SSC CHSL Tier-1 2023: Official Paper (Held On: 08 Aug, 2023 Shift 3) (Previous Year Paper)

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

Take this paper as a timed mock test

Practise under exam conditions, then review your answers after you submit.

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ENGLISH LANGUAGE

Q1. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

Some goats are eagles.

All eagles are snakes.

No duck is an eagle.

Conclusions:

(I) No snake is a goat.

(II) Some ducks are snakes is a possibility.

(III) Some ducks are not goats

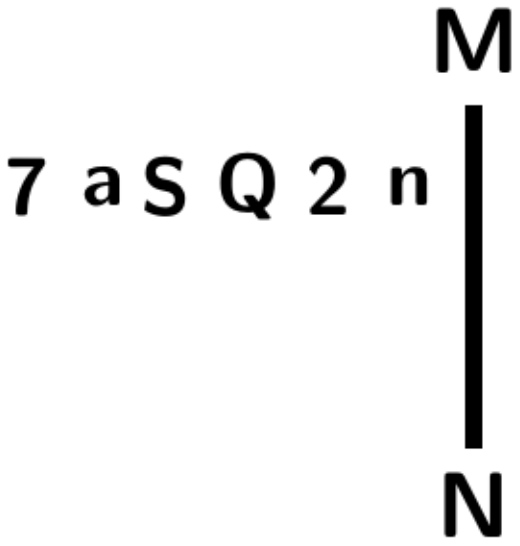
(a) Only conclusion II follows

(b) Both conclusions II and III follow

(c) Only conclusion III follows

(d) Both conclusions I and II follow

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



(a)



(b)



(c)



(d)



Q3. Select the correct combination of letters to sequentially replace the blanks and to make the given series logically complete.

X _ B _ B _ _ B B _ B _

(a) BBXBXB

(b) XXBBXB

(c) BXBXXB

(d) XBXXBX

Q4. What should come in place of the question mark (?) in the given series?

339, 340, 348, ?, 439

(a) 377

(b) 492

(c) 380

(d) 375

Q5. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

All flowers are trees.

All branches are leaves.

No flowers are leaves.

Conclusions:

(I) No branches are flowers.

(II) No trees are leaves.

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

(b) Only conclusion (II) follows

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

(d) Only conclusion (I) follows

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Q6. Which term from among the given options can replace the question mark (?) in the following series to make it logically complete?

D 13 Q, F 17 R, ?, J 25 T, L 29 U

(a) G 22 R
(b) G 21 S
(c) H 22 R
(d) H 21 S

Q7. If the 5^(th) of the month falls on the third day after Sunday, what will be the day on the 15^(th) of that month?

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

Q8. AHL is related to ELP in a certain way based on the English alphabetical order. In the same way, GMP is related to KQT. To which of the following is FQS related following the same logic?

(a) JUW
(b) SFQ
(c) SQF
(d) ITV

Q9. In a certain code language, 'ACTION' is coded as '527491' and 'OCTANE' is coded as '759213'. What is the code for 'E' in the given code language?

(a) 9
(b) 7
(c) 5
(d) 3

Q10. Which letter-cluster should come in place of ? in the given series based on the English alphabetical order?

XEM, ZGO, BIQ, DKS, ?

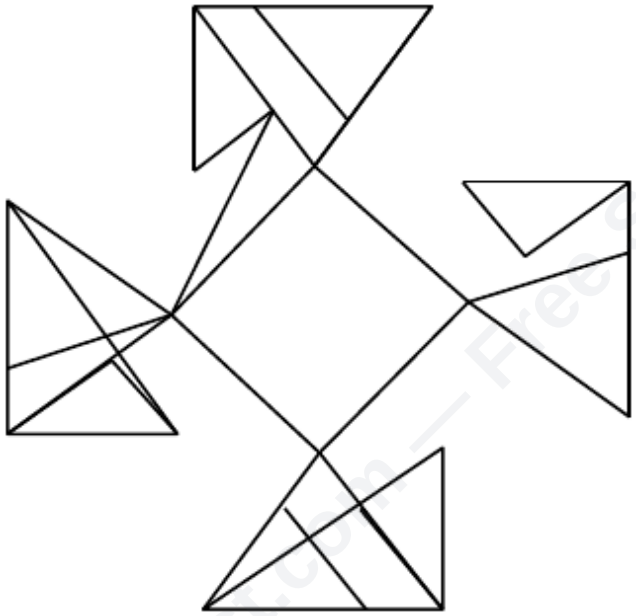
(a) FMU
(b) DNV
(c) FOV
(d) ENU

Q11. If it was Tuesday on 21 February 2017, then what will be the day of the week on 5 February 2025 ? (2020 and 2024 are leap years.)

(a) Thursday
(b) Tuesday
(c) Monday
(d) Wednesday

Q12. How many triangles are there in the given figure?

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(a) 14
(b) 12
(c) 13
(d) 11

Q13. In a certain code language, 'ask the doctor' is written as 'nq sp ml' and 'you can ask' is written as 'jl ml tr'. How is 'ask' written in the given language?

(a) ml
(b) sp
(c) tr
(d) nq

Q14. What should come in place of the question mark (?) in the given series?

3, 10, 39, ?, 885, 5346, 37471

(a) 56
(b) 45
(c) 720
(d) 172

Q15. Select the triad from the below options that has the same analogy as the following triads.

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

6 : 36 : 216

17 : 289 : 4913

(a) 22 : 440 : 9000
(b) 21 : 400 : 9200
(c) 21 : 441 : 9261
(d) 22 : 400 : 9999

Q16. P is the father of E. E is the sister of A. A has only one brother L. T is the only grandson of P. M is the wife of A. Only one child of P is married. How is L related to T?

(a) Father
(b) Son
(c) Father's brother
(d) Mother's brother

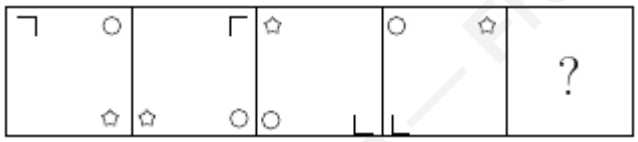
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Q17. What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

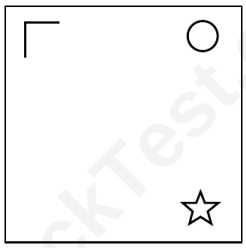
16 ÷ 4 + 15 × 5 - 47 = ?

(a) 118
(b) 128
(c) 138
(d) 108

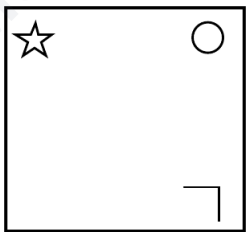
Q18. Identify the figure given in the options which when put in place of ? will logically complete the series.



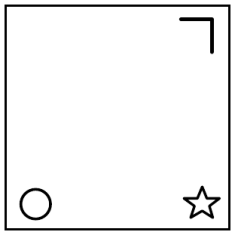
(a)



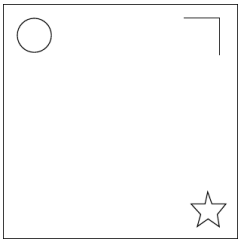
(b)



(c)



(d)



Q19. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.

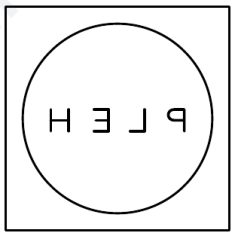
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(a)



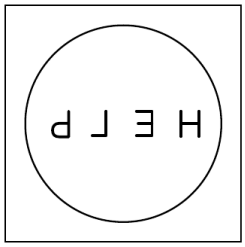
(b)



(c)



(d)



Q20. Based on the alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

(a) SQT
(b) BEH
(c) WUX
(d) FDG

Q21. What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

27 ÷ 3 - 84 + 65 × 5 = ?

(a) 152
(b) 154
(c) 122
(d) 124

Q22. Select the correct combination of letters to sequentially replace the blanks and to make the given series logically complete.

M _ J _ M _ _ M _ M _ _

(a) MJMJMJM
(b) MMJMJMJ
(c) JMJJMJM
(d) JJMJMMJ

Q23. Select the number from among the given options that can replace the question mark (?) in the following series.

222, 254, 227, 249, 232, 244, ?

(a) 237
(b) 239
(c) 235
(d) 242

Q24. What will come in the place of the question mark (?) in the following equation if '+' and '-' are interchanged and '×' and '÷' are interchanged?

214 - 65 × 5 ÷ 7 + 21 = ?

(a) 255
(b) 269
(c) 279
(d) 284

Q25. Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

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(a) 72 - 89
(b) 19 - 36
(c) 24 - 41
(d) 57 - 67

GENERAL INTELLIGENCE

Q26. Which of the following cell divisions is known as reduction division?

(a) Telophase
(b) Meiosis
(c) Prophase
(d) Mitosis

Q27. Which of the following weightlifters won the BBC Indian Sportswoman of the Year award in 2022?

(a) Neelam Setti Laxmi
(b) Kunjarani Devi
(c) Mirabai Chanu
(d) Karnam Malleswari

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Q28. Which glacier is the source of river Gori Ganga which is an important tributary of river Kali?

(a) Tipra Glacier
(b) Milam Glacier
(c) Namik Glacier
(d) Kafni Glacier

Q29. Which of the following is mentioned in Article 39 A of the Indian Constitution?

(a) To secure adequate means of livelihood
(b) To promote equal justice and to provide free legal aid
(c) Equal pay for equal work
(d) Prevention of concentration of wealth

Q30. Pongal is a festival of which state?

(a) West Bengal
(b) Tamil Nadu
(c) Bihar
(d) Odisha

Q31. Which state has the highest sex ratio, as per the 2011 Census?

(a) Mizoram
(b) Nagaland
(c) Manipur
(d) Kerala

Q32. Under which of the following Articles of the Indian constitution "Equality of opportunities include its reasonable classification and provisions for backward class of citizens" is provided.

(a) Article 16
(b) Article 18
(c) Article 17
(d) Article 19

Q33. Who is credited with setting up of Brahmo Sabha, for religious reforms, in 1828, which was later called Brahma Samaj?

(a) Rabindranath Tagore
(b) Raja Ram Mohan Roy
(c) Keshub Chandra Sen
(d) Devendra Nath Tagore

Q34. Which physicist is known for discovering that any periodic wave can be represented as an infinite number of weighted sinusoids, i.e., the sum of sine and cosine waves?

(a) Louis de Broglie
(b) Jean Baptiste Joseph Fourier
(c) Joseph-Louis Lagrange
(d) Ernest Walton

Q35. Which of the following laws represented by the formula T2/R3, compares the orbital period and radius of the orbit of a planet with that of other planets?

