SSC CHSL Tier-1 2023: Official Paper (Held On: 02 Aug, 2023 Shift 3) (Previous Year Paper)

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

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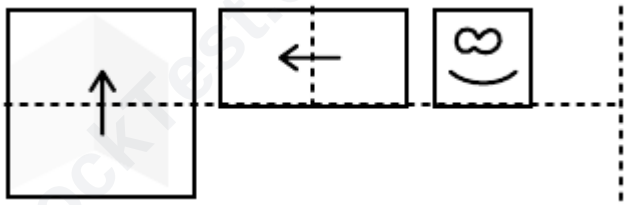
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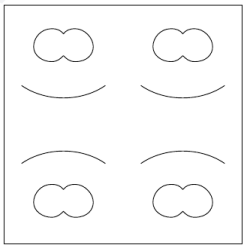
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ENGLISH LANGUAGE

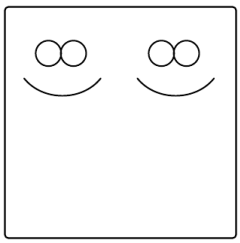
Q1. A paper is folded and cut as shown below. How will it appear when unfolded?



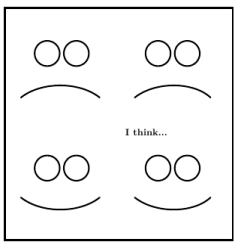
(a)



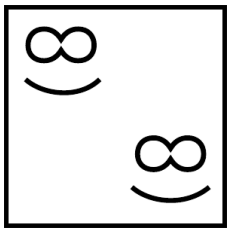
(b)



(c)



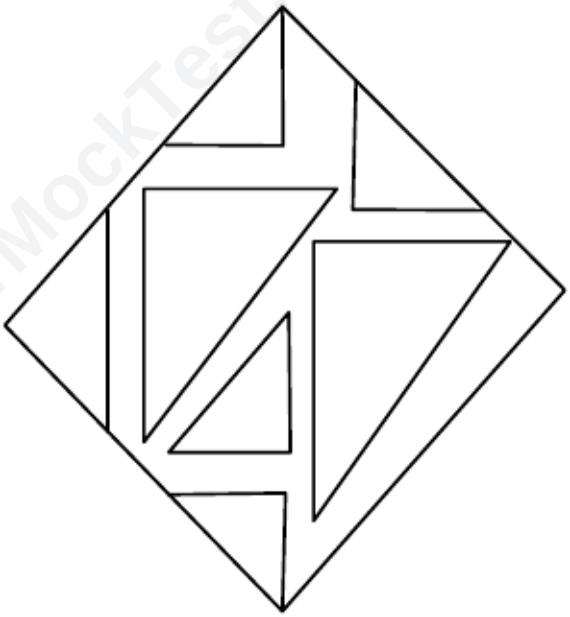
(d)



Q2. MASTER is related to OAIHWJ in a certain way based on the English alphabetical order. In the same way, ROSE is related to JMIW. To which of the following is PLEASE related, following the same logic?

(a) LPWZIW
(b) LPWAJW
(c) LQWAIW
(d) LPWAIW

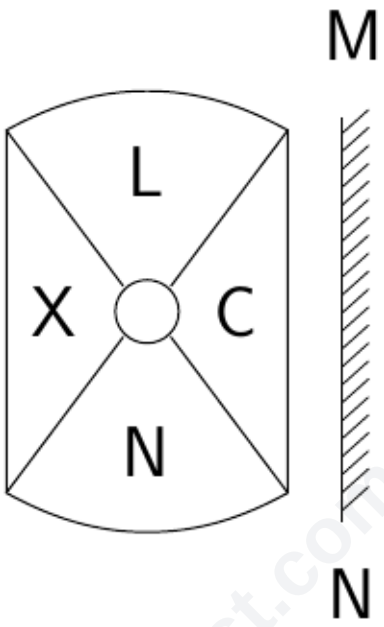
Q3. How many triangles are there in the given figure?



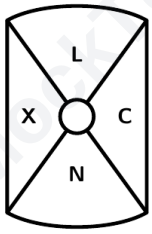
(a) 8
(b) 6
(c) 7
(d) 5

Q4. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.

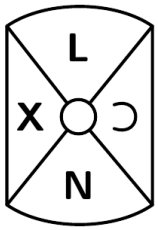
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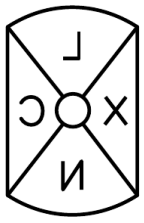
(a)



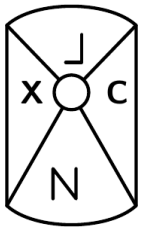
(b)



(c)



(d)



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Q5. In a certain code language, 'MOST' is coded as '3472' and 'STOW' is coded as '2634'. What is the code for 'M' in the given code language?

(a) 3
(b) 4
(c) 2
(d) 7

Q6. Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.

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

17 : 82

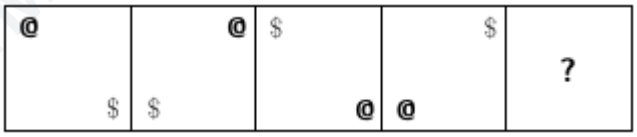
31 : 158

19 : 92

47 : 232

(a) 31 : 158
(b) 47 : 232
(c) 17 : 82
(d) 19 : 92

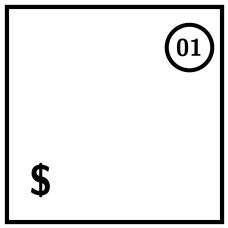
Q7. Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series.



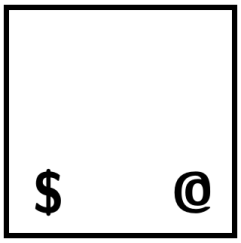
(a)



(b)

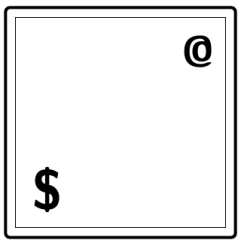


(c)



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(d)



Q8. If it was Friday on 8 March 1996, then what will be the day of the week on 7 April 2006?

(a) Saturday
(b) Wednesday
(c) Thursday
(d) Friday

Q9. Which number can replace the question mark (?) in the following series?

