P is older than Q but younger than O and M is older than R but younger than S and N is the youngest of all so the final formation will be

O > P > Q > S > M > R >N

Hence, The age of two persons is between the ages of Q and R.

Q35. Answer: (c) [figure]

The logic followed here is:

The mirror image of the given figure will be as follows:

Detailed Explanation :-

• The line MN is the mirror.

• The word " em268q" ends with "

" So, the mirror image will start with "

"Hence, option 1, 2 and 4 are eliminated.

Hence, Option 3) is the correct answer.

Important Points

• In a mirror image Left changes to right and the right changes to left where top and bottom remains the same.

• When placement of mirror not given, by default we will assume it in vertical direction.

• The starting letter word will be at last after the mirror image drawn with left changes to right and right changes to left.

Q36. Answer: (c) 88

The pattern followed in the sets is :

First term × 8 = Third term ; First term × 4 - 2 = Second term

Let's apply this in the first row – 13, 50, 104

First term × 8 = Third term

13 × 8 = 104

104 = 104

First term × 4 - 2 = Second term

13 × 4 = 52

52 - 2 = 50
Let's apply this in the third row – 18, 70, 144
First term × 8 = Third term
18 × 8 = 144
144 = 144
First term × 4 - 2 = Second term
18 × 4 = 72
72 - 2 = 70
Similarly,
Let's apply this in the second row – 11, 42, ?
First term × 8 = Third term
11 × 8 = Third term
88 = Third term
First term × 4 - 2 = Second term
11 × 4 = 44
44 - 2 = 42
Hence the correct answer is 88.

Q37. Answer: (d) Friday

Given information: 09 April 2023 is Friday.
Let's add +7 days to the date i.e. 9 so that we get the date which falls on Friday.
9 + 7 = 16 which means 16^(th)April 2023 is also a Friday.
Now, 16 + 7 = 23 which means 23^(rd)April 2023 is also a Friday.
So, 23 + 7 = 30 i.e. 30^(th) April 2023 is also a Friday.
Hence the correct answer is Friday.

Q38. Answer: (c) FQNK

The logic followed here is:
The positional value table is as follows:
According to the pattern followed in the series, the third cluster will be:
Hence the correct answer FQNK.

Q39. Answer: (a) 8 : 64

Let's take each pair individually to obtain the identical operation:
Pair 1- 8 : 64
Operation- (First number × First number) = Second number
8 × 8 = 64
Pair 2- 8 : 512
Operation- (First number × First number × First number) = Second number
8 × 8 × 8 = 512
Pair 3- 6 : 216
Operation- (First number × First number × First number) = Second number
6 × 6 × 6 = 216
Pair 4- 4 : 64
Operation- (First number × First number × First number) = Second number
4 × 4 × 4 = 64
The pattern is common in pair 2, 3 and 4.
Therefore the odd pair is 8 : 64.
Hence, the correct answer is 8:64.

Q40. Answer: (a) [figure]

The answer is option 1)
SOLUTION:

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When we unfold the paper once, we get the mirror image of the already existing pattern,
Now when we unfold the paper twice, we get the mirror image of the pattern we got after first step,
Hence the correct answer is option 1)

Q41. Answer: (a) 58

Given information:

Alphabet	Denotation
I	÷
J	×
K	•
L	•

Now let's denote the operators in the given equation:
37 L 25 K (14 J 2) L (2 J 13) K (62 I 31) = ?
37 + 25 - (14 × 2) + (2 × 13) - (62 ÷ 31) = ?
Applying the BODMAS rule i.e. Bracket of Division Multiplication Addition Subtraction.
We get,
= 37 + 25 - (28) + (26) - (2)
= 37 + 25 - 28 + 26 - 2
= 88 - 28 - 2
= 88 - 30
= 58
Hence, the correct answer is 58.

Q42. Answer: (d) RDEMA

The code language have a pattern :
The first and second letters are interchanged and the fourth and fifth letters are interchanged.
The code for DANCE is ADNEC
The code for DISCO is IDSOC
Similarly,
The code for DREAM is RDEMA
Hence, the correct answer is RDEMA.

Q43. Answer: (a) HTGLIS

The code language have a pattern :
GENIUS : IUNGES
And
HOLDER : DELHOR
Similarly,
Hence, the correct answer is HTGLIS.

Q44. Answer: (a) [figure]

Let's compare the options with the given image:
Option 1)
The region in option 1 can be seen in the right half of the given image.
Option 2)
The region in option 2 cannot be seen in the given image.
Option 3)
The region in option 3 cannot be seen in the given image.
Option 4)
The region in option 4 cannot be seen in the given image.
Hence the correct answer is option 1

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Q45. Answer: (c) ×, ÷, -, +, =

Let's apply the options into the given equation by using the BODMAS rule :
BODMAS rule is Bracket of Division Multiplication Addition Subtraction.
45 * 9 * 3 * 7 * 5 * 133
Applying option 1) -, +, ×, ÷, =
45 - 9 + 3 × 7 ÷ 5 = 133
45 - 9 + 3 × 1.4 = 133
45 - 9 + 4.2 = 133
49.2 - 9 = 133
40.2 = 133 Incorrect
Applying option 2)-, ÷, +, ×, =
45 - 9 ÷ 3 + 7 × 5 = 133
45 - 3 + 7 × 5 = 133
45 - 9 + 35 = 133
80 - 9 = 133
71 = 133 Incorrect
Applying option 3) ×, ÷, -, +, =
45 × 9 ÷ 3 - 7 + 5 = 133
45 × 3 - 7 + 5 = 133
135 - 7 + 5 = 133
140 - 7 = 133
133 = 133 Correct
Applying option 4) ÷, +, ×, -, =
45 ÷ 9 + 3 × 7 - 5 = 133
5 + 3 × 7 - 5 = 133
5 + 21 - 5 = 133
26 - 5 = 133
21 = 133 Incorrect
Hence the correct answer is "×, ÷, -, +, ="

Q46. Answer: (b) 214

The pattern given in the series is :
Series 1:
Term 3 = (Term 1) - 3
Term 5 = (Term 3) - 3
Series 2:
Term 4 = (Term 2) + 3
Term 6 = (Term 4) + 3
In order to get the series correct the difference between second, third and fifth term should be +3.
So adding 3 to the second term we get,
211 + 3 = 214 i.e the fourth term
and adding 3 to the fourth term we get,
214 + 3 = 217 i.e the sixth term
Hence, the correct answer is 214.

Q47. Answer: (b) 68

The pattern used in the given pairs :
(First term × 4) + 4 = Second term
First pair- 19 : 80
(First term × 4) + 4 = Second term
(19 × 4) + 4 = 80
(76) + 4 = 80

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80 = 80
Second pair- 23 : 96
(First term × 4) + 4 = Second term
(23 × 4) + 4 = 96
(92) + 4 = 96
96 = 96
So the third pair becomes,
(First term × 4) + 4 = Second term
(16 × 4) + 4 = Second term
(64) + 4 = Second term
68 = Second term
Hence the correct answer is 68

Q48. Answer: (b) +, ÷, -, ×, -, =

Let's apply the options into the given equation by using the BODMAS rule :
BODMAS rule is Bracket of Division Multiplication Addition Subtraction.
67 * 88 * 8 * 14 * 3 * 19 * 17
Applying option 1) -, ×, =, −, ÷, +
67 - 88 × 8 = 14 - 3 ÷ 19 + 17
67 - 88 × 8 = 14 - 0.15 + 17
67 - 704 = 14 - 0.15 + 17
67 - 704 = 31 - 0.15
-637 = 30.85 Incorrect
Applying option 2)+, ÷, -, ×, -, =
67 + 88 ÷ 8 - 14 × 3 - 19 = 17
67 + 11 - 14 × 3 - 19 = 17
67 + 11 - 42 - 19 = 17
78 - 42 - 19 = 17
78 - 61 = 17
17 = 17 Correct
Applying option 3) -, ÷, ×, +, =, -
67 - 88 ÷ 8 × 14 + 3 = 19 - 17
67 - 11 × 14 + 3 = 19 - 17
67 - 154 + 3 = 19 - 17
70 - 154 = 19 - 17
-84 = 2 Incorrect
Applying option 4) +, -, =, ×, -, ×
67 + 88 - 8 = 14 × 3 - 19 × 17
67 + 88 - 8 = 42 - 323
155 - 8 = 42 - 323
147 = -281 Incorrect
Hence, the correct answer is "+, ÷, -, ×, -, ="