(a) Hubble's Law
(b) Copernicus's Law
(c) Kepler's Third Law
(d) Bragg's Law

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Q36. Nirmala Paniker was honoured with which of the following awards in the year 2019 for her contribution to Mohiniyattam?

(a) Sangeet Natak Akademi
(b) Padma Bhushan
(c) Padma Vibhushan
(d) Padma Shri

Q37. The cropping season between Rabi and Kharif is called _____.

(a) Aman
(b) Boro
(c) Zaid
(d) Aus

Q38. Who among the following personalities is/was NOT an Indian Ghazal singer?

(a) Begum Akhtar
(b) Chitra Singh
(c) Bhimsen Joshi
(d) Jagjit Singh

Q39. In March 2023, the Central Board of Direct Taxes extended the deadline to link Permanent Account Number (PAN) and Aadhaar from 31^(st) March 2023 to _____.

(a) 30th July 2023
(b) 30th September 2023
(c) 30th August 2023
(d) 30th June 2023

Q40. In which of the following years was Muslim League founded?

(a) 1907
(b) 1905
(c) 1909
(d) 1906

Q41. According to Ministry of Petroleum and Natural Gas, Government of India (2021-2022), which state in India is the largest producer of natural gas?

(a) Andhra Pradesh
(b) Maharashtra
(c) Tamil Nadu
(d) Assam

Q42. While using the income method to compute national income, which of the following is NOT to be included?

A) Income from lottery
B) Brokerage on sale and purchase of shares
C) Income from illegal activities like gambling

(a) A, B and C
(b) B and C
(c) A and B
(d) A and C

Q43. Under the new IPL rule in 2023, who among the following Chennai Super King players became the first Impact player in the history of the tournament?

(a) MS Dhoni
(b) Deepak Chahar
(c) Akash Singh
(d) Tushar Deshpande

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Q44. Which city is going to host the 2026 winter Olympics?

(a) Boston
(b) Beijing
(c) Milan-Cortina d'Ampezzo
(d) Pyeongchang

Q45. The Fiscal policy achieves the macroeconomic goals by using which of the following instruments?

(a) Taxes
(b) SLR
(c) CRR
(d) Bank rate

Q46. Which of the following folk dance forms is performed by men in Haryana?

(a) Khoria
(b) Gidda
(c) Ghoomar
(d) Gugga

Q47. Which of these is NOT part of the classification of economic activities carried out in an economy?

(a) Production
(b) Consumption
(c) Distribution
(d) Law and order

Q48. Which of these statements is correct?

(a) The economic wealth of a country does not necessarily depend on the possession of resources.
(b) Countries endowed with natural resources are naturally the richest countries.
(c) The national income of a country is the total of all its resources.
(d) Whether resources are used in generating a flow of output and as a result, income and wealth, is immaterial.

Q49. The Gahadavalas ruled over which region of India?

(a) Ajmer
(b) Malwa
(c) Kanauj
(d) Patan

Q50. Which of these is one of the fall out of the industrial licensing system?

(a) Large industrial houses availed licenses to prevent competition
(b) Most licenses were used up by backward states
(c) Most licenses were for importing goods
(d) Many small private firms appropriated licenses

QUANTITATIVE APTITUDE

Q51. An article is marked at Rs. 450. If it is sold at a discount of 20%, then the selling price becomes 1.5 times of its cost price. What is the cost price (in Rs.)?

(a) 360
(b) 240
(c) 330
(d) 270

Q52. How many solid spheres are made if a metallic cone of radius 12 cm and height 24 cm is melted into sphere of radius 2 cm each?

(a) 105
(b) 101

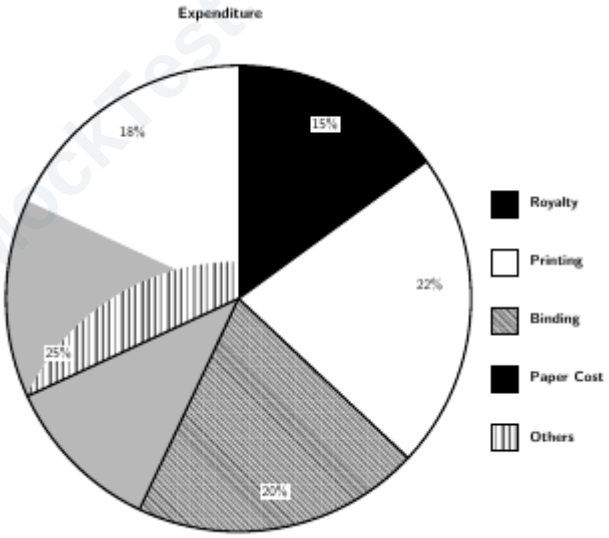
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(c) 108
(d) 103

Q53. If Sin θ = 5/6, the value of Cot θ · Sin θ · Cos θ is _____.
(a) 6/5
(b) 25/36
(c) 5/6
(d) 11/36

Q54. A shopkeeper sells a table at a discount of 25% on the marked price and earns a profit of 80%. If he sells the same table at a 40% discount, then his new profit is:
(a) 31%
(b) 44%
(c) 33%
(d) 41%

Q55. The following pie chart shows the percentage distribution of the expenditure incurred in publishing a book.



Find the paper cost, if the royalty is Rs. 22,500
(a) Rs. 32,500
(b) Rs. 37,500
(c) Rs. 30,000
(d) Rs. 33,000

Q56. From a cask filled with wine, 75 litres are first drawn and replaced with water. From this mixture, 60 litres are drawn and replaced with water. The ratio of wine to water in the cask is now 3 : 2. How many litres of wine did the cask initially hold?
(a) 225
(b) 250
(c) 375
(d) 300

Q57. Find the value of (cos A)/(1+sin A)+(1+sin A)/(cos A)+2.
(a) 1 + 2 sec A
(b) 2 - sec A
(c) 2 + sec A
(d) 2(1 + sec A)

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Q58. Two numbers, when divided by a certain divisor, leave the remainder 57. When sum of the two numbers is divided by the same divisor, the remainder is 49. The divisor is:

(a) 56
(b) 57
(c) 49
(d) 65

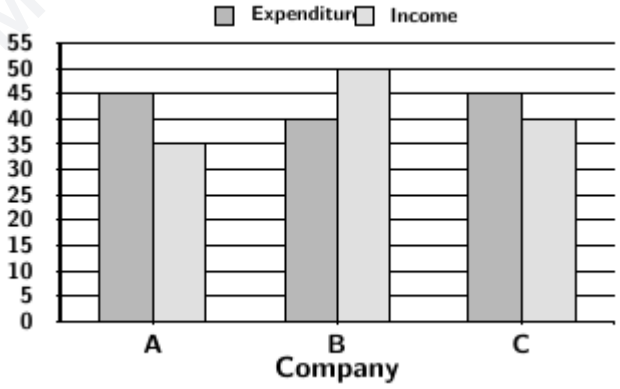
Q59. Mahima purchased a Saree for Rs. 792 after successive discounts of 20% and 12%. The marked price of the Saree was:

(a) Rs. 968
(b) Rs. 1,025
(c) Rs. 875
(d) Rs. 1,125

Q60. If the curved surface area of a cylinder is increased by 20%, and height is decreased by 4%, then the net decrease or increase in the volume will be:

(a) 36% decrease
(b) 20% increase
(c) 50% increase
(d) 33% decrease

Q61. The following bar graph shows the incomes and expenditures (in million rupees) of three companies in the year 2020. Study the graph and answer the question that follows.



Which company earned the maximum percentage profit (Profit is calculated on expenditure) in the year 2020, and by what percentage?

(a) Company A, by 18%
(b) Company B, by 20%
(c) Company B, by 25%
(d) Company C, by 15%

Q62. In a linear race of 1000 m, Prakash beats Ved by 280 m, while Ved beats Rahul by 100 m. By how many metres does Prakash beat Rahul, in the same race?

(a) 346
(b) 350
(c) 352
(d) 348

Q63. ΔLON and ΔLMN are two right-angled triangles with common hypotenuse LN such that angle LON = 90° and angle LMN = 90°. LN is the bisector of angle OLM. If LN = 29 cm and ON = 20 cm, then what is the perimeter (in cm) of ΔLMN?

(a) 67
(b) 62
(c) 65

(d) 70

Q64. If x^4+1/(x^4)=194, x>0, then find the value of $x^3+1/(x^3)+x+1/x$.

(a) 76
(b) 66
(c) 56
(d) 46

Q65. By selling a watch for Rs. 1,600, a person gets profit that is equal to the loss of selling the same watch for Rs. 1,400. If the person wants to get a profit of 20%, at what price should he sell the watch?

(a) Rs. 1,800
(b) Rs. 1,700
(c) Rs. 1,850
(d) Rs. 1,750

Q66. On a sum of money for 2 years compound interest and simple interest are Rs. 550 and Rs. 500. Find the rate of interest (in per annum).

(a) 40%
(b) 10%
(c) 20%
(d) 30%

Q67. Two circles with diameters 50 cm and 58 cm, respectively, intersect each other at points A and B, such that the length of the common chord is 40 cm. Find the distance (in cm) between the centres of these two circles.

(a) 34
(b) 37
(c) 36
(d) 35

Q68. The average number of runs scored by a cricketer in 42 innings is 30. The difference between his maximum and minimum scores in an inning is 100. If these two innings are not taken into consideration, then the average score of the remaining 40 innings is 28. What are the maximum runs scored by him in an inning?

(a) 120
(b) 105
(c) 115
(d) 110

Q69. In an army camp, there is food provision for 500 cadets for 25 days. If 125 more persons join the army camp on the first day itself, then for how many days will the provision last?

(a) 20
(b) 15
(c) 10
(d) 25

Q70. In ΔABC, angle A = 5x - 60°, angle B = 2x + 40°, angle C = 3x - 80°. Find mangle A.

(a) 75°
(b) 90°
(c) 80°
(d) 60°

Q71. If θ is an acute angle and sin θ = 13/19, what is the value of cos θ?

(a) 6/19
(b) (10 √2)/19
(c) 14/19
(d) (8 √3)/19

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Q72. The length of the common tangent PQ for two circles touching externally is 16 cm. If the radius (OP) of the bigger circle is 20 cm, then the radius (RQ) of the smaller circle is:

(a) 3.2 cm
(b) 3.6 cm
(c) 3.5 cm
(d) 3.8 cm

Q73. If $a + b + c = 5$ and $a^2 + b^2 + c^2 = 15$, then find the value of $a^3 + b^3 + c^3 - 3abc - 27$.

(a) 23
(b) 27
(c) 25
(d) 21

Q74. The following table shows the month-wise temperature of four cities from January to May 2022 (in degree Celsius).