4, 7, 13, 22, ?, 49, 67

(a) 33
(b) 30
(c) 34
(d) 35

Q10. Find out the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.

J_SX _WUT NS_P _OYL RKA_

(a) AKVML
(b) ALWPH
(c) ALWLK
(d) AKUOG

Q11. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusions logically follow/s from the given statements.

Statements:

Some aprons are chopsticks.

Some chopsticks are forks.

All forks are knives.

Conclusion:

(I): Some chopsticks are aprons.

(II): No forks are knives.

(a) Both conclusions (I) and (II) follow
(b) Neither conclusion (I) nor (II) follows
(c) Only conclusion (I) follows
(d) Only conclusion (II) follows

Q12. Select the number from among the given options that can replace the question mark (?) in the following series.

111, 113, 118, 120, 125, 127, ?

(a) 136
(b) 132
(c) 130
(d) 134

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Q13. In a certain code language, 'ARCHED' is coded as '526749' and 'CHASED' is coded as '432576'. What is the code for 'R' in the given code language?

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

Q14. Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

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

(a) 16 - 276
(b) 21 - 441
(c) 23 - 529
(d) 19 - 361

Q15. What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

109 - 55 × 605 ÷ 77 + 93 = ?

(a) 82
(b) 23
(c) 42
(d) 53

Q16. Select the combination of letters that when sequentially placed in the blanks of the given series will make the series logically complete.

Z_TSVZV_R_XANP_E

(a) RWHA
(b) HZPX
(c) RWHZ
(d) UROH

Q17. 30 is related to 41 following a certain logic. Following the same logic, 56 is related to 67. To which of the following is 12 related following the same logic?

(a) 18
(b) 25
(c) 23
(d) 22

Q18. Select the combination of letters that when sequentially placed in the blanks of the given series will make the series logically complete.

_XYZU_UUSR_PQOM_

(a) UVSY
(b) WABC
(c) WOVK
(d) WUQK

Q19. V is the mother of P. P is the brother of K. N, the brother of K, has only one child T. K is the only granddaughter of H. How is K related to T?

(a) Father's mother
(b) Mother
(c) Sister
(d) Father's sister

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Q20. What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

29 ÷ 2 - 14 + 16 × 4 = ?

(a) 28
(b) 48
(c) 68
(d) 88

Q21. Four terms have been given, out of which three are alike in some manner and one is different. Select the one that is different.

(a) LPM
(b) UQT
(c) EIF
(d) PTQ

Q22. 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)

3 : 26 : 8

7: 342 : 20

(a) 2 : 9 : 5
(b) 5 : 123 : 14
(c) 6 : 216 : 17
(d) 4 : 63 : 11

Q23. In a certain code language,

U @ H means 'U is the son of H',

U % H means 'U is the daughter of H',

U & H means 'U is the mother of H',

U # H means 'U is the father of H'.

If N % M # R @ L & K, then how is N related to K?

(a) Brother
(b) Daughter
(c) Son
(d) Sister

Q24. HJLI is related to OQSP in a certain way based on the English alphabetical order. In the same way, BDFC is related to IKMJ. To which of the following is NPRO related to, following the same logic?

(a) UWYV
(b) VWZX
(c) UXYV
(d) TVYU

Q25. 'MPSV' is related to 'ORUX' in a certain way based on the English alphabetical order. In the same way, 'CFIL' is related to 'EHKN'. To which of the following is 'ORUX' related, following the same logic?

(a) QTXZ
(b) QUWZ
(c) QTUZ
(d) QTWZ

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GENERAL INTELLIGENCE

Q26. RK Bijapure played which of the following musical instruments?

(a) Harmonium
(b) Tabla
(c) Ravanahatha
(d) Sitar

Q27. Which of the following statements is/are correct about speculative demand for money?

i. It is Perfectly interest elastic
ii. It is Relatively interest elastic
iii. It is Perfectly interest inelastic
iv. It is Relatively interest inelastic

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

Q28. Which of the following is enforceable by the Indian Constitution?

(a) Preamble
(b) Fundamental rights
(c) Directive principles of state policy
(d) Fundamental duties

Q29. Which of the following regions of India has the maximum concentration of iron and steel industries?

(a) Western Ghats
(b) Deccan Plateau
(c) Chhota Nagpur plateau
(d) Indo-Gangetic plains

Q30. Which of the following is declared as a Wild Ass Sanctuary?

(a) Ladakh
(b) Sunderbans
(c) Spiti Valley
(d) Rann of Kachchh

Q31. Which of these is NOT a flow concept?

(a) Profit of a corporation
(b) Output produced by a firm
(c) Interest expense on loan
(d) Number of machines used in a factory

Q32. Import substitution strategy is commonly called _____.

(a) make in India campaign
(b) outward looking trade strategy
(c) balanced trade strategy
(d) inward looking trade strategy

Q33. Which of the following dance forms is performed by the Adi tribe of Arunachal Pradesh?

(a) Tapu
(b) Karma
(c) Sangphao
(d) Kaksar

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Q34. The Fugitive Economic Offenders Act, 2018, which has come into force on the 21^(st) of April 2018, extends to:

(a) whole of India
(b) only Gujarat
(c) only Maharashtra
(d) only union territories

Q35. Under which Article of the Directive Principles of State Policy, a working woman on maternity leave, must receive all maternity benefits from the employer?

(a) Article 42
(b) Article 44
(c) Article 45
(d) Article 43

Q36. Which of the following statement(s) is true?

A) Higher inflation means lower real GDP, ceteris paribus

B) Price Index is 200 if nominal GDP and real GDP are the same

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

Q37. Which of the following states had the highest percentage of Scheduled Tribes in the country as per census 2011?

(a) Rajasthan
(b) Maharashtra
(c) Madhya Pradesh
(d) Chhattisgarh

Q38. The headquarters of the Ghadar Movement was located at which of the following places?

(a) San Francisco
(b) London
(c) New York
(d) Kabul

Q39. Who introduced Mansabdari system into the administration under the Mughals?

(a) Akbar
(b) Shah Jahan
(c) Aurangzeb
(d) Jahangir

Q40. Which of the following indicators is the best to assess the living standard of people?