Q49. Answer: (c) [figure]

The relation between fruit, apple and vegetable is clear.
Let's draw the Venn diagram :
Apple is a kind of fruit that is why it can be classified as a fruit.
Vegetable is neither a fruit nor related to apple. Therefore,
So the final Venn diagram is:
Hence the correct answer is option 3)

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Q50. Answer: (d) [figure]

We observe the small triangle in the corner of each block and we get,
Small triangle moves to its right in each block and it turns solid in alternate steps:
Now we observe the small box and it's head in each block and we get,
Small box moves with the small triangle and point towards it in each step:
Therefore we the next step as,
Small triangle faces upwards and is turns solid and the box and it's head point towards it, such the final pattern looks like:
the pattern in the last block is same as the pattern in the first block,
Hence the correct answer is option 4)

Q51. Answer: (c) Rs. 43,400

Given:
Total monthly income of a family = Rs 70,000
Percentage of expenditure for food = 28%
Percentage of expenditure for house rent = 14%
Percentage of expenditure for child education = 25%
Percentage of expenditure for medical = 10%
Percentage of expenditure for entertainment = 8%
Percentage of expenditure for provident fund = 15%
Concept Used:
Income left = Total Income – Income Spend
Calculation:
Amount spent on food = 28% of 70,000
Amount spent on food = 28/100 × 70000 = Rs 19,600
Amount spent on medical = 10% of 70,000
Amount spend on medical = 10/100 × 70000 = Rs 7,000
Total amount spent in food and medical = Rs 19,600 + Rs 7,000 = Rs 26,600
Amount left after spending on food and medical = Rs 70,000 – Rs 26,600 = Rs 43,400
Therefore The amount left with the family after only the food and medical expenditures for the month is Rs 43,400

Q52. Answer: (d) 9

Given:
Speed of boat in still water = 12 km/h
Total distance for downstream = 18 km
Time taken to come back = 66/7 hours
Concept Used:
Speed = Distance/Time
Downstream speed of the boat = Speed of boat + Speed of stream
Calculation:
Let the speed of the stream be x.
Downstream speed of the boat = 12 + x
Upstream speed of the boat = 12 – x
Time taken by the boat to cover 18 km downstream and 18 km upstream = 66/7 = 48/7 hours
Now, using the formula for speed and putting the values, we get
=> 18/(12 + x) + 18/(12-x)=48/7
Taking LCM of denominators from LHS,
=> (18×(12-x)+18×(12+x))/(12+x)(12-x)=48/7
By solving the equation,
=> 432 × 7 = 48 × (144 - x^2)
=> 48 x^2= 6912 - 3024
=> 48 x^2= 3888
=> x^2= 81

=> x = 9 km / h.

Therefore The speed of the stream will be 9 km/h.

Q53. Answer: (d) 40%

Given:

Teak trees planted in 2016 = 25000

Teak trees planted in 2017 = 35000

Concept Used:

Percentage Increase = Difference/Trees× 100~

Calculation:

Increase in teak trees in 2017 as compared to 2016 = Teak trees planted in 2017 – Teak trees planted in 2016

Increase in teak trees in 2017 as compared to 2016 = 35000 – 25000 = 10000

Percentage increase in teak trees from 2016 to 2017

=> 10000/25000×100=1000/25~ = 40%

Therefore The percentage increase in the number of teak trees that were planted in 2017 as compared to that by 2016 is 40%.

Q54. Answer: (a) 18

Given:

$(x^2)/(y^2)+(y^2)/(x^2)=7$

Concept Used:

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

$a^3+b^3=(a+b)(a^2+b^2-ab)$

Calculation:

=> $(x^2)/(y^2)+(y^2)/(x^2)=7$

=> Adding both the sides 2 × x/y×y/x,

=> $(x^2)/(y^2)+(y^2)/(x^2)+2\times x/y\times y/x=7+2\times x/y\times y/x$

=> $(x/y+y/x)^2=7+2$

=> $x/y+y/x=\sqrt{9}=3$

=> Now using formula for $a^3 + b^3$,

=> $(x^3)/(y^3) + (y^3)/(x^3)=(x/y+y/x)((x^2)/(y^2)+(y^2)/(x^2)-x/y\times y/x)$

=> Putting the values, we get

=> $(x^3)/(y^3)+(y^3)/(x^3)=3\times(7-1)=18$

Therefore The required value of $(x^3)/(y^3)+(y^3)/(x^3)$ is 18

Alternate MethodCalculation:

If we put x = 1 then,

=> $(x^2)/(y^2)+(y^2)/(x^2)=7$

=> $y^2+1/(y^2)=7$

=> $y+1/y = \sqrt{(7 +2)} =\sqrt{9} = 3$

=> $y^3+1/(y^3) = (3)^3 - 3 \times 3$

=> $y^3+1/(y^3) = 18$ ……(1)

If we put x = 1 in the equation, then

=> $(x^3)/(y^3) + (y^3)/(x^3)$

=> $y^3+1/(y^3) = 18$ [From eq. (1)]

Therefore The correct answer is 18.

Q55. Answer: (b) Rs. 1,44,352.94

Given:

Discount percentage = 15%

Selling Price of machine = Rs 1,22,700

Concept Used:

Marked Price = Selling Price ÷ (100% – Discount%)

Calculation:

Putting all the values in MP formula,

Marked Price = 122700 ÷ (100% – 15%)
Marked Price = 122700 ÷ 85%
Marked Price = 122700×100/85
Marked Price = 12270000/85=1,44,352.94
Therefore The price at which machine was marked is Rs.1,44,352.94

Q56. Answer: (c) 120

Given:-
=> 8r/(r² - 8r + 1) = 1/14
Calculation:
It is given that
=> 8r/(r² - 8r + 1) = 1/14
Dividing both the numerator and denominator by 'r'
=> (8r/r)/((r²-8r+1)/r)=1/14
=> 8/(r-8+1/r)=1/14
On solving,
=> r-8+1/r = 14×8
=> (r+1/r) = 112+8 = 120
Therefore The value of (r+1/r) is 120.

Q57. Answer: (a) 61

Given:-
Average of 15 athletes and 3 trainers (18 people) is 60Kg.
Formula used:-
Average=(Sum of observation)/(No. of observation)
Calculation:
Average of 18 people (Athletes + trainer) = 60
By using formula of average,
Average=(Sum of observation)/(No. of observation)
Sum of their weights = 60 × 18 = 1080 kg
Average of 4 more athletes = 63
Sum of their weights = 63 × 4 = 252
Total weight of 19 athlete and 3 trainers = 1080 + 252 = 1332 Kg.
New average = (total sum)/(total no. of people)
New average = 1332/22 = 60.54kg
New average = 60.54 kg
On rounding off, new average = 61 kg
Therefore The average weight of the group is 61 Kg.

Q58. Answer: (c) 5

Given:-
[36/7 ÷ 54/7 - {3 - (23/4 - 3/2)}] + A ÷ 4 = 0
Concept used:- BODMAS
Calculation:
The expression could be written as:
=> [36/7 ÷ 54/7 - {3 - (23/4 - 3/2)}]+A/4=0
Solving the expression of () small bracket,
=> 11/4-3/2 = 5/4
Now the expression has become,
=> [36/7 ÷ 54/7 - {3 - 5/4}]+A/4=0
Solving the expression inside the curly braces {},
=> 3-5/4=7/4
The simplified expression is,

=> [36/7 ÷ 54/7- 7/4]+A/4=0~

Solving expression of rectangular bracket,

=> 36/7 ÷ 54/7- 7/4 = 27/7 ÷ 54/7- 7/4

=> 27/7 × 7/54- 7/4 = 1/2-7/4

=> (-5)/4

The expression is,

=> (-5)/4+A/4=0

=> A = 5

Therefore The value of A is 5.