Months	Hyderabad	Bangalore	Pune	Kolkata
January	26°	22°	24°	25°
February	27°	24°	25°	26°
March	34°	30°	32°	32°
April	37°	32°	35°	34°
May	42°	36°	40°	40°

Which city recorded the maximum temperature in all five months compared with the other cities?

(a) Pune
(b) Bangalore
(c) Hyderabad
(d) Kolkata

Q75. If $x^2 + y^2 = 427$ and $xy = 202$, then find the value of $(x+y)/(x-y)$.

(a) √(835/23)
(b) √(830/29)
(c) √(831/23)
(d) √(830/23)

GENERAL AWARENESS

Q76. Select the ANTONYM of the word dulcet to fill in the blank.

He has _____ words for his opponents.

(a) sweet
(b) penurious
(c) enliven
(d) harsh

Q77. Select the option that has NO spelling or grammatical errors.

(a) Although he had never traveled abroad before, Jack felt confident navigeting the unfamiliar castoms and language.
(b) Although he had never travelled abroad before, Jack felt confident navigating the unfamiliar customs and language.
(c) Although he had never traveled abroad before, Jack felt confidant navigating the unfamilliar customs and language.
(d) Although he had never traveled abroad before, Jack felt confident navigeting the unfamilliar castoms and language.

Q78. Select the most appropriate ANTONYM of the given word.

Pernicious

(a) Malicious
(b) Wicked

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(c) Injurious
(d) Compassionate

Q79. Select the most appropriate meaning of the given idiom.

On the straight and narrow

(a) The unrefined and complicated
(b) The straightforward and ethically acceptable
(c) The honest but dubious
(d) The unpredictable though genuine

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

(A) a match
(B) we need to establish
(C) and student' needs
(D) teaching methods
(E) between

(a) CBADE
(b) BECDA
(c) BACDE
(d) BAEDC

Q81. Select the option that can be used as a one-word substitute for the given group of words.

The allowance which is paid to wife on legal separation

(a) Racisms
(b) Dowry
(c) Alimony
(d) Money

Q82. Select the most appropriate idiom to fill in the blank.

Never believe anything you hear from others. Try to get every bit of information _____, if possible.

(a) in the fast lane
(b) straight from the horse's mouth
(c) down the line
(d) fair and square

Q83. Select the most appropriate ANTONYM of the given word from the following sentence.

Suspicious

Although the web server was problematic, Sudha was certain that she will submit her form on the portal by evening.

(a) certain
(b) problematic
(c) submit
(d) portal

Q84. Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct order to form a meaningful sentence.

A) fan on because of
B) covered the noise
C) he slept with the
D) the heat, and that
E) of the baby crying

(a) B, A, D, C, E
(b) D, B, E, A, C

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(c) C, A, D, B, E
(d) B, D, E, A, C

Q85. Select the option that can be used as a one-word substitute for the given group of words.
A word or a phrase is formed by rearranging a different word
(a) Anaphora
(b) Amateur
(c) Anagram
(d) Accessible

Q86. Select the option that can be used as a one-word substitute for the given group of words.
A group of fish swimming together
(a) Herd
(b) Shoal
(c) Flock
(d) Mob

Q87. Parts of the following sentence have been given as options. Select the option that contains an error.
Sita spotted golden deer and requested Rama to capture it.
(a) to capture it.
(b) Sita spotted golden
(c) deer and
(d) requested Rama

Q88. Parts of the following sentence have been given as options. Select the option that contains an error.
The committee were divided on the issue, and neither side were willing to compromise on the compensation amount to be given.
(a) and neither side were willing to
(b) amount to be given
(c) compromise on the compensation
(d) The committee were divided on the issue

Q89. Select the option that correctly expresses the following sentence in active voice.
It has been done by them.
(a) They has done it.
(b) They have done it.
(c) They did it.
(d) They had done it.

Q90. Select the most appropriate ANTONYM of the word given in brackets to fill in the blank.
The sound of rain tapping against the window was a _____ (stimulating) melody, lulling him to sleep.
(a) Stressful
(b) Troubling
(c) Subduing
(d) Harsh

Q91. Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.
A. one method of education
B. would only produce one kind of man
C. consists in the variety of which it is capable
D. but the great excellence of human nature
(a) ACBD
(b) ABDC

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(c) ACDB
(d) ABCD

Q92. Directions: Each item in this section consists of a sentence with an underlined word followed by four words/group of words. Select the option that is nearest in meaning to the underlined word and mark your response on the answer sheet accordingly.

The decision of the committee may mitigate the growth of the organisation.

(a) Show
(b) Accelerate
(c) Divert
(d) Lessen

Q93. Select the option that expresses the given sentence in passive voice.

Everybody knows Nelson Mandela.

(a) Nelson Mandela is known to everybody.
(b) Nelson Mandela can be known to everybody.
(c) Nelson Mandela knows everybody.
(d) Nelson Mandela was known to everybody.

Q94. Select the most appropriate homophones to fill in the blanks.

He was criticised for the _____ leadership of his team. His casual body language seemed _____ for a leader.

(a) inapt; inapt
(b) inapt; inept
(c) inept; inapt
(d) inept; inept

Q95. Identify the INCORRECTLY spelt word in the following sentence and select its correct spelling from the given options.

Factories have to follow a proper procedure to dispose of the hazerdous material.

(a) disspose
(b) proceedure
(c) hazardous
(d) Factouries

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.

A pathogen is a 1 _____, virus, parasite or fungus that can cause disease within the body. Each pathogen is made up of several subparts, usually unique to that specific pathogen and the 2 _____ it causes. The subpart of a pathogen that causes the formation of antibodies is called an 3 ____. The antibodies produced in response to the pathogen's antigen are an important part of the 4 _____ system. You can consider antibodies as the 5 _____ in your body's defence system.

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

(a) bacterium
(b) medicine
(c) potion
(d) solution

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

(a) remedy
(b) cure
(c) aftermath
(d) disease

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

(a) agent
(b) infection
(c) enzyme
(d) antigen

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

(a) health
(b) immune
(c) antigen
(d) nervous

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

(a) vulnerability
(b) culprits
(c) soldiers
(d) loophole

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) Only conclusion II follows

The least possible Venn diagram for the given statement is:

Conclusions:

I. No snake is a goat → Does not Follow (As, some goats are eagles and all eagles are snakes, So, it is possible but not definitely true)

II. Some ducks are snakes is a possibility → Follow (As, no duck is an eagle and all eagles are snakes. and, no definite relation is given between snakes and duck, so some ducks are snakes can be possible therefore it is definitely true)

III. Some ducks are not goats → Does not Follow (As, some goats are eagles, all eagles are snakes and no duck is an eagle. So, no definite relation is given between goats and duck, so some ducks are not goats can be possible but not definitely true)

Here, Only conclusion II follows.

Hence, the correct answer is "Only conclusion II follows".

Q2. Answer: (b) [figure]

The correct mirror image of the given combination when mirror is placed at MN is as shown below:

Detailed Explanation:

• The line MN is the mirror

• The word "7aSQ2n" the third letter is "S". So, the mirror image should be "

" => Option 1 is eliminated.

• The word "7aSQ2n" the fourth letter is "Q". So, the mirror image should be "

" => Option 3 is eliminated.

• The word "7aSQ2n" the first digit is "7". So, the mirror image should be "

" => Option 4 is eliminated.

Hence, the correct answer is "Option - (2)".

Q3. Answer: (c) BXBXXB

Given : X _ B _ B _ _ B B _ B _

By checking options :

1. BBXBXB → X B B B B X B B B X B B → (It doesn't Follows the pattern)

2. XXBBXB → X X B X B B B B B X B B → (It doesn't Follows the pattern)

3. BXBXXB → X B B X B B X B B X B B → (It follows the pattern of :XBB - XBB - XBB - XBB)

4. XBXXBX → X X B B B X B B B B B X → (It doesn't Follows the pattern)

=>Option - (3) gives the pattern of " X B B - X B B - X B B - X B B"

Hence, "BXBXXB" is the correct answer.

Q4. Answer: (d) 375

Logic : Consecutive series of cube are added to each number subsequently.

Hence, "375" is the correct answer.

Q5. Answer: (d) Only conclusion (I) follows

The least possible Venn diagram for the given statement is:

Conclusions:

I. No branches are flowers → Follow (As, all branches are leaves and no flowers are leaves, So, whole branches comes in leaves which cannot be flowers therefore it is definitely true.)

II. No trees are leaves → Does not Follow (As, all flowers are trees and, no flowers are leaves all branches are leaves. and, no definite relation is given between trees and leaves, so No trees are leaves can be possible but not definitely true)

Here, Only conclusion (I) follows.

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

Q6. Answer: (d) H 21 S

Logic :

• First and third letter → (2) and (1) are added to the position value of first and third letter according to English alphabetic series respectively.

• Number → (4) is added to each number.

So,

Hence, "H 21 S" is the correct answer.

Q7. Answer: (c) Saturday

Given that the 5th of the month falls on the third day after Sunday (D), we can write:

5th = Sunday + 3

5th = Wednesday

5th + 7 = 12th day = Wednesday

13th day = Thursday, 14th day = Friday, 15th day = Saturday.

Hence, Saturday will be the day on the 15th of that month.

Q8. Answer: (a) JUW

The logic followed here is :- (4) is added to the position value according to English alphabetic series.

So,

• 'AHL' is written as 'ELP'

And,

• 'GMP' is written as 'KQT'

Similarly,

• 'FQS' is written as

Hence, "JUW" is the correct answer.

Q9. Answer: (d) 3

Logic : No specific pattern is followed here, random codes are assigned to each letter.

So,

• 'ACTION' is coded as '527491'

• 'OCTANE' is coded as '759213'

As some letters are common, so the codes will be :

Letters	A / C / T / O / N	E	I
Codes	5 / 2 / 7 / 9 / 1	3	4

Therefore,

• 'E' will be coded as:

'E' is coded as '3'.

Hence, "3" is the correct answer.

Q10. Answer: (a) FMU

Logic : (2) is added to the position value according to English alphabetic series

So,

Hence, "FMU" is the correct answer.

Q11. Answer: (d) Wednesday

Given : 21 February 2017 was Tuesday

Explanation :

The number of odd days from 21 February 2017 to 5 February 2025 :

Year	Period	Calculation	Odd days
2017	21 February 2017 - 31 December 2017	365 days - 52 days = 313 days	313 ÷ 7 = 5
2018 - 2024	Full year (5 Ordinary years + 2 Leap years)	(1 × 5) + (2 × 2) = 9	9 ÷ 7 = 2
2025	1st January 2025 - 5th February 2025	31 day + 5 days = 36 days	36 ÷ 7 = 1
Total odd days	(8 ÷ 7) = 1		

Therefore The number of odd days from 21 February 2017 to 5 February 2025 => 1

=>So, One odd day get added to Tuesday because day asked in future.