(a) Literacy rate
(b) Physical quality of life index
(c) Neonatal mortality rate
(d) Maternal mortality rate

Q41. In March 2023, a stadium was named after which the following female hockey players?

(a) Poonam Rani
(b) Sushila Chanu
(c) Navjot Kaur
(d) Rani Rampal

Q42. Lactitol is derived through the hydrogenation of:

(a) maltose
(b) lactic acid
(c) lactose

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(d) glucose

Q43. The term 'tackle point' is associated with _____.

(a) Football
(b) Baseball
(c) Hockey
(d) Kabaddi

Q44. In January 2023, _____ was appointed as the next Director General in the Directorate General of Civil Aviation (DGCA).

(a) Arvind Singh
(b) MR Synrem
(c) Vikram Dev Dutt
(d) V Vidyavathi

Q45. Which of the following tests is used for starch detection?

(a) Iodine test
(b) Glucose test
(c) Salt test
(d) Sodium test

Q46. Which of the following is NOT an example of fiat money in India?

(a) Rs. 500 currency note
(b) Rs. 200 bank cheque
(c) Rs. 20 coin
(d) Rs. 10 coin

Q47. At Mumbai's Wankhede Stadium, India defeated Australia by how many wickets in the first ODI of the three match series in March 2023?

(a) 4 wickets
(b) 6 wickets
(c) 2 wickets
(d) 5 wickets

Q48. 'Which of the following statements are CORRECT:

a) The Sarhul festival is celebrated in Jharkhand.
b) Sal tree flowers are collected and offered to God during the Sarhul festival.
c) The flowers of the Sal tree symbolise the fertility of Earth.

(a) Only a and c
(b) Only a and b
(c) All a, b and c
(d) Only b and c

Q49. Which actress-cum-dancer was honoured with the Padma Bhushan award in 2011?

(a) Hema Malini
(b) Waheeda Rehman
(c) Meena Kumari
(d) Rekha

Q50. What is the other name of Bharathapuzha, the second longest river of Kerala, which flows from the west and falls into the Arabian Sea?

(a) Ittikkara
(b) Ayiroor
(c) Ponnani
(d) Kallayi

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QUANTITATIVE APTITUDE

Q51. A and B can do a piece of work in 10 days and 15 days, respectively. They worked together, but 5 days before the completion of the work, A left. In how many days was the work completed?

(a) 4
(b) 8
(c) 6
(d) 9

Q52. If x : y : z = 3 : 4 : 5, then what will be the ratio of (x/y) : (y/z) : (z/x) ?

(a) 49 : 37 : 100
(b) 45 : 48 : 100
(c) 41 : 37 : 100
(d) 37 : 47 : 100

Q53. If $\cos\theta + \sec\theta = \sqrt{3}$, then the value of $\cos^3\theta + \sec^3\theta$ is:

(a) 0
(b) $1/\sqrt{3}$
(c) $\sqrt{3}$
(d) $2\sqrt{3}$

Q54. The following table gives the percentage of marks obtained by seven students in six different subjects in an examination.

The number in the brackets gives the maximum marks in each subject.

	Subject (Max. Marks)					
Students	Maths	Chemistry	Physics	Geography	History	Computer Science
(150)	(130)	(120)	(100)	(60)	(40)	
Ayush	90	50	90	60	70	80
Aman	100	80	80	40	80	70
Sajal	90	60	70	70	90	70
Rohit	80	65	80	80	60	60
Muskan	80	65	85	95	50	90
Tanvi	70	75	65	85	40	60
Tarun	65	35	50	77	80	80

If a student secures 80% or more in a subject, the student is considered to have received a distinction in the subject.

Who among the students below received a distinction in exactly one of the six subjects?

(a) Rohit
(b) Sajal
(c) Tanvi
(d) Tarun

Q55. Which of the following is the nearest number to 13051 and is divisible by 9?

(a) 13057
(b) 13056
(c) 13059
(d) 13058

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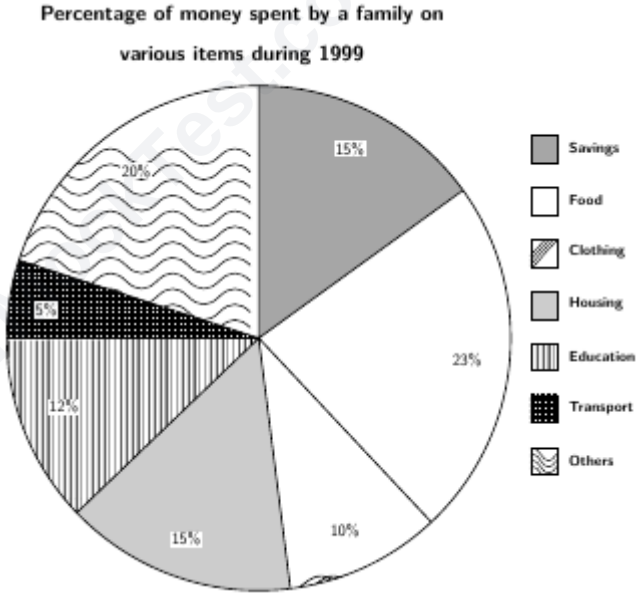
Q56. If the height and slant height of a cone are 21 cm and 29 cm, respectively. Find its volume. (Use π = 22/7)

(a) 8800 cm³
(b) 8708 cm³
(c) 8440 cm³
(d) 8080 cm³

Q57. Ashima borrowed Rs. 75,000 from a nationalised bank on 26th March 2022 at the rate of 9% per annum simple interest. If she cleared the account on 7th June of the same year, then what amount did she pay?

(a) Rs. 75,000
(b) Rs. 76,350
(c) Rs. 1,350
(d) Rs. 75,350

Q58. The pie chart given here shows the spending by a family on various items during the year 1999. Study the graph and answer these questions.



If the total amount spent during the year 1999 was Rs. 46,000, the amount spent on food was:

(a) Rs. 10,580
(b) Rs. 23,450
(c) Rs. 23,000
(d) Rs. 2,000

Q59. If cos(3α) = sin(α - 22°), where 3α < 90°, then what is the value of α?