Q59. Answer: (b) 6400

Given:- Dimension of brick= 25 cm × 11.25 cm × 6 cm

To find:- Number of bricks

Formula used:

Volume of cuboid = Length × width × height

Calculation:

The volume of the brick is

Volume of Brick = 25 cm × 11.25 cm × 6 cm = 1687.5 cm^3

The volume of the wall(to be constructed) is,

Volume of wall = 8 m × 6 m × 22.5 cm

(Change the values of dimension in 'cm' as it is given in 'm')

Volume of wall = 800 cm × 600 cm × 22.5 cm ----(1 m = 100 cm)

=> 108 × 10^5 cm^3

Number of brick required = (Volume of wall)/(volume of brick)

=> (108 × 10^5)/1687.5 = 6400

Therefore The number of bricks required is 6400.

Q60. Answer: (a) 50°

Shortcut Trick

Since AB = AC in triangle ABC, the angles opposite to these sides must be equal: angle B = angle C = 50°.

Given AB = PQ and BC = QR, and since both triangles are isosceles with AB = AC and PQ = PR, it follows that AC = PR.

By the SSS (Side-Side-Side) congruence criterion, triangle ABC ~= triangle PQR.

In congruent triangles, corresponding angles are equal, thus angle R = angle C.

Therefore The correct answer is 50°.

Alternate Method

Given:

In triangle ABC: AB = AC and angle B = 50°.

In triangle PQR: PQ = PR, AB = PQ, and BC = QR.

Formula Used:

1. Isosceles Triangle Property: Angles opposite to equal sides are equal.

2. SSS Congruence: If three sides of one triangle are equal to three sides of another, the triangles are congruent.

Calculations:

=> In triangle ABC, since AB = AC => angle B = angle C

=> Given angle B = 50°, therefore angle C = 50°

=> In triangle PQR, since PQ = PR => angle Q = angle R

=> Since AB = PQ and AB = AC and PQ = PR, then AB = AC = PQ = PR

=> Also given BC = QR

=> All corresponding sides are equal: AB = PQ, AC = PR, and BC = QR

=> Therefore triangle ABC ~= triangle PQR by SSS Congruence Rule

=> By CPCT (Corresponding Parts of Congruent Triangles), angle R = angle C

=> Therefore angle R = 50°

Therefore The correct answer is 50°.

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Additional Information

SSS Congruence Rule

Two triangles are congruent if all three sides of one triangle are equal to the corresponding three sides of the other triangle.

Isosceles Triangle Theorem

Angles opposite to equal sides of an isosceles triangle are equal (angle B = angle C if AB = AC).

Angle Sum Property

The sum of all internal angles of any triangle is exactly 180° (angle A + angle B + angle C = 180°).

Q61. Answer: (b) 111/9%

Shortcut Trick

For a dishonest dealer selling at cost price, the profit percentage is calculated on the actual weight delivered.

Profit% = (Error ÷ True Value − Error) × 100

Here, Error = 1000 gm − 900 gm = 100 gm.

Profit% = (100 ÷ 900) × 100 = 100 ÷ 9 = $11^{1}/9$%.

Therefore The correct answer is $11^{1}/9$%.

Alternate Method

Given: Selling Price (SP) of 900 gm = Cost Price (CP) of 1000 gm.

Formulas: Profit = SP − CP | Profit% = (Profit ÷ CP) × 100

=> Let the CP of 1 gm be Re 1. Then CP of 1000 gm = Rs 1000.

=> The dealer sells 900 gm for Rs 1000 (since he sells at CP of 1 kg).

=> CP of 900 gm = Rs 900. SP of 900 gm = Rs 1000.

=> Profit = 1000 − 900 = Rs 100.

=> Profit% = (100 ÷ 900) × 100 = $11^{1}/9$%.

Therefore The correct answer is $11^{1}/9$%.

Additional Information

Dishonest Dealer Concept

When a dealer uses less weight, the profit is always calculated on the goods actually leaving the shop (the false weight).

Ratio Method

Ratio of Weight = 1000 : 900 = 10 : 9. Ratio of Price (inverse) = 9 : 10. Profit = 1 unit on 9 units = $11^{1}/9$%.

Q62. Answer: (a) 50

Given:

Average marks=75

Formula used:

Average = (sum of observation)/(total number of observation)

Calculation:

Total marks scored by a student in 4 subjects = Average × 4

Total marks of 4 subjects = 75 × 4 = 300

Let the marks in English be 'x'

New Average = 70

=> (300+x)/5 = New Average

=> (300 + x)/5 = 70

=> x = 50

Therefore The mark scored by students in English is 50.

Q63. Answer: (d) 4/5

Given:

0.62, 2/3, 0.57, 4/5

Concept Used:

Decimal conversion and comparison.

Calculation:

=> 2/3 could be written as 0.67 in decimal form

and,

=> 4/5 could be written as 0.8 in decimal form.
On comparison between 0.62, 2/3, 0.57, 4/5
=> 0.8 = 4/5 > 0.67 = 2/3 > 0.62 > 0.57
Therefore 4/5 is the greatest among all other options

Q64. Answer: (a) 21 : 23 : 22

Given:
P : Q = 10 : 11 and Q : R = 11 : 12
Concept used:
Combining ratios
Calculation:
P : Q = 10 : 11 ----(i)
Q : R = 11 : 12 ----(ii)
Since in both the ratios (i) and (ii) the combining one,Q, has the same value in both the cases
Hence, P : Q : R = 10 : 11 : 12
Let P, Q, and R be 10x ,11x, and 12x respectively, where x is the factor by which ratio is changing-
then, P + Q = 10x + 11x = 21x
Q + R = 11x +12x = 23x
P + R = 10x + 12x = 22x
=> P + Q : Q + R : R + P = 21x : 23x : 22x
=>P + Q : Q + R : R + P = 21 : 23 : 22 (by putting x = 1)
Therefore The value of P + Q : Q + R : R + P is 21 : 23 : 22

Q65. Answer: (d) 155232 cm^3

Shortcut Trick
Total Surface Area (TSA) of a hemisphere = $3\pi r^2$ = 16632 cm^2.
=> πr^2 = 16632 ÷ 3 = 5544 cm^2.
=> r^2 = (5544 × 7) ÷ 22 = 252 × 7 = 1764 => r = 42 cm.
Volume = $(2/3)\pi r^3$ = (2/3) × ($3\pi r^2$ ÷ 3) × r = (2/9) × 16632 × 42.
=> Volume = 2 × 1848 × 42 = 155232 cm^3.
Therefore The correct answer is 155232 cm^3.
Alternate Method
Given:
Total Surface Area (TSA) of solid hemisphere = 16632 cm^2
Formula Used:
=> TSA of hemisphere = $3\pi r^2$
=> Volume of hemisphere = $(2/3)\pi r^3$
Calculations:
=> 3 × (22/7) × r^2 = 16632
=> r^2 = (16632 × 7) ÷ (3 × 22)
=> r^2 = 16632 ÷ 66 × 7
=> r^2 = 252 × 7 = 1764
=> r = √1764 = 42 cm
=> Volume = (2/3) × (22/7) × 42 × 42 × 42
=> Volume = 2 × 22 × 2 × 42 × 42 ÷ 1 (after cancelling 3 and 7 with 42)
=> Volume = 88 × 1764 = 155232 cm^3
Therefore The correct answer is 155232 cm^3.
Additional Information
Curved Surface Area (CSA)
The CSA of a hemisphere is exactly half of a sphere's surface area, given by $2\pi r^2$.
Sphere Properties
For a full sphere, Surface Area = $4\pi r^2$ and Volume = $(4/3)\pi r^3$.