Therefore Wednesday was the day of the week on the 5 February 2025.

Hence, "Wednesday" is the correct answer.

Additional Information

• Number of odd days for the days of week.

Days	Odd days
Sunday	0
Monday	1
Tuesday	2
Wednesday	3
Thursday	4
Friday	5
Saturday	6

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• Number of odd days for the days of months.

Months having number of days	Odd days
28 days	0
29 days	1
30 days	2
31 days	3

• Number of odd days for the years.

Years	Odd days
Ordinary year	1
Leap year	2

Q12. Answer: (b) 12

The number of triangles in the given figure is shown below :

Thus, there are total 12 triangles in the given figure.

Hence, "12" is the correct answer.

Q13. Answer: (a) ml

According to the given information,

Thus, according to the given codes 'ml' is the code for the word 'ask'.

Hence, the correct answer is "ml".

Q14. Answer: (d) 172

Logic : Each number first multiplied by and then squares of consecutive number series is added subsequently.

Hence, "172" is the correct answer.

Q15. Answer: (c) 21 : 441 : 9261

Logic : (1st number × 2nd number) = 3rd number

Given :

• 6 : 36 : 216

6 × 36 = 216

216 = 216 (LHS = RHS)

• 17 : 289 : 4913

17 × 289 = 4913

4913 = 4913 (LHS = RHS)

So,

• Option - (1) : 22 : 440 : 9000

22 × 440 = 9000

9680 ≠ 9000 (LHS ≠ RHS)

• Option - (2) : 21 : 400 : 9200

21 × 400 = 9200

8400 ≠ 9200 (LHS ≠ RHS)

• Option - (3) : 21 : 441 : 9261

21 × 441 = 9261

9261 = 9261 (LHS = RHS)

• Option - (4) : 22 : 400 : 9999

22 × 400 = 9999

8800 ≠ 9999 (LHS ≠ RHS)

Hence, "Option - (3)" is the correct answer.

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Q16. Answer: (c) Father's brother

According to given conditions,

1) P is the father of E.

2) E is the sister of A.

3) M is the wife of A.

4) A has only one brother L.

5) T is the only grandson of P.

6) Only one child of P is married.

Thus, according to the final family tree L is the paternal uncle i.e father's brother of T.

Hence, "Father's brother" is the correct answer.

Q17. Answer: (d) 108

Given : 16 ÷ 4 + 15 × 5 - 47 = ?

According to the question, after replacing the signs :

• '+' and '-' are interchanged

• '×' and '÷' are interchanged

So,

16 × 4 - 15 ÷ 5 + 47 = ?

16 × 4 - 3 + 47 = ?

64 + 47 - 3 = ?

111 - 3 = ?

108 = ?

Hence, "108" is the correct answer.

Q18. Answer: (a) [figure]

The logic followed here is

All symbol are rotating clockwise direction.

Hence, the correct answer is "option 1".

Q19. Answer: (c) [figure]

The correct mirror image of the given combination when mirror is placed at MN is as shown below:

Detailed Explanation:

• The line MN is the mirror

• The word "HELP" the third letter is "L". So, the mirror image should be "

" => Option 1 is eliminated.

• The word "HELP" the second letter is "E". So, the mirror image should be "

" => Option 2 is eliminated.

• The word "HELP" the first letter is "H". So, the mirror image should be "

" => Option 4 is eliminated.

Hence, the correct answer is "Option - (3)".

Q20. Answer: (b) BEH

Logic :

1. First and second letter → Difference between the position value according to the English alphabetic series is 2.

2. Second and third letter → Difference between the position value according to the English alphabetic series is 3.

So,

• Option - (1) : SQT

• Option - (2) : BEH

• Option - (3) : WUX

• Option - (4) : FDG

Here, out of all options only 'BEH' doesn't follow the same logic as given.
Hence, "BEH" is the correct answer.

Q21. Answer: (a) 152

Given : 27 ÷ 3 - 84 + 65 × 5 = ?
According to the question, after replacing the signs :
• '+' and '-' are interchanged
• '×' and '÷' are interchanged
So,
27 × 3 + 84 - 65 ÷ 5 = ?
27 × 3 + 84 - 13 = ?
81 + 84 - 13 = ?
165 - 13 = ?
152 = ?
Hence, "152" is the correct answer.

Q22. Answer: (b) MMJMJMJ

Given : M _ J _ M _ _ M _ M _ _
By checking options :
1. MJMJMJM → M M J J M M J M M M J M → (It doesn't Follows the pattern)
2. MMJMJMJ → M M J M M J M M J M M J → (It follows the pattern of : MMJ - MMJ - MMJ - MMJ)
3. JMJJMJM → M J J M M J J M M M J M → (It doesn't Follows the pattern)
4. JJMJMMJ → M J J J M M J M M M M J → (It doesn't Follows the pattern)
=>Option - (2) gives the pattern of "M M J - M M J - M M J - M M J"
Hence, "MMJMJMJ" is the correct answer.

Q23. Answer: (a) 237

The logic followed here is:
Hence, "237" is the correct answer.

Q24. Answer: (d) 284

Given : 214 - 65 × 5 ÷ 7 + 21 = ?
According to the question, after replacing the signs :
• '+' and '-' are interchanged
• '×' and '÷' are interchanged
So,
214 + 65 ÷ 5 × 7 - 21 = ?
214 + 13 × 7 - 21 = ?
214 + 91 - 21 = ?
305 - 21 = ?
284 = ?
Hence, "284" is the correct answer.

Q25. Answer: (d) 57 - 67

Logic : (1st number + 17) = 2nd number
So,
• Option - (1) : 72 - 89
72 + 17 = 89
89 = 89 (LHS = RHS)
• Option - (2) : 19 - 36
19 + 17 = 36
36 = 36 (LHS = RHS)
• Option - (3) : 24 - 41

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24 + 17 = 41

41 = 41 (LHS = RHS)

• Option - (4) : 57 - 67

57 + 17 = 67

74 ≠ 67 (LHS ≠ RHS)

Hence, "Option - (4)" is the correct answer.

Q26. Answer: (b) Meiosis

The correct answer is Meiosis.

Key Points

• Meiosis:-

• It is known as reduction division because it reduces the number of chromosomes in a cell by half, resulting in four haploid daughter cells.

• This process is essential for sexual reproduction as it allows for the formation of gametes with half the number of chromosomes as the parent cell, which then combine during fertilization to form a zygote with a full set of chromosomes.

Additional Information

• Telophase:-

• It is a stage in both mitosis and meiosis where the nuclear membrane reforms around the separated chromosomes, but it is not known as reduction division.

• Prophase:-

• It is the stage in both mitosis and meiosis where the chromatin condenses into visible chromosomes, but it is not known as reduction division.

• Mitosis:-

• It is a type of cell division where a single cell divides into two identical daughter cells, each with the same number of chromosomes as the parent cell.

• It does not involve a reduction in chromosome number and is not known as reduction division.

Q27. Answer: (c) Mirabai Chanu

The correct answer is Mirabai Chanu.

Key Points

• Mirabai Chanu:-

• She won the BBC Indian Sportswoman of the Year award in 2022 for her outstanding performance in weightlifting.

• She won a silver medal in the 49 kg category at the 2021 Tokyo Olympics, becoming the first Indian weightlifter to win a medal at the Olympics in over two decades.

Additional Information

• Kunjarani Devi:-

• She is a former Indian weightlifter who has won several international medals, including the World Weightlifting Championships and the Commonwealth Games.

• She retired from competitive weightlifting in 2012.

• Karnam Malleswari:-

• She is a former Indian weightlifter who won a bronze medal at the 2000 Sydney Olympics, becoming the first Indian woman to win an Olympic medal in any sport.

Q28. Answer: (b) Milam Glacier

The correct answer is Milam Glacier.

Key Points

• Milam Glacier:-

• It is located in the Pithoragarh district of Uttarakhand.

• The Gori Ganga river originates from the Milam Glacier and flows through the Milam Valley before joining the Kali River in Nepal.

Additional Information

• Tipra Glacier:-

• It is located in Sikkim and is the source of the Teesta River, which flows through Sikkim and West Bengal.

• Namik Glacier:-

• It is also located in Uttarakhand and is the source of the Namik River, which flows into the Dhauli Ganga River.

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• Kafni Glacier:-

• It is located in the Bageshwar district of Uttarakhand and is the source of the Kafni River, which is a tributary of the Pindar River.

Q29. Answer: (b) To promote equal justice and to provide free legal aid

The correct answer is To promote equal justice and to provide free legal aid.

Key Points

• Article 39 A:-

• It mentions the provision for promoting equal justice and providing free legal aid.

• This provision aims to ensure that justice is not denied to anyone due to lack of financial resources or access to legal representation.

• The provision of free legal aid is especially important for marginalized sections of the society who may not have the means to hire lawyers or access the justice system.

• This provision also helps in reducing the burden on the judiciary by resolving disputes before they escalate into full-fledged legal battles.

Q30. Answer: (b) Tamil Nadu

The correct answer is Tamil Nadu.

Key Points

• Pongal:-

• It is a harvest festival celebrated in the southern Indian state of Tamil Nadu.

• The festival is dedicated to the Sun God and is celebrated as a thanksgiving for a bountiful harvest.

• Pongal is a four-day festival and is celebrated in the month of Thai (January-February).

• The festival is marked by the preparation of sweet rice dish called Pongal, which is cooked with jaggery, milk, and cardamom.

• The festival is also associated with the worship of cows and bulls, who are believed to be symbols of wealth and prosperity.

Additional Information

• West Bengal- This state celebrates a similar harvest festival known as Makar Sankranti, which is celebrated in mid-January.

• Bihar - This state celebrates a harvest festival known as Chhath Puja, which is dedicated to the Sun God and is celebrated in the month of Kartik (October-November).

• Odisha - This state celebrates a harvest festival known as Puri Jagannath Rath Yatra, which is dedicated to Lord Jagannath and is celebrated in the month of Ashadha (June-July).

Q31. Answer: (d) Kerala

The correct answer is Kerala.

Key Points

• Kerala:-

• It has the highest sex ratio in India, with 1084 females per 1000 males, according to the 2011 Census.

• This means that there are more women than men in Kerala, which is a positive indicator of gender equality.

• Kerala's high sex ratio can be attributed to its high literacy rate, social development, and efforts towards gender equality.

Additional Information

• Sex ratio:-

• It is an important demographic indicator that reflects the balance between males and females in a population. A higher sex ratio indicates that there are more females than males, while a lower sex ratio indicates the opposite.

• Mizoram, Nagaland, and Manipur are also states with high sex ratios, but they are lower than Kerala's. Mizoram has a sex ratio of 976, Nagaland has 931, and Manipur has 987.