(a) 29°
(b) 26°
(c) 27°
(d) 28°

Q60. If secθ - tanθ = m, then 2 tanθ = ?

(a) (1-m)/m
(b) (1-m²)/m
(c) (1+m²)/m
(d) (m²-1)/m

Q61. The average weight of the group of 12 players increases by 1.5 kg when a player who weighs 63 kg is replaced by a new player. What is the weight of the new player?

(a) 84 kg
(b) 81 kg
(c) 83 kg

(d) 79 kg

Q62. In a 5 km race, S gave a 500 m head start to T. If they finished the race at the same time and the speed of T is 13.5 km/h, the speed of S is:

(a) 15 km/h
(b) 20 km/h
(c) 17.5 km/h
(d) 16.5 km/h

Q63. A circle with centre O has a chord AB that is 20 cm in length. If the radius of the circle is 12 cm, then the area of triangle AOB is:

(a) $20\sqrt{15}$ cm²
(b) $22\sqrt{11}$ cm²
(c) $20\sqrt{11}$ cm²
(d) $22\sqrt{15}$ cm²

Q64. If $\tan\theta = 8/19$, find the value of $\sec 2\theta$.

(a) 11/19
(b) 18/19
(c) 297/361
(d) 164/361

Q65. The cost of 3 breads and 1 packet of juice at a certain store is Rs. 323.50. At the same store, the cost of 5 breads and 1 packet of juice is Rs. 433.50. What will be the cost of 2 breads and 2 packets of juice at this store?

(a) Rs. 427
(b) Rs. 350
(c) Rs. 433
(d) Rs. 403

Q66. In how many years will Rs. 40000 amounts to Rs. 46656 at the rate of 8% compound interest per annum?

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

Q67. Two triangles MNO and XYZ are given similar with the ratio of their side as 9 : 4. If the area of the larger triangle is 243 sq.cm, then the area of smaller triangle will be:

(a) 162 sq.cm
(b) 28 sq.cm
(c) 48 sq.cm
(d) 16 sq.cm

Q68. If $a = 1/(a-\sqrt{6})$ $(a > 0)$, then the value of $(a + 1/a)$ is:

(a) $\sqrt{6}$
(b) $\sqrt{10}$
(c) $\sqrt{15}$
(d) $\sqrt{7}$

Q69. Manoj marked his goods 30% above the Cost Price and gives a 12% discount to the customers. The profit or loss percentage is:

(a) 14.8% loss
(b) 15.4% profit
(c) 14.4% profit
(d) 15% loss

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Q70. If $x = 1/(x-5)$ $(x > 0)$, then the value of $x + 1/x$ is:

(a) √41
(b) √29
(c) √23
(d) √43

Q71. A shopkeeper marked a product, 40% above the cost price and sold the product for Rs. 3,780 by giving a discount of 10%. The profit percentage of the shopkeeper is:

(a) 30%
(b) 26%
(c) 42%
(d) 14%

Q72. The following table represents the number of five different types of cars A, B, C, D, and E manufactured by a company over five years. Read the table carefully and answer the question given below:

Years/Cars	A	B	C	D	E
2018	2550	2675	2400	2000	450
2019	2600	2800	2550	1900	375
2020	2775	2600	2600	2000	400
2021	2800	2750	2500	1975	475
2022	3000	2800	2650	2100	500

What is the percentage increment in the production of D-type of cars in the year 2022 in comparison to the previous year? (correct up to two decimal places)

(a) 6.95%
(b) 5.95%
(c) 6.13%
(d) 6.33%

Q73. In a circle of radius 14 cm, an arc subtends an angle of 90° at the centre. The length of arc (in cm) is equal to:
Take $\pi = 22/7$

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

Q74. Amisha announced a festival discount of 30% on all items in her gift shop. Gurmeet bought a gift for himself. He got a discount of Rs. 1,110. What was the marked price of the gift?

(a) Rs. 3,650
(b) Rs. 3,750
(c) Rs. 3,850
(d) Rs. 3,700

Q75. S sells an item costing Rs. 37,800 to P with 8% profit. P sells it to Q with a 4% loss. At what price (in Rs.) does P sell the item? (Correct to a nearest rupee)

(a) 39,919
(b) 39,119
(c) 39,191
(d) 39,911

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GENERAL AWARENESS

Q76. Select the option that expresses the following sentence in passive voice.

Daddy baked the cookies on the weekend.

(a) Daddy, on the weekend, baked cookies.
(b) The cookies were baked on the weekend by Daddy.
(c) On the weekend Daddy baked cookies.
(d) No change required

Q77. Select the most appropriate ANTONYM of the underlined word in the given sentence.

The injury was so severe that he could not play again.

(a) implacable
(b) tolerant
(c) furious
(d) pungent

Q78. The following sentence has been divided into four segments. Identify the segment that contains a grammatical error.

He finally / recalled that / the thieves have leave / from the front door.

(a) the thieves have leave.
(b) recalled that
(c) He finally
(d) from the front door.

Q79. Select the most appropriate ANTONYM of the underlined word.

Science has been trying innumerable methods to prove the existence of the universe, but the biggest pleasure of science is its inability to produce a single theory that explains the whole universe.

(a) Inadequacy
(b) Joy
(c) Fear
(d) Blandness

Q80. Select the option that can be used as a one-word substitute for the underlined group of words.

Due to the official visit to a company, Rajiv has a mental or emotional strain caused by demanding circumstances.

(a) reluctance
(b) stress
(c) penalty
(d) depression

Q81. 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) Benefits of reading have been underlined since ages together.

B) Once they understand the sensibleness behind reading, they would pass it on to others as well.

C) It brings knowledge and wisdom both to the readers.

D) By virtue of a practice at home, this can be suggested to the young ones.

(a) ABCD
(b) CDBA
(c) CDAB
(d) ACDB

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

The flames caught so quick that I had no time to think.

(a) quickly
(b) quickest

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(c) as quick as
(d) quicker

Q83. Select the option that will improve the underlined part of the given sentence.

We will go to Spain this summer, will we?

(a) should we?
(b) won't we?
(c) can't we?
(d) don't we?

Q84. Select the most appropriate idiom for the following sentence.

The government arrested the opposition leader, making the situation worse.