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Ratio of TSA to CSA

For a solid hemisphere, the ratio of Total Surface Area to Curved Surface Area is 3:2.

Q66. Answer: (c) 42

Given:

Divisible by 3 or 5

Concept used:

Using the formula of finding the n^(th) term of an AP

a_n= a + (n - 1) × d

Calculation:

The first two-digit number divisible by 3 is 12

The second two-digit number divisible by 3 is 15

The third is 18

We can see that an AP is formed here, whose first term is 12 and the common difference is 3

By hit and trial we can find the last two-digit number divisible by 3 will 99, which means the last term of an AP is 99

Here, a = 12, d = 3 and a_n = 99

By putting the values in the formula,

99 = 12 + (n - 1) × 3

n - 1 = 29

n = 30

The two-digit numbers divisible by 3 are 30

Similarly, by taking 10 as the first and 95 as the last digit we could find the number of two digit numbers divisible by 5,

Here, a = 10, d = 5 and an = 95

By putting the values in the formula,

95 = 10 + (n - 1) × 5

n - 1 = 17

n = 18

The two-digit numbers divisible by 5 is 18

It is asked in the question that the two-digit number should either be divisible by 3 or 5 but not by both,

The number of two-digit numbers divisible by both can be found by forming AP(Arithmetic progression) as same as above-

Here, the first term and the common difference will be L.C.M.(3, 5) i.e. 15

=>By hit and trial, the last term will be 90

Using n^(th) term formula of an A.P, an = a + (n +1) × d

=>90 = 15 + (n - 1) × 15

75 = (n - 1) × 15

5 = (n - 1)

∴ n = 6

The two-digit numbers divisible by both 3 and 5 are 6.

So, The total number of two-digit numbers divisible by 3 or 5 will be,

(Number divisible by 3) + (Number divisible by 5) - (Number divisible by both 3 and 5)

=>30 + 18 - 6 = 42

Therefore The two-digit numbers divisible by 3 or 5 are 42.

Q67. Answer: (b) increased by 4.7625%

Given:

Price raised by 45% and two successive discount of 15% is given

Formula used:

Percent change = (final value-initial value)/(initial value)× 100

Calculation:

Let the cost price of an article is Rs100

As mentioned, the price is raised by 45% that means

New price = Old price + 45% of old price

=> 100 + 45/100× 100
New price = 145 rs
Since two successive discount of 15% has been given on new price,
After first discount,
Discounted Price =145 - 15% of 145
Discounted Price =145 - 15/100×145
Discounted Price =123.25 rs
After second discount,
Final price = 123.25 - 15% of 123.25
123.25 - 15/100× 123.25
123.25 - 18.4875
Final price = 104.7625
Percentage change in price = (final value-initial value)/(initial value)× 100
% change = (104.7625-100)/100× 100
%change = 4.7625 %
The price of the article is increased by 4.7625 %.
Alternate Method
Let CP be 100
MP = 100 + (45 × 100/100)
=> 145
Net Dis = 15 + 15 - (15 × 15/100)
=> 27.75%
Final Price = 145 - (145 × 27.75%)
=> 104.7625
% change = (104.7625-100)/100 × 100
%change = 4.7625 %
The price of the article is increased by 4.7625 %.

Q68. Answer: (a) 250π/3cm³

Given:
Edge of cube(a) = 10cm
Concept Used:
Height of cone(h) = edge of cube and, radius of cone(r) = 1/2 (edge of cube)
Volume of cone = 1/3π r²h
Calculation:
Let the height be 'h' cm and radius be 'r' cm
For volume to be maximum,
=>h = a and r = a/2
Volume = 1/3π r²h ----(i)
Substitute the value of 'h' and 'r' into the expression (i),then
Volume = 1/3π (a/2)²(a)
On putting the value of a,
Volume = 1/3π (10/2)² (10)
Volume = 1/3π × 25 × 10
Volume = 250π/3
The Maximum volume of right circular cone is 250π/3 cm³

Q69. Answer: (d) Rs. 27,600

Given:-
Rate = 25%,
Time period = 2,
CI - SI = Rs.1725

Formula used:-
S.I = P × R % × T and CI = P(1+R/n)^T-P
Calculation:
CI = P(1+R)^T-P~
As mentioned in the question,
=> CI - SI = 1725
=> [P(1+R)^T-P]~ - P × R × T = 1725
On substituting the values of R and T in the given equation by 25% and 2 respectively then,
=> [P(1+25/100)²-P] - (P×25/100× 2)=1725
On solving,
=> P(5/4)²-P-(P/2)=1725
=> 25P/16-3P/2= 1725
=> P = Rs. 27600
The principal amount is Rs. 27600.
Shortcut TrickCalculation:
P × (R/100)² = Difference of (CI - SI) for 2 yrs
=> P × (25/100)2 = 1725
=> P × 1/16 = 1725
=> P = 1725 × 16 = Rs. 27600
Therefore The correct answer is Rs. 27600.

Q70. Answer: (c) 84

Given:
2a+5b = 12, ab = 3
Formula used:
(a + b)² = a² + b² + 2ab
Calculation:
Take the square of the expression, (2a+5b)
=> (2a+5b)²=(2a)²+ (5b)²+ 2 × (2a) × (5b)
=> (2a+5b)²= 4a²+ 25b²+ 20ab
It is given that (2a + 5b) = 12 and ab = 3
On substituting the values in the expression
=> 4a²+ 25b²+ 20 × 3 = (12)2
=> 4a²+ 25b²= (144 - 60)
=> 4a²+ 25b²= 84
Therefore The value of 4a²+25b² is 84.

Q71. Answer: (d) Hockey and Golf

GIVEN:
spending of a country on various sports.
Others - 4%, football - 15%, hockey -10%, golf- 10%, tennis-6%,cricket-30%, basketball-25%
CALCULATION:
Let the total amount spend on various sports be 100
Now,
Considering option(1), we have
=> amount spent on cricket = 30% of 100 = 30
=> amount spent on football = 15% of football = 15
Hence, the amount spent on cricket and football are not same
Considering option (2), we have
=> amount spent on golf = 10% of 100 = 10
=> amount spent on basketball = 25% of 100 = 25
Hence, the amount spent on golf and basketball are not same.

Considering option (3), we have
=> amount spent on hockey = 10% of 100 = 10
=> amount spent on tennis = 6% of 100 =6
Hence, the amount spent on hockey and tennis are not same.
Considering option (4), we have
=> amount spent on hockey = 10% of 100 =10
=> amount spent on golf = 10% of 100 = 10.
Therefore The amount spent on Hockey and Golf are same.

Q72. Answer: (a) 4% decrease

GIVEN:
X's salary is increased by 20% and then decreased by 20%.
FORMULA USED:
when one percentage change is positive and the other is negative,
net percentage change = (x-y-xy/100)%, where x and y are successive percentage change respectively.
CALCULATION:
When X's salary is increased i.e. the percentage change is positive = 20%
When X's salary is decreased i.e. the percentage change is negative = 20%
Hence, net percentage change = (20 -20 -400/100)% = -4%, where - sign shows decrease.
Therefore Change in salary is -4% i.e. 4% decrease.
Alternate Method
FORMULA USED :
Change in salary = (new salary -original salary)/original salary × 100
Let the initial salary of X's be 100
20% increase in salary = 100 + (20% of 100) = 100+20 = 120.
20% decrease in salary = 120 - (20% of 120) = 120- 24 = 96.
Hence, new salary after increment and decrement = 96
original salary = 100
decrease in salary = (new salary - original salary)/original salary × 100
=> (96 -100)over 100 × 100 = -4% where, - sign shows decrease
Therefore Overall change in salary is -4% or decrease in 4%.