Q32. Answer: (a) Article 16

The correct answer is Article 16.

Key Points

• Article 16:- Equality of opportunity in matters of public employment.

• This article guarantees equality of opportunity for all citizens in matters of public employment.

• No citizen can be discriminated against on the grounds of religion, race, caste, sex, descent, place of birth, residence, or any of them.

• However, the state can make special provisions for the backward classes, under-represented states, Scheduled Castes, and Scheduled Tribes for posts under the state.

• Local candidates may also be given preference in certain posts. Reservation of posts for people of a certain religion or

denomination in a religious or denominational institution is not illegal.

Additional Information

• Article 17: Abolition of Untouchability

• This article prohibits the practice of untouchability and makes it an offense punishable by law. Untouchability is considered a social stigma and a form of discrimination against people based on their caste.

• Article 18: Abolition of titles: No title, not being a military or academic distinction, shall be conferred by the State.

• Article 18 of the Indian Constitution prohibits the conferment and acceptance of titles by the State and its citizens, except in the cases of military or academic distinctions.

• It bars Indian citizens from accepting titles from foreign states.

• Article 19: Protection of certain rights regarding freedom of speech, etc.

• This article guarantees certain fundamental rights to all citizens, including the right to freedom of speech and expression, assembly, association, movement, and residence. However, these rights are subject to reasonable restrictions in the interests of the general public.

Q33. Answer: (b) Raja Ram Mohan Roy

The correct answer is Raja Ram Mohan Roy.

Key Points

• Raja Ram Mohan Roy:-

• He is credited with setting up of Brahmo Sabha in 1828, which later became known as Brahma Samaj.

• He was a social reformer who advocated for the abolition of practices such as Sati and child marriage.

• Roy's efforts towards religious and social reform paved the way for the Indian Renaissance.

• Brahma Samaj:-

• It was founded as a monotheistic Hindu reform movement that emphasized the worship of one God and the rejection of idol worship.

Additional Information

• Rabindranath Tagore:-

• He was a poet, writer, and philosopher who was associated with the Indian independence movement.

• While he was a follower of the Brahma Samaj and was influenced by Raja Ram Mohan Roy's ideas, he was not involved in setting up the movement.

• Keshub Chandra Sen:-

• Keshub Chandra Sen was a disciple of Raja Ram Mohan Roy and played a significant role in the development of the Brahma Samaj.

• He later broke away from the Brahma Samaj and founded his own movement, the Brahmo Samaj of India.

• Devendra Nath Tagore:-

• Devendra Nath Tagore was a follower of Raja Ram Mohan Roy and played an important role in the development of the Brahma Samaj.

• He was the father of Rabindranath Tagore and was a prominent figure in the Bengal Renaissance.

Q34. Answer: (b) Jean Baptiste Joseph Fourier

The correct answer is Jean Baptiste Joseph Fourier.

Key Points

• Jean Baptiste Joseph Fourier:-

• The physicist known for discovering that any periodic wave can be represented as an infinite number of weighted sinusoids is Jean Baptiste Joseph Fourier.

• This discovery is known as the Fourier series or Fourier transform.

• Fourier's work has had a significant impact on fields such as mathematics, physics, and engineering.

• The Fourier series is used in signal processing to analyze and manipulate signals, such as those in audio and video processing.

Additional Information

• Louis de Broglie:-

• He was a physicist known for his work on the wave-particle duality of matter.

• Joseph-Louis Lagrange:-

• He was a mathematician and physicist known for his contributions to mechanics and the calculus of variations.

• Ernest Walton:-

• He was a physicist known for his work on the splitting of the atom and the development of the first particle accelerator.

Q35. Answer: (c) Kepler's Third Law

The correct answer is Kepler's Third Law.

Key Points

• Kepler's Third Law:-

• It is also known as the Law of Harmonies, which states that the square of the orbital period of a planet is directly proportional to the cube of the semi-major axis of its orbit.

• This law compares the orbital periods and radii of planets with each other and with the Sun.

Additional Information

• Hubble's Law:-

• It is used to determine the rate of expansion of the universe.

• Copernicus's Law:-

• It Law states that the planets revolve around the Sun, and not the Earth.

• Bragg's Law:-

• It is used to determine the angles at which X-rays diffract from a crystal lattice.

Q36. Answer: (a) Sangeet Natak Akademi

The correct answer is Sangeet Natak Akademi

Key Points

• Nirmala Paniker:-

• Nirmala Paniker is a renowned Mohiniyattam dancer, choreographer, and teacher, who has been promoting and popularizing this art form for several decades.

• She was honoured with the Sangeet Natak Akademi award in the year 2019 for her contribution to Mohiniyattam, a classical dance form of Kerala.

Additional Information

• Padma Bhushan:-

• It is the third-highest civilian award in India, while Padma Vibhushan is the second-highest civilian award.

• Padma Shri:-

• It is the fourth-highest civilian award.

Q37. Answer: (c) Zaid

The correct answer is Zaid.

Key Points

• Zaid:-

• It is a short-duration cropping season that falls between the Rabi and Kharif seasons.

• It is typically practiced in regions with mild winters and hot summers, such as in the northern plains of India.

• Crops that are typically grown during the Zaid season include watermelon, cucumber, muskmelon, and vegetables like okra, pumpkin, and bitter gourd.

• The Zaid season is important as it allows farmers to utilize their land more efficiently and increase their overall productivity by growing crops during the off-season.

Additional Information

• Aman:-

• It is a monsoon season crop that is sown in May-June and harvested in November-December.

• Boro:-

• It is a winter season crop that is sown in November-December and harvested in April-May.

• Aus:-

• It is a summer season crop that is sown in May-June and harvested in September-October.

Q38. Answer: (c) Bhimsen Joshi

The correct answer is Bhimsen Joshi.

Key Points

• Bhimsen Joshi:-

• He was a renowned classical vocalist from India.

• Ghazal:-

• It is a form of poetry that originated in Arabic and Persian literature.

• It is characterized by its lyrical and romantic themes.

Additional Information

• Begum Akhtar:-

• She is also known as Akhtari Bai Faizabadi, was born in 1914 in Faizabad, India.

• She was one of the most popular Ghazal singers of the 20th century, and was known for her unique style and voice.

• Chitra Singh:-

• She is a Ghazal singer from India, who gained fame in the 1970s and 80s for her duets with her husband Jagjit Singh.

• They were known as the "King and Queen of Ghazals".

• Jagjit Singh:-

• She was born in 1941 in Rajasthan, India.

• He was a pioneer of the modern Ghazal movement in India, and his music blended traditional Indian classical music with Western instruments and arrangements.

• He passed away in 2011, leaving behind a rich legacy of Ghazal music.

Q39. Answer: (d) 30th June 2023

The correct answer is 30th June 2023.

Key Points

• Central Board of Direct Taxes:-

• It had previously set the deadline for linking PAN and Aadhaar as 31st March 2023.

• However, due to the ongoing COVID-19 pandemic and requests from taxpayers, the deadline has been extended to 30th June 2023.

• PAN is a unique 10-digit alphanumeric number issued by the Income Tax Department to taxpayers in India. Aadhaar, on the other hand, is a 12-digit unique identification number issued by the Unique Identification Authority of India (UIDAI).

• Linking PAN and Aadhaar is mandatory for taxpayers in India and failure to do so can result in penalties and even invalidation of the PAN card.

Q40. Answer: (d) 1906

The correct answer is 1906.

Key Points

• Muslim League:-

• It was founded in the year 1906.

• The main objective of the Muslim League was to safeguard the political rights and interests of Muslims in India.

• The founder of the Muslim League was Nawab Salimullah Khan, who was a prominent Muslim leader from Bengal.

• The Muslim League played a significant role in the Indian independence movement and was instrumental in the creation of Pakistan in 1947.

Q41. Answer: (d) Assam

The correct answer is Assam.

Key Points

• Assam:-

• According to the Ministry of Petroleum and Natural Gas, Government of India (2021-2022), Assam is the largest producer of natural gas in India. Here are some bullet points to explain the answer:

• Assam accounts for about 53% of India's total natural gas production.

• The state has several natural gas fields, including the Digboi, Naharkatiya, and Rudrasagar fields.

• The production of natural gas in Assam has been increasing steadily over the years. In 2019-20, the state produced over 5,000 million cubic meters of natural gas.

• The natural gas produced in Assam is used for various purposes, including power generation, industrial use, and domestic use.

Additional Information

• Andhra Pradesh:-

• Andhra Pradesh is not a significant producer of natural gas.

• The state has some natural gas reserves, but they are not yet fully developed.

• Maharashtra:

• Maharashtra is the second-largest producer of natural gas in India.

• The state has several natural gas fields, including the Mumbai High field, which is one of the largest offshore fields in the world.

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• Tamil Nadu:
• Tamil Nadu is not a significant producer of natural gas.
• The state has some natural gas reserves, but they are not yet fully developed.

Q42. Answer: (d) A and C

The correct answer is A and C.

Key Points

• Income method:-
• It is one of the methods used to calculate national income.
• It involves adding up all the incomes earned by individuals and businesses in the economy.
• Lottery income:-
• It is considered a windfall gain and is not a regular source of income.
• It is not a productive activity and does not contribute to the production of goods and services in the economy.
• Therefore, income from lottery is not included while calculating national income using the income method.
• Brokerage on sale and purchase of shares:-
• Brokerage income is earned by individuals or firms that facilitate the buying and selling of shares in the stock market.
• This income is a result of productive activity and is included while calculating national income using the income method.
• Income from illegal activities like gambling:-
• Income earned from illegal activities like gambling is not included in the calculation of national income.
• Such activities are not recognized by the government and are not considered productive activities that contribute to the economy

Q43. Answer: (d) Tushar Deshpande

The correct answer is Tushar Deshpande.

Key Points

• "Impact player":-
• It refers to a player who has a significant impact on the game and contributes significantly to the team's success.
• Under the new IPL rule in 2023, Tushar Deshpande became the first Impact player in the history of the tournament.

Additional Information

• MS Dhoni:-
• He is the former captain of Chennai Super Kings.
• He is a highly regarded player and has been an important part of the team's success in the past.
• Deepak Chahar:-
• He is another valuable player for Chennai Super Kings and has played a crucial role in the team's victories.
• Akash Singh:-
• He is a young fast bowler who has played for Rajasthan Royals in the IPL.

Q44. Answer: (c) Milan-Cortina d'Ampezzo

The correct answer is Milan-Cortina d'Ampezzo.

Key Points

• Milan-Cortina d'Ampezzo:-
• It won the bid to host the 2026 winter Olympics after defeating the only other contender, Stockholm-Are, in a vote by IOC members.
• Milan-Cortina d'Ampezzo is a joint bid by the Italian cities of Milan and Cortina d'Ampezzo, and it will be the first time that Italy will host the winter Olympics since Turin in 2006.