(a) To cast pearls before swine
(b) To be on the last leg
(c) To add fuel to the fire
(d) To bite the dust

Q85. Select the most appropriate synonym for the given word.

Compel

(a) Allow
(b) Stop
(c) Give
(d) Obligate

Q86. Select the most appropriate option that expresses the given sentence in passive voice.

The chef prepares the food in the kitchen.

(a) The food will be prepared by the chef in the kitchen.
(b) The food prepares by the chef in the kitchen.
(c) The food is preparing by the chef in the kitchen.
(d) The food is prepared by the chef in the kitchen.

Q87. Select the most appropriate option that can substitute the underlined segment in the given sentence.

Bharath is a skilful achiever, so he hits the nail on the leg.

(a) hits the nail on the head
(b) hits the nail on the shoulder
(c) put the nail in the hole
(d) hits the screw on the top

Q88. 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.

Although the new fashion trend was quite popular, some critics were quick to deride it as a passing fad.

(a) Ridicule
(b) Hail
(c) Detest
(d) Applaud

Q89. Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.

P. the golden era when their language, culture and arts flourished

Q. in the minds of the Tamils

R. under the patronage of successive Pandian kings

S. The name 'Madurai' evokes

(a) SPQR

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(b) SQPR
(c) SRPQ
(d) SQRP

Q90. Select the option that can be used as a one-word substitute for the given group of words.

A book where names and addresses of people living in an area is kept

(a) Diary
(b) Encyclopaedia
(c) Directory
(d) Library

Q91. Select the correct spelling from the given options to fill in the blank.

Jaysmita is one of the most _____ persons I have ever met as she has many talents.

(a) versataile
(b) versatele
(c) versateile
(d) versatile

Q92. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

I have been in Chennai since a week, but I am planning to return now.

(a) for
(b) from
(c) in
(d) No substitution required

Q93. 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.

A colossal amount of money has been wasted on the construction of a new administrative building.

(a) huge
(b) miniature
(c) small
(d) micro

Q94. Select the correct spelling from the given options to replace the underlined word in the following sentence.

The new policy will supplant the old one and introduce stricter measures for workplace safety.

(a) overide
(b) supersede
(c) suceed
(d) superseed

Q95. Select the most appropriate ANTONYM of the given word.

Penury

(a) Emergency
(b) Opulence
(c) Regression
(d) Euphemism

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.

Friendship is one of the most significant aspects (1) ____ human life. It is a relationship based on mutual trust, respect and support. True friendship is not just about spending time (2) __, but also about sharing each other's joys, sorrows and dreams.

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Good friends are those who stand by us in both good times and bad times, providing emotional and moral support. Having good friends can have a positive impact on one's mental health and well-being. Friends can be a source of happiness, laughter and comfort. They can also provide different perspectives and ideas that can help us grow as (3) __. Moreover, friends can serve as a support system during challenging times, offering words of encouragement and helping us navigate through difficult situations. (4) __, building and maintaining friendships requires effort, patience and understanding. It is important to be there for each other, listen to one another and respect each other's boundaries. It is important to remember that friendships can evolve and change over time, and it is okay to let go of (5) ____ friendships.

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

(a) on
(b) of
(c) for
(d) by

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

(a) simultaneously
(b) together
(c) jointly
(d) collectively

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

(a) entities
(b) individuals
(c) groups
(d) beings

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

(a) Similarly
(b) And
(c) Because
(d) However

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

(a) toxic
(b) unsafe
(c) happy
(d) safe

ANSWER KEY

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

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SOLUTIONS

Q1. Answer: (a) [figure]

The paper after unfolded will be:

Hence, the correct answer is "Option 1".

Q2. Answer: (d) LPWAIW

The logic followed here is:

For, 'MASTER' is related to 'OAIHWJ'

For, 'ROSE' is related to 'JMIW'

Similarly, for 'PLEASE'

So, 'PLEASE' will be related to 'LPWAIW'

Hence, the correct answer is "Option 4".

Q3. Answer: (c) 7

The triangles are:

So, there are '7' triangles in the given figure.

Hence, the correct answer is "Option 3".

Q4. Answer: (c) [figure]

The correct mirror image of the given figure is:

Hence, the correct answer is "Option 3".

Q5. Answer: (d) 7

The logic followed here is:

‘MOST' is coded as '3472'

'STOW' is coded as '2634’,

Here, OST is common in both the statement, so the remaining number is the code for the remaining letter.

So, 'M' will be coded as '7'.

Hence, the correct answer is "Option 4".

Q6. Answer: (a) 31 : 158

The logic followed here is:

Logic: 1st number × 5 - 3 = 2nd number.

Now,

For, 17 : 82

=> 17 × 5 - 3

=> 85 - 3 = 82.

For, 31 : 158

=> 31 × 5 + 3

=> 155 + 3 = 158.

For, 19 : 92

=> 19 × 5 - 3

=> 95 - 3 = 92.

For, 47 : 232

=> 47 × 5 - 3

=> 235 - 3 = 232.

Here, Option 1 '31 : 158' is different from the given pairs.

Hence, the correct answer is "Option 1".

Q7. Answer: (a) [figure]

The logic followed here is:

Logic: The symbols are getting shifting in clockwise direction.

Hence, the correct answer is "Option 1".

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Q8. Answer: (d) Friday

Given: 8 March 1996 was Friday.

1996 to 2006 = 10 Years

And, In 10 Years = 2 Leap years and 8 Ordinary Year (because 1996 is counted from 8 March, so 1996 will be treat as ordinary year).

So, 2 Leap Year has 4 odd days,

And, 8 Ordinary Year has 8 odd days.

Total odd days = 4 + 8 = 12.

12 odd days → 12/7 = 1 week and 5 odd days.

then, 8 March 2006 will be Friday + 5 = Wednesday.

Now, the number of days between 8 March 2006 to 7 April 2006

= 23(March) + 7(April) = 30 days.

= 30 days → 30/7 = 4 week and 2 odd day.

So, 7 April 2006 will be Wednesday + 2 = Friday.

Hence, the correct answer is "Option 4".

Q9. Answer: (c) 34

The logic followed here is:

So, '34' is the missing term in the given series.