Q73. Answer: (d) 72

GIVEN:
Mona and Sona can finish typing in 18 days
sona alone can finish in 24 days
CONCEPT USED:
No. of days = total work /efficiency
CALCULATION :
Let the total amount work be 72 unit ---(LCM of 18 and 24)
=> mona and sona finish 72 unit work in 18 days
=> (mona + sona)'s efficiency = total work /no. of days = 72 ÷ 18 = 4 ----(1)
<=> sona alone finishes 72 unit work in 24 days
efficiency of sona = total work ÷ no.of days = 72 ÷ 24 = 3 ----(2)
Now, on subtracting eq.(1) from eq (2), we get
mona efficiency = (mona + sona)'s efficiency - sona efficiency = (4 -3) =1
=> No. of days in which mona alone finishes work = total work ÷ mona's efficiency
=> (72 ÷ 1) = 72 days.
Therefore No. of days in which mona finishes work is 72 days.

Q74. Answer: (c) 77280

GIVEN:
Population = 80,000

population decreases in the 1st year = 8%

population increases in the 2nd year = 5%

FORMULA USED:

New value = (100 + X)/100 × Actual value, where X = percent by which value is increased.

New value = (100 - X)/100 × Actual value, where X = percent by which value is decreased.

CALCULATION:

Population of town after 1st year = 80,000 - 80,000 × 8 /100 = (80,000- 6,400) = 73,600

Population of town after 2nd year = 73,600 + 73,600 × 5/100 = (73,600 + 3,680) = 77,280

Therefore The population at the end of 2 years is 77,280.

Alternate MethodCalculation:

	Previous Year	Next Year
Decrement of 8 %	100	92
Increment of 5 %	20	21
Overall	2000	1932

Now,

2000 units = 80000

1 unit = 40

1932 units = 40 × 1932 = 77280

Therefore The correct answer is 77280.

Q75. Answer: (d) 1

Shortcut Trick

The given expression sin A. cos C + cos A. sin C is the standard expansion of the trigonometric identity sin(A + C).

In ΔABC, which is right-angled at B, the sum of the other two angles A + C = 90°.

Substituting this into the identity: sin(A + C) = sin 90°.

We know that sin 90° = 1.

Therefore The correct answer is 1.

Alternate Method

Given: In ΔABC, angle B = 90° and tan A = 1/√3.

Formula Used: tan θ = Perpendicular/Base | sin θ = P/H | cos θ = B/H | $H^2 = P^2 + B^2$

=> tan A = BC/AB = 1/√3. Let BC = 1 and AB = √3.

=> AC = $\sqrt{(AB^2 + BC^2)} = \sqrt{((\sqrt{3})^2 + 1^2)} = \sqrt{(3 + 1)} = \sqrt{4} = 2$.

=> sin A = BC/AC = 1/2 | cos A = AB/AC = √3/2.

=> sin C = AB/AC = √3/2 | cos C = BC/AC = 1/2.

=> sin A. cos C + cos A. sin C = (1/2 × 1/2) + (√3/2 × √3/2)

=> Value = 1/4 + 3/4 = 4/4 = 1.

Therefore The correct answer is 1.

Additional Information

Trigonometric Sum Identities

The formula sin(A + B) = sin A cos B + cos A sin B and cos(A + B) = cos A cos B − sin A sin B are fundamental identities used to simplify compound angles.

Complementary Angles Rule

In a right triangle, if angle B = 90°, then sin A = cos C and cos A = sin C because A and C are complementary (A + C = 90°).

Standard Values for 30° and 60°

Since tan A = 1/√3, angle A = 30°. In this specific case, angle C = 60°, which are common angles in trigonometry with fixed ratios.

Q76. Answer: (d) Anita Desai

The correct answer is Anita Desai.

Key Points

• Fasting, Feasting is a novel by Indian writer Anita Desai, first published in 1999 in Great Britain by Chatto & Windus. It was shortlisted for the Booker Prize for fiction in 1999.

• This novel of intricate family relations plays out in two countries, India and the United States.

• The story focuses on the life of the unmarried and main character, Uma, a spinster, the family's older daughter, with Arun, the boy and baby of the family.

• The novel is in two parts. The first part is set in India and in part two the reader is introduced to Arun in America.

Additional Information

• Preeti Shenoy has written many books some of them are "Life is what you made it" and "Magic Mind".

• Anuja Chauhan is an Indian author, advertiser, and screenwriter. As a writer, she is known for The Zoya Factor, Battle For Bittora.

• Namita Gokhale is an Indian writer, editor, festival director, and publisher. Her debut novel, Paro: Dreams of Passion was released in 1984.

Q77. Answer: (a) Narrow gauge

The correct answer is Narrow gauge.

Key Points

• The small gauge is called a Narrow gauge or a small line.

• The narrow-gauge railway is the railway track, in which the distance between two tracks is 2 ft 6 in (762 mm) and 2 ft (610 mm).

• In 2015, there was a 1,500 km narrow gauge rail route, which is considered to be about 2% of the total Indian rail network. In 2015,

• Now the small lines are being converted into big lines. Trains with small bogies now will no longer be able to see much. The Darjeeling Mountain Railway has declared UNESCO World Heritage in 1999. Kalka Shimla Railway is also very popular.

Additional Information

• Broad gauge is also called wide gauge or large line. The distance between the two tracks in these railway gauges is 1676 mm (5 ft 6 in). It would not be wrong to say that any gauge, wider than the standard gauge or 1,435 mm (4 ft 8½ inches), is called broad gauge.

• The distance between the two tracks in this railway gauge is 1435 mm (4 ft 8½ in). In India, standard gauge is used only for urban rail transit systems like Metro, Monorail, and Tram.

• The distance between the two tracks is 1,000 mm (3 ft 3 3/8 in). The metre gauge lines were made to reduce the cost.

Q78. Answer: (c) Jai Ho

The correct answer is Jai Ho.

Key Points

• Allah Rakha Rahman is an Indian film composer, record producer, singer, and, songwriter who works predominantly in Indian cinema.

• Rahman is now a Golden Globe® winner for "Best Original Soundtrack" for SLUMDOG MILLIONAIRE and has been nominated for three Oscars for the film, for best original score and two for best original songs.

• In 2010, the Indian government awarded him the Padma Bhushan, the nation's third-highest civilian award.

• Jai Ho" is a song composed by A. R. Rahman for the 2008 film Slumdog Millionaire.

Additional Information

• Rubaroo song is composed by A.R. Rahman in 2005 for the movie named "Rang De Basanti".

• Vande Mataram is produced by A. R. Rahmaan in 1997.

Q79. Answer: (c) Deccan Plateau

The correct answer is Deccan Plateau.

Key Points

• The large Deccan Plateau in southern India is located between the Western Ghats and the Eastern Ghats.

• It is loosely defined as the peninsular region between these ranges that is south of the Narmada river.

• To the north, it is bounded by the Satpura and Vindhya Ranges.

• The plateau is drier than the coastal region of India.

• It ranges between 100 and 1,000 meters (330 and 3,280 ft), with an average elevation of about 600 meters (2,000 ft).

Additional Information

• Marwar (also called the Jodhpur region) is a region of southwestern Rajasthan state in North Western India. It lies partly in the Thar Desert.

• The Meghalaya plateau is traditionally divided into Garo, Khasi and Jaintia Hills. The region from the river Dhansiri in the east to the Singimari River.

• The Chota Nagpur Plateau is a plateau in eastern India, which covers much of Jharkhand state as well as adjacent parts of

Bihar, Odisha, West Bengal, and Chhattisgarh.

Q80. Answer: (c) A and B

The correct answer is A and B.

Key Points

• Financial discipline is the act of setting specific monetary (spending and saving) goals and measuring oneself against how well they are achieved.

• Once that financial discipline is established, a person can take further steps to become financially pendent.

• Excessive expenditure means the portion of expenditure incurred that significantly exceeds the amounts normally charged for treatment in the country where the treatment was provided.

• inflation is a general increase in the prices of goods and services in an economy. When the general price level rises, each unit of currency buys fewer goods and services; consequently, inflation corresponds to a reduction in the purchasing power of money.

Additional Information

• If financial discipline is not maintained then it can lead to depreciation of currency and inflation in the economy. It will help in maintaining overall stability in the economy.