Additional Information

• Beijing:-
• It hosted the 2008 summer Olympics, was the host city for the 2022 winter Olympics, making it the first city to host both the summer and winter Olympics.
• Boston:-
• It was one of the initial contenders to host the 2024 summer Olympics, withdrew its bid in 2015 due to financial concerns.

Q45. Answer: (a) Taxes

The correct answer is Taxes.

Key Points

• Fiscal policy:-

• It refers to the government's use of taxation and spending to influence the economy.

• The use of taxes as an instrument of fiscal policy can help to either stimulate or cool down the economy, depending on the government's goals.

• Other instruments of fiscal policy include government spending, transfer payments, and subsidies.

Additional Information

• SLR:-

• It refers to the percentage of deposits that banks must maintain in the form of liquid assets such as cash, gold, or government securities.

• CRR:-

• It refers specifically to the amount of cash that banks must keep in reserve.

• Bank rate:-

• It is the interest rate at which the central bank lends to commercial banks.

Q46. Answer: (d) Gugga

The correct answer is Gugga.

Key Points

• Gugga:-

• It is a popular folk dance form that is performed exclusively by men in Haryana.

• The dance is performed to pay homage to the snake god Gugga and is usually performed during fairs and festivals.

• The dancers wear colorful costumes and carry sticks that are used to create a rhythmic beat.

• The dance is characterized by energetic movements and footwork and is a celebration of the rich culture and traditions of Haryana.

Additional Information

• Khoria:-

• is not a folk dance form from Haryana, but is actually a type of drum used in Bhangra performances.

• Gidda:-

• It is a traditional folk dance form that is performed by women in Punjab and is characterized by its lively and energetic movements.

• Ghoomar:-

• It is a traditional Rajasthani folk dance form that is performed by women and is characterized by graceful and fluid movements.

Q47. Answer: (d) Law and order

The correct answer is Law and order.

Key Points

• Economic activities:-

• The classification of economic activities is an important aspect of understanding the functioning of an economy.

• The main categories of economic activities include production, consumption, and distribution.

• Production refers to the creation of goods and services, while consumption involves the use of these goods and services by individuals and businesses.

• Distribution refers to the movement of goods and services from producers to consumers, including transportation, storage, and marketing.

• Law and order, on the other hand, is not a part of the classification of economic activities, as it pertains to the maintenance of social order and the enforcement of laws, rather than economic production and consumption.

Additional Information

• Production:

• This category includes all activities related to the creation of goods and services, such as manufacturing, agriculture, mining, and construction.

• Consumption:

• This category includes all activities related to the use of goods and services by individuals and businesses, such as household spending, business investment, and government consumption.

• Distribution:

• This category includes all activities related to the movement of goods and services from producers to consumers, such as transportation, storage, and marketing. It also includes activities related to the allocation of resources, such as pricing and market

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research.

Q48. Answer: (a) The economic wealth of a country does not necessarily depend on the possession of resources.

The correct answer is The economic wealth of a country does not necessarily depend on the possession of resources.

Key Points

• Economic wealth of a country:-

• It depends on various factors apart from natural resources such as human capital, technology, infrastructure, and political stability.

• Countries with abundant natural resources may not necessarily be the richest as they may face challenges such as corruption, conflict, and lack of diversification.

• National income:-

• It is the sum of all the income generated by individuals and businesses in a country, which includes income from natural resources but is not limited to it.

• The efficient utilization of resources in generating output and income is crucial for a country's economic growth and development.

Q49. Answer: (c) Kanauj

The correct answer is Kanauj.

Key Points

• Gahadavalas:-

• The Gahadavalas were a dynasty of Indian rulers who held power in the region of Kanauj during the medieval period.

• The Gahadavalas came to power in the 11th century CE and ruled over Kanauj for several centuries. They were known for their patronage of the arts and their support of Hinduism.

• The Gahadavalas faced numerous challenges during their rule, including invasions by Muslim rulers from the north and internal power struggles. Despite these difficulties, they were able to maintain their hold on Kanauj for several centuries.

Additional Information

• Kanauj:-

• It was an important political and cultural center in northern India during this time.

• It was located on the banks of the Ganges River and was known for its wealth and strategic location.

• Ajmer:-

• It was a city located in present-day Rajasthan that was ruled by various dynasties throughout history.

• Malwa:-

• It was a region in central India that was ruled by the Paramara dynasty during the medieval period.

• Patan:-

• It was a city in present-day Gujarat that was ruled by the Solanki dynasty during the medieval period.

Q50. Answer: (a) Large industrial houses availed licenses to prevent competition

The correct answer is Large industrial houses availed licenses to prevent competition.

Key Points

• The industrial licensing system in India had several fallout, including:

• Large industrial houses availed licenses to prevent competition: The licensing system was often manipulated by big business houses to prevent new players from entering the market, thereby limiting competition.

• Most licenses were used up by backward states: The licensing system favored the established industrial centers, and backward states had a tough time getting licenses.

• Most licenses were for importing goods: The licensing system was designed to promote domestic manufacturing, and imports were discouraged.

• Many small private firms appropriated licenses: The licensing system was biased towards large industrial houses, and small private firms had a tough time getting licenses.

Additional Information

• Industrial licensing system:

• The industrial licensing system was introduced in India in 1948 to regulate the growth and development of industries in the country.

• Under this system, the government issued licenses to companies to set up new industries, expand existing ones, or import technology and machinery.

• The licensing system was aimed at achieving a balanced regional development of industries, promoting self-sufficiency, and preventing concentration of economic power in a few hands.

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• However, the licensing system was often criticized for being bureaucratic, corrupt, and favoring established players over new entrants.

• The system was gradually dismantled in the 1990s as part of economic liberalization and reforms.

Q51. Answer: (b) 240

Given:

Marked price = 450,

Discount = 20 %

S.P = 1.5 C.P

Formula used

S.P = (100 - Discount)/100 × M.P

Solution:

Selling price = 450 × (100 - 20) / 100

=> 450 × 80 / 100

=> 360

According to the question,

Selling price = (3/2) × Cost price.

=> 360 = (3/2) × Cost price.

Cost price = (360× 2) / 3

=> 240

Thus, the Cost price of the article is Rs. 240

Q52. Answer: (c) 108

Given:

Radius of cone (r) = 12 cm

Height of cone (h) = 24 cm

Radius of sphere (R) = 2 cm

Concept:

Spheres are to be made from the metallic cone. Hence, the volume of all the spheres made would be equal to the volume of the metallic cone.

Formula:

Volume of cone = 1/3 × π × r2 × h, where

r = radius of cone

h = height of cone

Volume of sphere = 4/3 × π × R3, where

R = Radius of the sphere

Calculation:

Volume of sphere = 4/3 × π × 2 × 2 × 2 = 32π/3 cm3

Let the total number of spheres cast be "n".

Volume of metallic cone = 1/3 × π × 12 × 12 × 24 = 144 × 8π cm3

According to the question,

Volume of cone = Volume of one sphere × Total number of spheres cast

=> 144 × 8π cm3 = 32π/3 cm3 × n

=> n = 36 × 3 = 108

Therefore The total number of spheres cast will be 108.

Q53. Answer: (d) 11/36

Given

Sin θ = 5/6

Concept used

cot θ = cosθ / sinθ

cos θ = B/H

P2 + B2 = H2

Calculation

Cot θ ? Sin θ ? Cos θ = cosθ / sinθ × Sin θ × Cos θ

Cot θ ? Sin θ ? Cos θ = $\cos^2\theta$

Sin θ = 5/6

52 + B2 = 62

B2 = 36 - 25 = 11

cos2θ = B2/H2

cos2θ = 11/36

Therefore The answer is 11/36.

Q54. Answer: (b) 44%

Given:

Discount = 25 %

Discount = 40 %

Profit = 80%

Formula used

S.P = (100 - Discount)/100 × M.P

Calculation

Let the Cost price of the table be 100a

Since he gains a profit of 80%, the selling price = a + (80/100) x a = 180a

Let the Marked price of the table be b

=> b – (25/100) x b = 180a

=> b = 240a

Now, if he sells the table at 40% discount

New selling price will be = 240a – (240a) x (40/100)

New selling price = 144a

Therefore New profit percent = [(144a – 100a)/100a] x 100 = 44%

The answer is 44%

Q55. Answer: (b) Rs. 37,500

Calculation

The royalty is Rs. 22,500.

15% → 22500

25% → 22500/15 × 25

25% → 37500

The answer is 37500.

Q56. Answer: (d) 300

Given:

Replaced wine = 75 litres

Number of replacements = 2

The ratio of the wine left in the cask after replacement = 3 : 2

Formula used

Final = Initial$(1 - x/c)^n$

x = quantity withdrawn

c = quantity withdrawn from

n = No. of times

Calculation:

Since the quantity withdrawn is replaced by an equal amount of water, the final quantity remains the same.

Let the original quantity = 3x + 2x = 5x

3/5 = (1 - 75/5x)(1 - 60/5x)

Using the options:

If we use x = 300

3/5 = (1 - 75/300)(1 - 60/300)

3/5 = 3/5

Hence the cask initially holds 300 L of wine.

Q57. Answer: (d) 2(1 + sec A)

Shortcut Trick

Apply the Substitution Method by assuming a standard angle for A.

Let A = 0°, then sin 0° = 0 and cos 0° = 1.

Expression = (1 / (1 + 0)) + ((1 + 0) / 1) + 2 = 1 + 1 + 2 = 4.

Now, check the options for A = 0° where sec 0° = 1:

Option (4): 2(1 + sec 0°) = 2(1 + 1) = 4.

Therefore The correct answer is 2(1 + sec A).

Alternate Method

Given: (cos A) / (1 + sin A) + (1 + sin A) / (cos A) + 2

Formula Used: $\sin^2 A + \cos^2 A = 1$ and sec A = 1 / cos A

Step 1: Simplify the fractional part of the expression by taking the LCM.

=> $[\cos^2 A + (1 + \sin A)^2] / [\cos A(1 + \sin A)] + 2$

=> $[\cos^2 A + (1 + 2 \sin A + \sin^2 A)] / [\cos A(1 + \sin A)] + 2$

=> $[(\sin^2 A + \cos^2 A) + 1 + 2 \sin A] / [\cos A(1 + \sin A)] + 2$

Step 2: Using the Pythagorean Identity ($\sin^2 A + \cos^2 A = 1$):

=> [1 + 1 + 2 sin A] / [cos A(1 + sin A)] + 2

=> [2 + 2 sin A] / [cos A(1 + sin A)] + 2

=> 2(1 + sin A) / [cos A(1 + sin A)] + 2

Step 3: Cancel the common factor (1 + sin A) and convert to secant.