Hence, the correct answer is "Option 3".

Q10. Answer: (b) ALWPH

The logic followed here is:

So, 'ALWPH' will be the correct alternative that filled in the blanks in the same sequence will make the series logically complete.

Hence, the correct answer is "Option 2".

Q11. Answer: (c) Only conclusion (I) follows

Given Statements:

Some aprons are chopsticks.

Some chopsticks are forks.

All forks are knives.

The least possible Venn diagram for the given statement is:

Conclusions:

I. Some chopsticks are aprons - True (Because, Some aprons are chopsticks also gives Some chopsticks are aprons).

II. No forks are knives - False (Because, All forks are knives).

So, Only conclusion I follows.

Hence, the correct answer is "Option 3".

Q12. Answer: (b) 132

The logic followed here is:

So, '132' is the missing term in the given series.

Hence, the correct answer is "Option 2".

Q13. Answer: (a) 9

The logic followed here is:

‘ARCHED' is coded as '526749'

'CHASED' is coded as '432576’,

Here, 'ACHED' is common in both the statement, so the remaining number is the code for the remaining letter.

So, 'R' will be coded as '9'.

Hence, the correct answer is "Option 1".

Q14. Answer: (a) 16 - 276

The logic followed here is:

Logic: (1st number)2 = 2nd number.

Now, checking the options:
Option 1) 16 - 276 → (16)2 = 256 ≠ 276.
Option 2) 21 - 441 → (21)2 = 441.
Option 3) 23 - 529 → (23)2 = 529.
Option 4) 19 - 361 → $(19)^2 = 361$
So, '16 - 276' is odd among the given options.
Hence, the correct answer is "Option 1".

Q15. Answer: (b) 23

BODMAS Table:
Given equation: 109 - 55 × 605 ÷ 77 + 93 = ?
Now, if '+' and '-' and '×' and '÷' are interchanged, then:
=> 109 + 55 ÷ 605 × 77 - 93 = ?
=> 109 + (55 × 77)/605 - 93 = ?
=> 109 + 7 - 93 = ?
=> 116 - 93 = 23.
Hence, the correct answer is "Option 2".

Q16. Answer: (c) RWHZ

The logic followed here is:
So, 'RWHZ' will be the correct alternative that filled in the blanks in the same sequence will make the series logically complete.
Hence, the correct answer is "Option 3".

Q17. Answer: (c) 23

The logic followed here is:
Logic: 1st number + 11 = 2nd number.
Now,
For, 30 is related to 41
=> 30 + 11 = 41
For, 56 is related to 67
=> 56 + 11 = 67.
Similarly, for 12 is related to:
=> 12 + 11 = 23.
Here, 12 is related to 23.
Hence, the correct answer is "Option 3".

Q18. Answer: (d) WUQK

The logic followed here is:
So, 'WUQK' will be the correct alternative that filled in the blanks in the same sequence will make the series logically complete.
Hence, the correct answer is "Option 4".

Q19. Answer: (d) Father's sister

Family Chart:
Given:
V is the mother of P.
P is the brother of K.
N, the brother of K, has only one child T.
K is the only granddaughter of H.
So, K is 'Father's sister' of T.
Hence, the correct answer is "Option 4".

Q20. Answer: (c) 68

BODMAS Table:
Given equation: 29 ÷ 2 - 14 + 16 × 4 = ?

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Now, if '+' and '-' and '×' and '÷' are interchanged, then:
=> 29 × 2 + 14 - 16 ÷ 4 = ?
=> 29 × 2 + 14 - 4 = ?
=> 58 + 14 - 4 = ?
=> 72 - 4 = 68.
Hence, the correct answer is "Option 3".

Q21. Answer: (b) UQT

The logic followed here is:
Option 1) LPM
Option 2) UQT
Option 3) EIF
Option 4) PTQ
Here, 'UQT' is odd among the given options.
Hence, the correct answer is "Option 2".

Q22. Answer: (d) 4 : 63 : 11

The logic followed here is:
Logic: (1st number)3 - 1 = 2nd number,
1st number × 3 - 1 = 3rd number.
Now,
For, 3 : 26 : 8
=> (3)3 - 1 = 27 - 1 = 26.
=> 3 × 3 - 1 = 9 - 1 = 8.
For, 7: 342 : 20
=> (7)3 - 1 = 343 - 1 = 342.
=> 7 × 3 - 1 = 21 - 1 = 20.
Similarly, Option 4) 4 : 63 : 11
=> (4)3 - 1 = 64 - 1 = 63.
=> 4 × 3 - 1 = 12 - 1 = 11.
Hence, the correct answer is "Option 4".

Q23. Answer: (d) Sister

Family Chart:
Decoding the Symbols:

Symbol	@	%	&	#
Meaning	Son	Daughter	Mother	Father

Given: N % M # R @ L & K
It means: N is the Daughter of M, M is the Father of R, R is the Son of L, L is the Mother of K.
So, N is the 'Sister' of K.
Hence, the correct answer is "Option 4".

Q24. Answer: (a) UWYV

The logic followed here is:
For, 'HJLI' is related to 'OQSP'
For, 'BDFC' is related to 'IKMJ'
Similarly, for 'NPRO'
So, 'NPRO' will be related to 'UWYV'
Hence, the correct answer is "Option 1".

Q25. Answer: (d) QTWZ

The logic followed here is:

For, 'MPSV' is related to 'ORUX'

For, 'CFIL' is related to 'EHKN'

Similarly, for 'ORUX'

So, 'ORUX' will be related to 'QTWZ'

Hence, the correct answer is "Option 4".

Q26. Answer: (a) Harmonium

The correct answer is Harmonium.

Key Points

• RK Bijapure played Harmonium musical instrument.

• In Kagwad (Belgaum district, Karnataka state, India), Bijapure was born in 1917.

• Bijapure worked in the drama company of Venkobrao Shirahatti as a harmonium player and music director.

• RK Bijapure started “Shri Ram Sangeet Mahavidyalaya” in 1938.

Additional Information

• Harmonium is a keyboard instrument.

• It produces sound by blowing air through reeds.

• Tabla is a percussion instrument.

• It is played by striking the surface with the fingers.

• Ravanahatha is a stringed instrument.