• Financial discipline is essential to improve and sustain economic performance, maintain macroeconomic stability, and reduce vulnerabilities.

Q81. Answer: (c) Caramelisation

The correct answer is Caramelisation.

Key Points

• Caramelization is a process of browning of sugar used extensively in cooking for the resulting sweet nutty flavor and brown colour.

• The brown colors are produced by three groups of polymers: caramelans, caramelens, and caramelins.

• Caramelization is related to the Maillard reaction, where proteins in meat turn brown when heated and like the Maillard reaction, caramelization is a type of non-enzymatic browning.

Additional Information

• The process of gelatinisation occurs when starch granules are heated in a liquid, causing them to swell and burst, which results in the liquid thickening.

• Dextrinization is a special type of acid hydrolysis that occurs by heating acidified starch with reduced moisture or heating of the aqueous starch slurry with or without pH change.

• The Maillard reaction is a chemical reaction between amino acids and reducing sugars that gives browned food its distinctive flavor.

Q82. Answer: (c) 15 August 2021

The correct answer is 15 August 2021.

Key Points

• On August 15, 2021, Honorable Prime Minister launched, National Hydrogen Mission.

• This is the first scientific assignment in India to address all characteristics of value chain of hydrogen-based mobility.

• With this mission, India is all set to goal the renewable energy sector and push to harness the power of hydrogen energy.

• This budget allotted 1500 INR crore for the development of renewable energy including hydrogen.

• Hydrogen energy is predicted to reduce carbon emissions that are set to jump by 1.5 billion tons in 2021.

Additional Information

• The National Hydrogen Mission will center on the generation of hydrogen from green power resources and link India's growing renewable capacity with the hydrogen economy.

• Hydrogen is a clean alternative to methane, also called as natural gas.

• It is the most abundant chemical element, approximate to contribute 75% of the mass of the universe.

• Here on earth, large numbers of hydrogen atoms are contained in water, plants, animals and, of course, humans.

Q83. Answer: (a) pakhawaj

The correct answer is pakhawaj.

Key Points

• Bhawani Shankar is a renowned Indian classical percussionist.

• He began playing the Pakhawaj and tabla under the guidance of his father, Pandit Babulalji, a recognised maestro of Kathak dance, pakhawaj and tabla from the Jaipur Gharana.

• He has shared the stage with some of India's greatest maestros which includes Pandit Ravi Shankar, Pandit Hariprasad Chaurasia, Pandit Jasraj, Pandit Birju Maharaj, Pandit Shivkumar Sharma, Ustad Amjad Ali Khan, Pandit Bhimsen Joshi, Lata Mangeshkar, Asha Bhosle, Mohammad Rafi, amongst many others.

• He is also known to work with Bollywood music and has collaborated with some of the leading composers and directors in the industry.

• He receives several prestigious awards including a Grammy nomination, Pandit Jasraj Gaurav Puraskar, Rajasthan Sangeet Natak Academy Award, National President Award, and the Sangeet Natak Academy Award, to name a few.

• He holds a record in the Guinness Book of World Records and Limca Book of World Records for his album Shree Ramayan for continuous recording over 20 hours.

Important Points

• A Pakhavaj is a barrel-shaped, two-headed drum.

Q84. Answer: (d) VVS Laxman

The correct answer is VVS Laxman.

Key Points

• A stylish batsman who could score against any kind of bowling, VVS Laxman played over a hundred Tests to aggregate more than 8,000 runs.

• Cricket fans still remember with awe his game-changing knock of 281 against Australia in 2001 at Eden Gardens.

• Vangipurapu Venkata Sai Laxman is a former Indian international cricketer and a former cricket commentator and pundit.

• A right-hand batsman known for his elegant stroke play, Laxman played as a middle-order batsman in Test cricket.

• He was born on 1 November 1974.

• Book: 281 AND BEYOND Author: VVS Laxman with R Kaushik Publisher: Westland Sport.

Additional Information

• Anil Kumble is a former Indian cricket captain, coach, and commentator who played Test and One Day International cricket for his national team over an international career of 18 years.

• Javagal Srinath is a former Indian cricketer and currently an ICC match referee. He is considered among India's finest fast bowlers and is the first Indian fast bowler to take more than 300 wickets in One Day Internationals.

• Virender Sehwag is a former Indian cricketer. He represented India from 1999 to 2013. He played for Delhi and Haryana in Indian domestic cricket. He played as aggressive opening batsman throughout his playing days.

Q85. Answer: (c) Malkham

The correct answer is Malkham.

Key Points

• Mallakhamb is a traditional sport, originating from the Indian subcontinent, in which a gymnast performs aerial yoga or gymnastic postures and wrestling grips in concert with vertical stationary or hanging wooden pole, cane, or rope.

• The word Mallakhamb also refers to the pole used in the sport.

• The origin of Mallakhamb can be traced to the 12th century, where it is mentioned in Manas-Olhas - a classic by Chalukya in 1135 A.D.

• Mallakhamb was introduced in Tamil Nadu in 1961, by Mr. Ulagadurai, a PT master in Villupuram district. He is known as the 'Father of Mallakhamb' in Tamil Nadu.

Additional Information

• Gilli Danda also known as Viti Dandu, Kitti-Pul, and other variations is a sport originating from the Indian subcontinent, played in rural areas and small towns all over South Asia as well as Cambodia, Turkey, South Africa, Italy, Poland, and in some Caribbean islands like Cuba.

• Chaupar, chopad, or chaupad is a cross and circle board game very similar to pachisi, played in India. The board is made of wool or cloth, with wooden pawns and seven cowry shells to be used to determine each player's move, although others distinguish chaupur from pachisi by the use of three four-sided long dice.

• Kho-Kho is a traditional Indian sport, being one of the oldest outdoor sports dating back to ancient India. It is the second most popular traditional tag game in the Indian subcontinent after Kabaddi.

Q86. Answer: (b) Calcutta High Court

The correct answer is Calcutta High Court.

Key Points

• The Calcutta High Court is the oldest High Court in India.

• It is located in B.B.D. Bagh, Kolkata, West Bengal.

• It has jurisdiction over the state of West Bengal and the Union Territory of the Andaman and Nicobar Islands. The High Court building's design is based on the Cloth Hall, Ypres, in Belgium.

• The high court was established on 1 July 1862.

• The current chief justice of Calcutta High Court is Justice T. S. Sivagnanam.

Additional Information

• The High Court of Karnataka is the High Court of the Indian state of Karnataka and thus its highest judicial authority. The court's principal bench is located in Bengaluru, the capital city of Karnataka, with additional benches in Hubballi-Dharwad and Kalaburagi. It was previously called the High Court of Mysore.

• Allahabad High Court, also known as the High Court of Judicature at Allahabad is the high court based in Prayagraj that has jurisdiction over the Indian state of Uttar Pradesh. It was established on 17 March 1866, making it one of the oldest high courts to be established in India

• The High Court of Delhi was established on 31 October 1966. The High Court of Delhi was established with four judges, including Chief Justice K. S. Hegde, Justice I. D. Dua, Justice H. R. Khanna, and Justice S. K. Kapur.

Q87. Answer: (a) Johann Dobereiner

The correct answer is Johann Dobereiner.

Key Points

• Dobereiner stated in his law of triads that the arithmetic means of the atomic masses of the first and third element in a triad would be approximately equal to the atomic mass of the second element in that triad.

• Also, when elements are arranged in order of increasing atomic masses, groups of three elements(triads), having similar chemical properties are obtained.

• The main Limitation of Dobereiner's classification of elements was that he failed to arrange all the then-known elements in the form of triads of elements having similar chemical properties.

• The first of Dobereiner's triads was identified in the year 1817 and was constituted by the alkaline earth metals calcium, strontium, and barium.

Additional Information

• Lother Meyer was the first person to recognize the periodic trends in the properties of elements, and the graph shows the pattern he saw in the atomic volume of an element plotted against its atomic weight.

• John Newlands was the first to arrange the elements into a periodic table with increasing order of atomic masses.