=> 2 / cos A + 2

=> 2 sec A + 2

=> 2(1 + sec A)

Therefore The correct answer is 2(1 + sec A).

Additional Information

Fundamental Trigonometric Identities

Basic relations used for simplification include $\sin^2 A + \cos^2 A = 1$, $1 + \tan^2 A = \sec^2 A$, and $1 + \cot^2 A = \text{cosec}^2 A$.

Reciprocal Functions

The secant function is the reciprocal of cosine (sec A = 1/cos A), while cosecant is the reciprocal of sine (cosec A = 1/sin A).

Angle Substitution Strategy

For trigonometric expressions, substituting A = 0°, 45°, or 90° (where defined) can help eliminate options quickly without complex algebra.

Q58. Answer: (d) 65

Given:

When two different number is divided by the same divisor the remainder are 57 and 57 respectively. And when the sum of these two numbers is divided by the same divisor the remainder is 49.

Concept Used:

Dividend = Divisor × Quotient + Remainder

Calculation:

Let the divisor be ‘d’ and the quotient be q1 for the dividend x, q2 for the dividend y and q3 for the dividend (x + y)

Therefore By the given condition,

x = q1 × d + 57

y = q2 × d + 57

And (x + y) = q3 × d + 49

Since q1, q2, q3 are whole numbers and in all cases, the remainder are 57, 57 and 49 then it is obvious that the divisor d > 57

Therefore (x – 57), (y – 57) and (x + y – 49) all will completely divisible by d ….(1)

Therefore {(x – 57 + (y – 57)} is also completely divisible by d

=> (x + y – 114) is also completely divisible by d ….(2)

Now, from (1) and (2) we can write {(x + y – 49) – (x + y – 114)} = 65, must be divisible by ‘d’ or ‘d’ be a factor of 65
Now, factors of 65 are 1, 5, 13 and 65
Since d > 57, the value of ‘d’ must be 65
Therefore The required divisor is 65
Divisor = 1st remainder + 2nd remainder – 3rd remainder
Here 1st remainder = 57
2nd remainder = 57
3rd remainder = 49
Therefore Required divisor = 57 + 57 – 49
=> 65

Q59. Answer: (d) Rs. 1,125

Given
Mahima purchased a Saree for Rs. 792 after successive discounts of 20% and 12%.
Formula used
S.P = (100 - discount)/100 × M.P
Calculation
Let the marked price (M.P.) of the article be a
Price after first discount = a – (20/100)a = 0.8a
Price after second discount = 0.8a – (12/100)0.8a = 0.704a
since, the selling price = 0.704a = Rs. 792
=> a = 792/0.704 = Rs.1125
The answer is 1125.

Q60. Answer: (c) 50% increase

Given:
If the curved surface area of a cylinder is increased by 20%, and height is decreased by 4%,
Concept used:
The volume of a cylinder = $\pi r^2 h$
Calculation:
Since curved surface area of a cylinder includes both radiues and height, we can use the successive change formula:
20% = x% - 4% - (x × 4)/100
24% = 24/25x
x = 25%
Radius is increased by 25%.
Let the initial volume be 400v.
Percentage increase in volume = 400v × 5/4 × 5/4 × 24/25
Increase in volume = 600v - 400v = 200v
Percentage decrease in volume = (200v/400v) × 100 = 50%
Therefore The increase in the volume of the cylinder is 50%

Q61. Answer: (c) Company B, by 25%

Concept used
Profit% = (Income - Expenditure)/Expenditure × 100
Calculation
Clearly, we can figure out from the bar graph that only company B is in the profit.
=> (50 - 40)/40 × 100
=> 10/40 × 100
=> 25%.
The maximum percentage profit is earned by Company B by 25%.

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Q62. Answer: (c) 352

Given

In a linear race of 1000 m, Prakash beats Ved by 280 m, while Ved beats Rahul by 100 m.

Calculation:

Prakash beats Ved by 280 m

Prakash : Ved = 1000 : (1000 - 280) = 1000 : 720 = 25 : 18 -----(i)

Ved beats Rahul by 100 m

Ved : Rahul = 1000 : (1000 - 100) = 1000 : 900 = 10 : 9 ----- (ii)

From 5 × (i) and 9 × (ii)

A : B = 125 : 90

B : C = 90 : 81

Now, Prakash : Ved : Rahul = 125 : 90 : 81

Prakash : Rahul = 125 : 81

When Prakash covers 125 m then Rahul covers = 81 m

Prakash covers 1000 then Rahul covers = 81 × 8 = 648

Prakash will beat Rahul in a race of 1000 m = 1000 - 648 = 352 m

The answer is 352m.

Q63. Answer: (d) 70

Given

angle LON = 90° and angle LMN = 90°

LN = 29 cm and ON = 20 cm

LN is the bisector of angle OLM.

Concept used

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

Congruence of triangles: Two triangles are said to be congruent if all three corresponding sides are equal and all three corresponding angles are equal in measure.

Calculation

In the given figure,

ΔLON and ΔLMN are congruent to each other as angle LON = angle LMN = 90°, LN = LN (common side), and angle OLN = angle NLM (angle bisector).

Hence, by SAA, ΔLON and ΔLMN are congruent.

$LO^2 = 29^2 - 20^2$

=> LO2 = 841 - 400

=> LO2 = 441

=> LO = 21 = LM

The perimeter of ΔLMN = 29 + 21 + 20 = 70

The perimeter of ΔLMN is 70cm.

Q64. Answer: (c) 56

Shortcut Trick

If x4 + 1/x4 = k, then x2 + 1/x2 = √(k + 2) and x + 1/x = √(√(k + 2) + 2)

=> x + 1/x = √(√(194 + 2) + 2) = √(14 + 2) = √16 = 4

=> x3 + 1/x3 = 43 − 3 × 4 = 52

=> Required expression = (x3 + 1/x3) + (x + 1/x) = 52 + 4 = 56

Therefore The correct answer is 56.

Alternate Method

Given:

x4 + 1/x4 = 194, where x > 0

Formula Used:

(a + b)2 = a2 + b2 + 2ab

a3 + b3 = (a + b)3 − 3ab(a + b)

Calculations:

=> x4 + 1/x4 = 194

=> x4 + 1/x4 + 2 = 194 + 2

=> (x2 + 1/x2)2 = 196

=> x2 + 1/x2 = 14 (since x > 0)

=> x2 + 1/x2 + 2 = 14 + 2

=> (x + 1/x)2 = 16

=> x + 1/x = 4

=> x3 + 1/x3 = (x + 1/x)3 − 3(x + 1/x)

=> x3 + 1/x3 = 43 − 3 × 4

=> x3 + 1/x3 = 64 − 12 = 52

=> x3 + 1/x3 + x + 1/x = 52 + 4 = 56

Therefore The correct answer is 56.

Additional Information

Algebraic Shortcuts for Squares

If x + 1/x = a, then x2 + 1/x2 = a2 − 2. Also, if x − 1/x = a, then x2 + 1/x2 = a2 + 2.

Algebraic Shortcuts for Cubes

If x + 1/x = a, then x3 + 1/x3 = a3 − 3a. Similarly, if x − 1/x = a, then x3 − 1/x3 = a3 + 3a.

Higher Powers Extraction

To find x5 + 1/x5, calculate the product of (x2 + 1/x2) and (x3 + 1/x3), and then subtract the value of (x + 1/x) from the result.

Q65. Answer: (a) Rs. 1,800

Given:

Profit earned by selling at Rs. 1600 is same as the loss incurred by selling the article for Rs. 1400

Formula:

Profit = SP – CP

Loss = CP – SP

Calculation:

Let the cost price of the article be Rs. x, then

1600 – x = x – 1400

=> x + x = 1600 + 1400

=> 2x = 3000

=> x = 1500

The cost price of the article is Rs.1500.

Therefore The selling price of the article if it is sold at 20% profit = 1500 × (120/100) = Rs. 1800

The answer is 1800.

Q66. Answer: (c) 20%

Shortcut Trick

The difference between Compound Interest (CI) and Simple Interest (SI) for 2 years is the interest earned on the first year's interest.

SI for 1 year = 500 ÷ 2 = Rs. 250.

Difference (CI − SI) = 550 − 500 = Rs. 50.

Rate of Interest (R) = (Difference ÷ SI for 1st year) × 100 = (50 ÷ 250) × 100 = 20%.

Therefore The correct answer is 20%.

Alternate Method

Given: Simple Interest (SI) = Rs. 500, Compound Interest (CI) = Rs. 550, Time (T) = 2 years.

Formula Used: For 2 years, CI ÷ SI = (200 + R) ÷ 200

=> 550 ÷ 500 = (200 + R) ÷ 200

=> 11 ÷ 10 = (200 + R) ÷ 200

=> 1.1 = (200 + R) ÷ 200

=> 1.1 × 200 = 200 + R

=> 220 = 200 + R

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=> R = 220 − 200

=> R = 20%

Therefore The correct answer is 20%.

Additional Information

Difference between CI and SI for 2 years

The formula for the difference (D) between Compound Interest and Simple Interest for 2 years is $D = P \times (R \div 100)^2$.

Difference between CI and SI for 3 years

The formula for the difference (D) for 3 years is $D = P \times (R \div 100)^2 \times (3 + R \div 100)$.

Relation between CI and SI

For the first year (at annual compounding), Simple Interest and Compound Interest are always equal on the same Principal and Rate.

Q67. Answer: (c) 36

Given:

r = 25 cm

R = 29 cm

Length of Common Chord = 40 cm

Calculation:

$CE^2 = AC^2 – AE^2$

=> $CE^2 = 25^2 – 20^2$

=> $CE^2 = 625 – 400$

=> $CE^2 = 225$

=> $CE = \sqrt{225}$

=> CE = 15 cm

$ED^2 = AD^2 – AE^2$

=> $ED^2 = 29^2 – 20^2$

=> $ED^2 = 841 – 400$

=> $ED^2 = 441$

=> $ED = \sqrt{441}$

=> ED = 21 cm

Therefore The distance between the centres of circles i.e CD = (15 + 21) = 36 cm

The distance between the centres of circles is 36 cm.

Q68. Answer: (a) 120

Given:

An average of 42 innings = 30

Difference between max and min score = 100

Average of 40 innings excluding the innings with max runs and minimum runs = 28

Formula used

Average = Sum of all values/total no. of values

Calculation:

Total runs in 42 innings = 42 × 30 = 1260

Total runs in 40 innings = 40 × 28 = 1120

Therefore Total runs in two innings with max and min runs = 1260 – 1120 = 140

Now, let the maximum score be x

Minimum score = x -100

=> x + (x – 100) = 140

Therefore x = 120

=> Maximum score = 120

The answer is 120.