• It is played with a bow and is commonly found in Rajasthan.

• Sitar is a stringed instrument.

• It is plucked and is commonly used in classical Indian music.

Q27. Answer: (d) Only ii

The correct answer is Only ii.

Key Points

• It is Perfectly interest elastic:

• This statement is incorrect.

• Speculative demand for money is not perfectly interest elastic because it depends on expectations about future interest rate movements.

• It is influenced by various factors such as expectations about future interest rates, risk perceptions, and alternative investment opportunities.

• It is Relatively interest elastic:

• This statement is correct.

• Speculative demand for money is relatively interest elastic because it responds to changes in interest rates, albeit not proportionately.

• When interest rates are expected to rise, people may prefer to hold less money and invest in interest-bearing assets instead.

• Conversely, when interest rates are expected to fall, people may prefer to hold more money.

• It is Perfectly interest inelastic:

• This statement is incorrect.

• Speculative demand for money is not perfectly interest-inelastic because it does respond to changes in interest rates, although not as strongly as some other forms of demand for money.

• It is Relatively interest inelastic:

• This statement is incorrect.

• As mentioned earlier, speculative demand for money is relatively interest elastic, not relatively interest inelastic

• hence only ii is correct.

Q28. Answer: (b) Fundamental rights

The correct answer is Fundamental rights.

Key Points

• Fundamental rights are enforceable by the Indian Constitution as they provide citizens with certain rights and freedoms that the government must protect.

• Fundamental rights include the right to equality, freedom of speech and expression, and the right to life and personal liberty.

• The Preamble is not enforceable in a court of law, but it does provide the basic structure and values of the Indian Constitution.

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• Directive principles of state policy are guidelines for the government to follow, but they are not enforceable in a court of law.

• Fundamental duties are obligations that citizens are expected to fulfill, but they are not enforceable in a court of law.

Additional Information

• The Indian Constitution is the supreme law of the land and provides the framework for the government and its citizens.

• On November 26, 1949, the Constituent Assembly enacted the Indian Constitution, which became operative on January 26, 1950.

• Directive principles of state policy include provisions for a just and equitable society, protection of the environment, and promotion of education and healthcare.

• Fundamental duties include respecting the Constitution and national flag, promoting harmony and the spirit of common brotherhood, and protecting public property.

Q29. Answer: (c) Chhota Nagpur plateau

The correct answer is Chhota Nagpur plateau.

Key Points

• The Chhota Nagpur plateau in eastern India, covering parts of Jharkhand, Bihar, and Odisha, has the maximum concentration of iron and steel industries in India.

• The region has abundant reserves of high-grade iron ore, coal, and limestone, which are the essential raw materials for the production of iron and steel.

• The first iron and steel plant in India, the Tata Iron and Steel Company (TISCO), was established in 1907 in Jamshedpur, which is located in the Chhota Nagpur plateau region.

• Other major steel plants in the region include the Bokaro Steel Plant, Rourkela Steel Plant, and Durgapur Steel Plant.

Additional Information

• The Western Ghats are a mountain range in western India known for their biodiversity and scenic beauty.

• It is passing across the states of Tamil Nadu, Kerala, Karnataka, Maharashtra, Goa, and Gujarat.

• Bauxite, manganese, and iron ores abound in the Western Ghats.

• The Deccan Plateau is a large plateau in southern India known for its agriculture, mineral resources, and historical monuments.

• Its northern boundary is formed by the Vindhya and Satpura Ranges.

• Numerous industries, like as steel, chemicals, mining, and textile production, are based in the Deccan Plateau.

• The Indo-Gangetic plains are a fertile plain in northern India known for their agriculture and population density.

• In the Indo Gangetic, farming, fishing, and animal husbandry are the primary industries.

Q30. Answer: (d) Rann of Kachchh

The correct answer is Rann of Kachchh.

Key Points

• Rann of Kachchh is located in the state of Gujarat in India.

• The Wild Ass Sanctuary in Rann of Kachchh is home to the endangered Indian Wild Ass, also known as the Ghudkhur.

• The sanctuary spans across an area of 5,000 sq km and also houses other species like desert fox, wolf, and chinkara.

• The Wildlife Protection Act of 1972 applied to the wildlife sanctuary when it was established in 1972.

Additional Information

• Sunderbans:

• It is located in the delta region of the Bay of Bengal.

• It is a mangrove forest and declared as a UNESCO World Heritage Site.

• It is home to the Royal Bengal Tiger and other species like saltwater crocodile, Indian python, and spotted deer.

• Ladakh:

• It is located in the northernmost region of India.

• It is known for its unique culture, high altitude lakes, and stunning landscapes.

• It is also home to rare species like the snow leopard, Tibetan wolf, and Himalayan griffon.

• Spiti Valley:

• It is located in the Himalayan region.

• It is known for its rugged terrain and Buddhist monasteries.

• It is home to rare species like the Himalayan ibex, snow leopard, and Tibetan wolf.

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Q31. Answer: (d) Number of machines used in a factory

The correct answer is Number of machines used in a factory.

Key Points

• Flow concept refers to a variable that is measured over a period of time, such as revenue, expenses, production, or consumption.

• Profit of a corporation and output produced by a firm are flow concepts because they are measured over a specific period, such as a year, a quarter, or a month.

• Interest expense on a loan is also a flow concept because it represents the amount of money paid or accrued over time to borrow money.

• Number of machines used in a factory is NOT a flow concept because it is a stock concept that represents the quantity of a resource at a specific point in time, rather than the rate of change or flow of that resource.

• Other examples of stock concepts include inventory, capital, assets, liabilities, and equity.

Additional Information

• Any quantity that can be measured over time is referred to as flow, whereas stock refers to any quantity that can only be measured at a specific moment in time.

• The flow and the stock are mutually dependent.

• Stock affects flow because more capital will result in a higher flow of services.

• Flow affects stock; for example, an economy's increased money supply leads to an increase in the total amount of money.

Q32. Answer: (d) inward looking trade strategy

The correct answer is "Inward looking trade strategy."

Key Points

• Import substitution strategy refers to a government policy aimed at promoting domestic production by substituting imported goods with domestically produced goods.