• Dmitri Mendeleev devised the periodic classification of the chemical elements, in which the elements were arranged in order of increasing atomic weight.

Q88. Answer: (a) Hojagiri

The correct answer is Hojagiri.

Key Points

• Hojagiri is a folk dance, performed in the state of Tripura, India by the Tripuri people of the Reang clan.

• It is performed by women and young girls, about 4 to 6 members in a team, singing, balancing on an earthen pitcher, and managing other props such as a bottle on the head and an earthen lamp on the hand.

• Satyaram Reang is an Indian folk performer and folk artist from Tripura.

• He is noted for his significant contribution to Hojagiri Dance.

• In January 2021, he was awarded India's fourth-highest civilian award the Padma Shri in the Arts category.

Additional Information

• Gussadi is an ancient folk dance form of aboriginal tribals. Dandari troupes perform it during the festival for a fortnight.

• Sattriya or Sattriya Nritya, is a major Indian classical dance. It is dance-drama performance art with origins in the Krishna.

• The Bihu dance is an indigenous folk dance from the Indian state of Assam related to the Bihu festival and an important part of Assamese culture.

Q89. Answer: (d) Bharatanatyam

The correct answer is Bharatanatyam.

Key Points

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

• The Natya Shastra by Bharata Muni and Abhinaya Darpana by Nandikeshvara are considered to be the original sources of Bharatanatyam.

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

• Lord Shiva is considered the god of this dance form.

• It gives a wonderful cardio workout, improves blood circulation, tones muscles, and is good for bone density as it is a contact exercise.

Additional Information

• Kuchipudi is indigenous to the state of Andhra Pradesh and differs from the other five classical styles by the inclusion of singing.

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

• Kathakali is a major form of classical Indian dance. It is a "story play" genre of art, but one distinguished by the elaborately colourful make-up, costumes, and face masks that the traditionally male actor-dancers wear.

Q90. Answer: (c) Standard Rain Gauge

The correct answer is Standard Rain Gauge.

Key Points

• An anemometer is an instrument that measures wind speed and wind pressure. Anemometers are important tools for meteorologists, who study weather patterns.

• A sling psychrometer can be used to determine the humidity of the surrounding air because its wet bulb temperature is nearly the same as the adiabatic saturation temperature.

• The standard instrument for the measurement of rainfall is the 203mm (8 inches) rain gauge. This is essentially a circular funnel with a diameter of 203mm which collects the rain into a graduated and calibrated cylinder.

• A hygrometer is an instrument used to measure the amount of water vapour in the air, in soil, or in confined spaces.

Additional Information

• In 1662, Christopher Wren created the first tipping-bucket rain gauge in Britain in collaboration with Robert Hooke.

Q91. Answer: (c) Periods

The correct answer is Periods.

Key Points

• A period in the periodic table is a row of chemical elements. It is the horizontal line in the periodic table. The periodic table is divided into seven periods (1-7).

• A group is a column of elements in the periodic table of the chemical elements. There are 18 numbered groups in the periodic table.

• Orbitals are the mathematical expressions of electrons that describe the electron's property. Any element can have max 4 orbitals(S.p.d.f).

• A valence electron is an electron in the outer shell associated with an atom, and that can participate in the formation of a chemical bond.

Additional Information

• Periodic table, also known as the periodic table of the (chemical) elements, is a tabular display of the chemical elements.

• Periodic table is based on the modern periodic law which states that the properties of the chemical elements exhibit a periodic dependence on their atomic numbers.

• Modern periodic table is made by Russian chemist Dmitri Mendeleev in 1869.

Q92. Answer: (c) PV Sindhu

The correct answer is PV Sindhu.

Key Points

• Badminton women's singles at Tokyo Olympics 2020

• The 2020 Tokyo Summer Olympics women's singles badminton competition took place in the Musashino Forest Sport Plaza in Tokyo from 24 July to 1 August.

• There were 43 competitors overall from 37 different countries.

• After winning bronze at the Tokyo 2020 Olympics, PV Sindhu became the first woman from India to win two Olympic medals.

• At the Tokyo Olympics on August 1, 2021, experienced Indian badminton player PV Sindhu defeated China's He Bingjiao to earn the women's singles bronze medal.

• Prior to that, at the 2016 Rio Olympics women's singles badminton, she won the silver medal.

• PV Sindhu's full name is Pusarla Venkata Sindhu, an Indian badminton player who was born on July 5, 1995.

Additional Information

• President Ram Nath Kovind, who was thrilled with her performance at the Tokyo 2020 Olympics, praised her for creating a new standard for reliability, dedication, and performance.

• A Se-young, a badminton player from Gwangju in South Korea, was awarded as the BWF (Badminton World Federation) Most

Promising Player of the Year for 2019.

• In the women's singles badminton competition at the Tokyo Olympics, Chen Yu Fei of China defeated Tai Tzu-Ying of Taiwan to win the gold medal.

• Taiwanese badminton player Tai Tzu-Ying won the gold medal at the 2017 Summer Universiade and the 2018 Asian Games in addition to the silver medal in the women's singles event at the Tokyo 2020 Olympics.

Q93. Answer: (a) Slowly healing wounds

The correct answer is Slowly healing wounds.

Key Points

• Beriberi

• Beriberi is caused due to the deficiency of Vitamin B1 and sometimes it is also referred to as thiamine deficiency.

• The two primary types of beriberi are:

• Wet beriberi

• Dry beriberi

• The circulatory and heart systems are affected by wet beriberi. Wet beriberi can occasionally result in cardiac failure.

• Dry beriberi harms the nerves, which can result in weakened muscles and ultimately muscle paralysis.

• Symptoms of wet beriberi:

• rapid heart rate

• breath shortness during physical activity

• lower legs swelling

• Middle-of-the-night insomnia (MOTN)

• Symptoms of dry beriberi:

• Involuntary eye movement

• Difficulty speaking

• pain in the limbs

• paralysis

• vomiting

Additional Information

• Wernicke-Korsakoff syndrome and beriberi are associated with each other as it is a kind of brain injury due to thiamine deficiency.

• Other causes of beriberi:

• It is also commonly observed in those who abuse alcohol, which makes it harder for body cells to absorb and store vitamin B1.

• In extremely rare instances, beriberi may also be a genetic condition that is passed from mother to child during breastfeeding.

• Hyperthyroidism

• This disease can be treated by restoring the blood cell level of thiamine by increasing daily vitamin consumption.

• Thiamine supplements are administered orally or intravenously to treat patients (injection).

Q94. Answer: (c) Kapil Dev

The correct answer is Kapil Dev.

Key Points

• Kapil Dev

• Kapil Dev is a former cricketer who played for India.

• He is also called "The Haryana Hurricane."

• He is one of India's best all-around cricket players.

• Kapil Dev served as the captain of the Indian cricket team that won the 1983 Cricket World Cup.

• He became the first player with 200 one-day international wickets.

• He enrolled as a lieutenant colonel in the Indian Territorial Army in 2008.

• ‘Straight from the Heart: An Autobiography is an autobiography of Kapil Dev. Numerous events in Kapil Dev's life are discussed throughout the entire book.

Additional Information

• Other than Straight from the Heart there are various other books that are written by Kapil Dev such as:

• Cricket My Style

• We, The Sikhs

• By God's Decree

• Mahendra Singh Dhoni known as Mahi is the topic of the sports biopic M.S. Dhoni: The Untold Story.

• Books that are written by Sunil Gavaskar are Sunny Days, Runs 'n Ruins, The Sunil Gavaskar Omnibus, etc.

• 'Wide Angle: Candid Moments from My Playing Days' is a book which is authored by Anil Kumble.

Q95. Answer: (d) Lata Mangeshkar

The correct answer is Lata Mangeshkar.

Key Points

• Lata Mangeshkar

• One of India's most talented vocalists was Lata Mangeshkar, commonly referred to as the "Nightingale of India."

• She provided the vocals for more than 5,000 songs in more than 1,000 Hindi and 36 regional films.