Q69. Answer: (a) 20

Given:

There is a provision of food for 500 cadets for 25 days

125 more persons joined the army camp.

Calculation:

Let the food be enough for x days for 50 more boys.

=> 500 × 25 = 625 × x

=> 12500 = 625x

=> x = 20

Therefore The provision lasts for 20 days.

Q70. Answer: (c) 80°

Given

angle A = 5x - 60°, angle B = 2x + 40°, angle C = 3x - 80°

Concept used

The sum of all interior angles of a triangle is 180°

Calculation

According to the concept,

=> angle A + angle B + angle C = 180

=> 5x - 60° + 2x + 40° + 3x - 80° = 180°

=> 10x - 100° = 180°

=> 10x = 280

=> x = 28°

angle A = 5x - 60° → 5 × 28 - 60

= 140 - 60 = 80°

The answer is 80°.

Q71. Answer: (d) (8 √3)/19

Given

sin θ = 13/19

Concept used

sin θ = P/H

cos θ = B/H

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

Calculation

132 + B2 = 192

$B^2 = 361 - 169$

B2 = 192

B = 8√3

cos θ = B/H = 8√3/19

The answer is 8√3/19.

Q72. Answer: (a) 3.2 cm

Given:

Radius (R) = 20 cm

radius (r) = r cm

Formula Used:

Length of common tangent = 2√(R × r)

R & r are radii

Calculation:

Solution:

Length of common tangent = 2√(20 cm × r cm)

16 = 2√(20r cm^2)

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8 = √(20r

On squaring both the sides:

r = 64/20 cm

= 3.2 cm.

Therefore, the length of the radius of the other circle is 3.2 cm.

Q73. Answer: (a) 23

Given

a + b + c = 5 and a2 + b2 + c2 = 15

Formula used

a2 + b2 + c2 + 2(ab + bc + ca) = (a + b + c)²

a3 + b3 + c3 – 3abc = (a + b + c)(a2 + b2 + c2 – ab – bc – ca)

Calculation

We have,

(a + b + c)² = 5²

a² + b² + c² + 2(ab + bc + ca) = 25

15 + 2(ab + bc + ca) = 25

2(ab + bc + ca) = 10

(ab + bc + ca) = 5

Now,

a³ + b³ + c³ – 3abc = (a + b + c)(a² + b² + c² – ab – bc – ca)

a³ + b³ + c³ – 3abc - 27 = (a + b + c)[a² + b² + c² –(ab + bc + ca)] - 27

a3 + b3 + c3 – 3abc - 27 = 5 × [15 – (5)] - 27

a3 + b3 + c3 – 3abc - 27 = 50 - 27

a3 + b3 + c3 – 3abc - 27 = 23

The answer is 23.

Q74. Answer: (c) Hyderabad

Calculation

The Hyderabad city recorded the maximum temperature in all five months compared with the other cities.

The answer is Hyderabad.

Q75. Answer: (c) √(831/23)

Given:

x2 + y2 = 427

xy = 202

Formula used:

(a + b)² = (a² + 2ab + b2)

(a + b)² - 4ab = (a - b)²

Calculation:

(x + y)2 = (427 + 2 × 202)

(x + y)2 = (427 + 404)

(x + y) = √831

(x - y)2 = (427 - 2 × 202)

(x - y)2 = (427 - 2 × 202)

(x - y) = √23

x+y/x-y = √831/√23

The answer is √(831/23)

Q76. Answer: (d) harsh

The solution is in Hindi. Read it online.

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Q77. Answer: (b) Although he had never travelled abroad before, Jack felt confident navigating the unfamiliar customs and la...

The correct answer is: "Although he had never travelled abroad before, Jack felt confident navigating the unfamiliar customs and language."

Key Points

• Let's break down the sentence part by part with a focus on spelling:

• Although: The spelling of "Although" is correct.

• he had never travelled abroad before: All the words in this phrase are spelled correctly. It's worth noting that "travelled" is spelt in the American English style; in British English, it is spelt "travelled."

• Jack felt confident: The names "Jack" and "confident" are spelt correctly.

• navigating the unfamiliar customs and language: All the words are spelt correctly in this phrase.

• In this sentence, all the words are spelt accurately according to standard English spelling conventions.

• The sentence follows proper grammatical structure, using appropriate punctuation and tense consistency.

Therefore, the correct answer is option 2.

Q78. Answer: (d) Compassionate

The solution is in Hindi. Read it online.

Q79. Answer: (b) The straightforward and ethically acceptable

The solution is in Hindi. Read it online.

Q80. Answer: (d) BAEDC

The correct answer is: BAEDC

Key Points

• The sentence is in the form of a statement.

• B: This phrase sets the context for the sentence. It indicates that there is a requirement or a goal that needs to be fulfilled.

• A: The next part specifies what needs to be established. In this case, it's a "match." The sentence is building on the idea that there is a need for alignment or compatibility.

• E: This word connects the two elements that need to be matched or aligned. It creates a relationship between the following elements.

• D: This part identifies one of the elements that need to be matched. In the context of the sentence, it suggests that teaching methods are one side of the match.

• C: The final part of the sentence completes the match. It indicates the other side of the equation, stating that the match needs to be established between teaching methods and student needs.

• The sentence is grammatically correct and coherent.

Therefore, the correct answer is option 4.

Q81. Answer: (c) Alimony

The solution is in Hindi. Read it online.

Q82. Answer: (b) straight from the horse's mouth

The solution is in Hindi. Read it online.

Q83. Answer: (a) certain

The solution is in Hindi. Read it online.

Q84. Answer: (c) C, A, D, B, E

The correct answer is: C, A, D, B, E

Key Points

• Let's break down the sequence:

• (C) he slept with the: This part introduces the subject of the sentence, explaining what he did.

• (A) fan on because of: This part provides the reason or cause for the action in the first part. It explains why he slept in a certain way.

• (D) the heat, and that: This connects the cause mentioned earlier (the heat) with the following action. It adds more information about the circumstances.

• (B) covered the noise: This part explains how he dealt with or responded to the situation caused by the heat.

• (E) of the baby crying: This final part adds an additional detail, specifying the noise that was being addressed.

• So, the sentence as a whole: "He slept with the fan on because of the heat, and that covered the noise of the baby crying," describes a situation where the fan was used to mask the noise of a baby crying due to the heat.

Therefore, the correct answer is option 3.

Q85. Answer: (c) Anagram

The correct answer is: Anagram.

Key Points

• Anagram is a word or phrase formed by rearranging the letters of a different word or phrase.

• The term comes from the Greek word "ana", meaning "back" or "again", and "graphein", meaning "to write".

• Anagrams are often used in word games and puzzles.

• Example: The word "listen" can be rearranged to form the anagram "silent".

Thus, option 3 is the correct answer.

Additional Information

• Anaphora: A rhetorical device where a word or phrase is repeated at the beginning of successive clauses or sentences.

• Amateur: A person who engages in a pursuit, especially a sport, on an unpaid basis.

• Accessible: Able to be reached or entered.

Q86. Answer: (b) Shoal

The solution is in Hindi. Read it online.

Q87. Answer: (b) Sita spotted golden

The correct answer is: Sita spotted golden

Key Points

• The error in the original sentence is the use of no article before "golden deer."

• This is because "golden deer" is a specific noun, meaning that it refers to a particular deer.

• Therefore, the definite article "the" should be used.

• The correct sentence should be: "Sita spotted the golden deer and requested Rama to capture it."

• Adding the article "the" before "golden deer" makes the sentence grammatically correct and enhances its clarity.

Therefore, the correct answer is option 2.

Q88. Answer: (a) and neither side were willing to

The correct answer is: "and neither side were willing to".

Key Points

• The conjunction 'neither' is always followed by a singular verb.

• For example: Neither side of the field is visible.

• Similarly, in this context, 'neither side' should be followed by the singular verb "was" instead of "were".

• The correct sentence should be "...and neither side was willing to compromise on the compensation amount to be given."

Therefore, the correct answer is option 1.

Q89. Answer: (b) They have done it.

The correct answer is: They have done it.

Key Points

• The sentence is in passive voice, which means the action is being done to the subject.

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

• In active voice, the subject performs the action, and the structure typically follows the pattern of Subject + Verb + Object.

• In contrast, the original sentence is in passive voice, where the structure is typically Object + Verb + (by + Subject).

• "They" is the subject and "done" is the action verb, so the correct active voice sentence would be "They have done it."

• The transformation from passive to active voice involves identifying the doer of the action and reordering the sentence to emphasize the subject as the one performing the action.

Therefore, the correct answer is option 2.

Q90. Answer: (c) Subduing

The solution is in Hindi. Read it online.

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Q91. Answer: (b) ABDC

The correct answer is: ABDC

Key Points

• Now, let's break down the sequence and explain why:

• A: This part introduces the topic, stating that there is a method of education under consideration.

• B: This part provides a consequence or outcome related to the method of education mentioned. It suggests that this method would have a specific result in shaping individuals.

• D: This part introduces a contrasting idea or exception. It suggests that there is a higher quality or potential in human nature that is not limited by the mentioned method.

• C: This part explains the positive aspect of human nature, emphasizing its capacity for diversity and versatility.

• So, the sentence as a whole: "One method of education would only produce one kind of man, but the great excellence of human nature consists in the variety of which it is capable," suggests a contrast between the limitations of a specific educational method and the diverse potential inherent in human nature.

Therefore, the correct answer is option 2.

Q92. Answer: (d) Lessen

The solution is in Hindi. Read it online.

Q93. Answer: (a) Nelson Mandela is known to everybody.

The correct answer is: "Nelson Mandela is known to everybody."

Key Points

• Active Voice Structure: Subject + Verb + Object

• Passive Voice Structure: Object of the Active Sentence + To Be Verb + Past Participle of the Main Verb + By + Subject of the Active Sentence

• In passive voice, the object of the active sentence becomes the subject of the passive sentence.

• The verb 'knows' is changed to 'is known' in the passive voice.

• The subject 'everybody' becomes the object in the passive voice.

• "Known to" is often used when emphasizing awareness or recognition.

• It implies that someone or something is recognized or familiar to a particular group or the public in general.

• Therefore, the sentence in passive voice is "Nelson Mandela is known to everybody."

Therefore, the correct answer is option 1.

Q94. Answer: (c) inept; inapt

The solution is in Hindi. Read it online.

Q95. Answer: (c) hazardous

The solution is in Hindi. Read it online.

Q96. Answer: (a) bacterium

The solution is in Hindi. Read it online.

Q97. Answer: (d) disease

The solution is in Hindi. Read it online.

Q98. Answer: (d) antigen

The solution is in Hindi. Read it online.

Q99. Answer: (b) immune

The solution is in Hindi. Read it online.

Q100. Answer: (c) soldiers

The solution is in Hindi. Read it online.

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