• In 2007, she received the Officer of the Legion of Honor, the highest civilian honour given by the French government.

• She was the first Indian performer at the Royal Albert Hall (U.K) in 1974.

• Along with this, Lata Mangeshkar was recognised by the Guinness Book of World Records in 1974 as the musician who had been recorded the most times in the history of Indian music.

Additional Information

• Other Achievements by Lata Mangeshkar:

• Three National Film Awards, four Filmfare Best Female Playback Awards, 15 Bengal Film Journalists' Association Awards, two Filmfare Special Awards, the Filmfare Lifetime Achievement Award, and numerous other honours have been awarded to her.

• The Dadasaheb Phalke Award was given to Lata Mangeshkar in 1989.

• She received the Bharat Ratna, India's highest civilian honour, in 2001.

• In September 2019, on the occasion of her 90th birthday, the Indian government presented her with the Daughter of the Nation award.

Q96. Answer: (d) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• National Crime Records Bureau report for 2020 in India

• The National Crime Record Bureau (NCRB) is an Indian government organisation charged with compiling national and state-level statistics on crime as it is defined by the Indian Penal Code and Special and Local Laws.

• In September 2021, NCRB published its Crime in India Report for the previous year, 2020.

• Data on crimes against children are covered in Chapters 4A and 4B.

• NCRB offers data on crimes against children under two main headings:

• Indian Penal Code (IPC) involves crimes against children

• Child abuse in violation of Special and Local Laws (SLL)

• As per statistics published by National Crime Records Bureau for 2020, Madhya Pradesh accounts for 13% (17,008) of the total crime against children and therefore registered the highest number of crimes against children in the country.

Additional Information

• The NCRB includes a section specifically devoted to crime against certain vulnerable groups in the community, including women, children, Senior citizens as well as Scheduled Castes/Tribes.

• The number of crimes against children reported in 2020 was 1,28,531 compared to 1,48,185 in 2019, a decline of 13.3%.

• A total of 77,382 cases have been registered under the IPC, compared to 51,149 cases under the SLL in the report.

States	Number of crimes against children in 2020
Uttar Pradesh	15271
Maharashtra	14371
Bihar	6591

Q97. Answer: (d) Kathak

The correct answer is Kathak.

Key Points

• Uma Sharma

• Uma Sharma is a famous Indian Kathak dancer.

• In the city of Delhi, Uma Sharma was born in 1942.

• She was trained in dance by Guru Hiralalji and Girvar Dayal of the Jaipur Gharana in her early years.

• She afterward enrolled as Pandit Sunder Prasad's student in the Jaipur Gharana.

• In 1973, she became the youngest dancer to receive the Padma Shri award from the Government of India, and in 2001, she received the Padma Bhushan.

• She also received the Sangeet Natak Akademi Award and the Sahitya Kala Parishad Award.

Additional Information

• She received the title Srijan Manishi on January 27, 2013, from the Akhil Bhartiya Vikram Parishad in Kashi in recognition of her significant contribution to Indian Kathak dance.

• The dance style Kathak is primarily based on court poetry from the 18th and 19th centuries, which glorified shringara, the sense of love, as well as devotional and spiritual Krishna poetry from medieval times.

• Birju Maharaj, Sitara Devi, Shambhu Maharaj, Damayanti Joshi, Shovana Narayan, Uma Sharma, and Shobha Koser are some of the most well-known Kathak dancers.

State	Classical Dance
Tamil Nadu	Bharatanatyam
Odisha	Odissi
Kerala	Kathakali
Uttar Pradesh	Kathak

Q98. Answer: (a) Pandavani

The correct answer is Pandavani.

Key Points

• Pandavani

• A folk song called Pandavani describes the bravery of Mahabharata characters.

• Chhattisgarh, Orissa, Madhya Pradesh, and Andhra Pradesh are among the popular states that enjoy this folk music.

• This traditional musical style is still being preserved by artists like Teejan Bai, Jhaduram Devangan, Ritu Verma, Usha Barle, and Shantibai Chelak.

• Tambura is mostly employed as a musical instrument, but it is also utilized as a prop to describe various Mahabharata characters.

• For instance, when recounting Bhima's bravery, the performer frequently carries the Tambura on their shoulder.

• Tambura serves as a representation of Bhima's mace while performing this.

• Manjira, Harmonium, Dholak, and Tabla are other musical instruments that are used.

Additional Information

• Lavani

• Popular Maharashtrian folk music called Lavani was first played for the soldier's amusement.

• The song, which is typically sung by ladies, expresses information about politics and society.

• Bihugeet

• One of Assam's most well-known folk melodies, Bihugeet, is performed at the renowned Bihu festival.

• It is a dance performance that typically goes with the music and it is presented three times a year.

• Young boys and girls usually sing the song, which reflects the Assamese's joyous nature.

• Bhatiali

• In ancient Bengal, Bhatiali was sung by the fishermen.

• According to legend, Bengali fishermen and oarsmen employed this musical genre to pass the time when they weren't required to row their boats with all of their might.

Q99. Answer: (c) Paragliding

The correct answer is Paragliding.

Key Points

• Paragliding

• The adventure sport of paragliding is both recreational and competitive.

• The adventurous people engage themselves in the activity of paragliding, which is a motor-free sport.

• The paraglider (pilot) is suspended below a fabric wing made of several interconnected baffled cells while wearing a harness.
• The suspension lines preserve the shape of the wings.
• Even though paragliders don't have an engine, flight can persist for many hours and cover great distances.
• Paragliders normally fly between 20 and 75 kilometres per hour (12–47 mph).
• Advanced governable gliding parachutes with many cells and controls for lateral glide were created by Domina C. Jalbert in 1954.

Additional Information

• Other adventurous games include ice skating, ice hockey, skiing, rock climbing, gliding, vehicle and bike racing, etc.
• Snow hockey
• Snow hockey is a team sport played on ice skates, typically on a rink with lines and markings designed specifically for the sport.
• It is a sport in which two opposing teams handle, move, and shoot a closed, vulcanized rubber disc known as a "puck" into the other team's goal.
• Cycling
• The use of bicycles for transportation, recreation, exercise, or sport is known as cycling, also known as bicycling or biking.
• Cycling is primarily a type of aerobic activity, so your heart, blood vessels, and lungs all get exercise.
• Paralympics
• Athletes with a variety of disabilities compete in the Paralympic Games, also known as the Paralympics.
• The event usually follows the Olympic Games and occurs every two years.
• There are two types of Paralympic games: Winter and Summer Games.

Q100. Answer: (b) Assam

The correct answer is Assam.

Key Points

• Jatin Goswami
• A well-known veteran classical dancer from Assam is Jatin Goswami.
• In 1933, Jatin Goswami was born in Dergaon, Upper Assam.
• Jatin Goswami began his first lesson of Satriya dance at home with the help of his father.
• Later, he received expert gurus' instruction in dance and music on the Vaishnava Satras.
• In order to advance and expand the Satriya dancing style, he also founded a dance group.
• In 1962, the Kalaguru Bishnu Prasad Rabha and Roseswar Saikia Borbayan collaborated to form the dancing group known as Pragati Kala Parishad.
• Jatin Goswami has received numerous recommendations and titles.
• During the Khajuraho Dance Festival, Jatin Goswami was given the National Kalidas Samman, Madhya Pradesh's most prestigious cultural award, for 2017.

Additional Information

• The Sankari Sangeet Vidyapeeth presented Jatin Goswami with the Nritya Acharya Samman in 1999.
• In 1994, he received the Silpi Divas Award, and in 1995–1996 he received the Assam Natya Samiti Mobile Theatre Award.
• As a result of his significant creative effort and his contributions to Satriya dance and music, he was also given the Padma Shri Award in 2008.
• In 2018, renowned Kathak dancer Guru Uma Sharma was given the National Kalidas Samman, Madhya Pradesh's most prestigious cultural honour during the Khajuraho Dance Festival.
• The prize consists of a plaque and Rs 2 lakh.

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