• Import substitution strategy is also known as inward looking trade strategy which aims to produce goods domestically which are imported to our nation.

• This strategy involves imposing tariffs and other trade barriers on imported goods to make them more expensive and less competitive in the domestic market.

• The goal of import substitution is to reduce a country's reliance on imports and build up its domestic industries, which can lead to economic growth and development.

Additional Information

• "Make in India campaign," is a government initiative to promote manufacturing and investment in India.

• The Prime Minister introduced the Made in India program in September 2014 as a component of a larger series of nation-building programs.

• "Outward looking trade strategy," refers to a policy of promoting exports and opening up to international trade.

• The widely recognized definition of the outward-oriented trade strategy based on price incentives is when the effective exchange rate (EERx) of the nation is lower than its import rate (EERm).

• "Balanced trade strategy," refers to a policy of maintaining a balance between imports and exports.

• Controlling inflation and enforcing tariffs or other barriers, including import certificates, on a country-by-country basis are two ways to implement balanced trade.

Q33. Answer: (a) Tapu

The correct answer is Tapu.

Key Points

• Tapu is a traditional dance form of the Adi tribe of Arunachal Pradesh, which is performed during festivals and rituals.

• The dance is usually performed by both men and women, who wear traditional costumes and ornaments while dancing.

• The movements in Tapu are slow and graceful, with emphasis on hand and foot gestures, and the dancers often sing along with the music.

• The dance is believed to have originated from the mythological story of the Adi tribe, which tells the tale of a goddess who taught the dance to the people.

Additional Information

• Karma is a popular folk dance of the Gond tribe in Madhya Pradesh.

• Karma, a well-known fall celebration, begins on the eleventh day of the light fortnight in the month of Bhadrab.

• Sangphao is a traditional dance of the Naga tribe in Nagaland.

• Two persons chant invocations to the spirits to start the dance.

• Within the Bastar area of Chhattisgarh state, the Abuj Maria tribe is well-known for their Kaksar dance.

Q34. Answer: (a) whole of India

The correct answer is Whole of India.

Key Points

• The Fugitive Economic Offenders Act, 2018 was introduced as a means to deter economic offenders from evading the Indian legal system and fleeing the country.

• The Act allows for the attachment and confiscation of the properties of an individual who is declared a fugitive economic offender.

• The Act also establishes a special court to deal with such cases.

• The Act applies to any individual who has committed an offence involving an amount of Rs 100 crore or more and has fled the country to avoid prosecution.

• The Fugitive Economic Offenders Act, 2018, which has come into force on the 21st of April 2018, extends to whole of India.

Additional Information

• The Fugitive Economic Offenders Act, 2018 is an important tool in combating economic offences and ensuring that offenders are held accountable for their actions.

• On March 12, 2018, the Fugitive Economic Offenders Act's bill was introduced in the Lok Sabha, and on July 25, 2018, it was passed.

• The Act also allows for the provisional attachment of all of the offender's assets and their ultimate confiscation upon the Special Court's designation of the offender as a fugitive economic offender.

Q35. Answer: (a) Article 42

The correct answer is Article 42.

Key Points

• Article 42 states that the State shall make provisions for securing just and humane conditions of work and for maternity relief.

• This means that a working woman on maternity leave is entitled to receive all maternity benefits from her employer, as mandated by law.

• Maternity benefits may include paid leave, medical expenses, and other allowances.

• It is important for employers to comply with these provisions to ensure the well-being and protection of working mothers and their children.

Additional Information

• Article 44, states that the State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India.

• Article 45, states that the State shall endeavor to provide free and compulsory education to all children until they complete the age of fourteen years.

• Article 43, states that the State shall endeavor to secure for workers a living wage, conditions of work ensuring a decent standard of life, and full enjoyment of leisure and social and cultural opportunities..

Q36. Answer: (c) Only A

The correct answer is Only A.

Key Points

• A higher inflation rate indicates that the general price level of goods and services in an economy is increasing.

• This means that consumers will have to pay more for the same goods and services, resulting in a decrease in their purchasing power.

• As a result, businesses will produce less, leading to lower real GDP.

• This relationship between inflation and real GDP is known as the Phillips Curve, which suggests an inverse relationship between the two variables.

• However, it is important to note that this relationship holds only in the short run.

• In the long run, the Phillips Curve becomes vertical, indicating that there is no tradeoff between inflation and real GDP.

• Higher inflation does lead to lower real GDP in the short run, ceteris paribus.

Additional Information

• A country's market value of all the finished goods and services significant to a particular economic sector, are used to measure inflation.

• Price indices, which focus on the costs of a variety of goods and services significant to a particular economic sector, are used to measure inflation.

• A positive relationship between inflation and real GDP, is not supported by economic theory or empirical evidence.

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• Nominal GDP and real GDP are not always equal.

• Nominal GDP is the total value of goods and services produced in an economy, measured at current prices, while real GDP adjusts for inflation and measures economic output in constant dollars.

Q37. Answer: (c) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• Scheduled Tribes are indigenous people who are recognized by the Indian government as belonging to specific ethnic and cultural groups.

• They are entitled to certain benefits and protections under the Indian Constitution and various government schemes.

• According to the census of 2011, Madhya Pradesh had the highest percentage of Scheduled Tribes in the country with 21.1% of the total population.

• Rajasthan had a Scheduled Tribe population of 13.5%, which was lower than that of Madhya Pradesh.

• Maharashtra had a Scheduled Tribe population of 10.1%, which was even lower than Rajasthan and Madhya Pradesh.

Important Points

• The state and UT of India with the highest percentage of the tribal population to its total population as per the 2011 census is Mizoram(94.4 %) and Lakshadweep(94.8 %).

• The state has a minimum ratio of Scheduled tribes, as per Census-2011 Uttar Pradesh (0.6%).

• The total population of tribes in India is 8.6 % of the total population of the country.

Additional Information

• Rajasthan:

• It is the largest state in India in terms of area and is known for its rich cultural heritage and historical monuments.

• It has a diverse population with various ethnic groups living together.

• The state has a total population of around 68 million people.

• Maharashtra:

• It is the third-largest state in India and is known for its economic and cultural importance.

• Mumbai, the financial capital of India, is located in Maharashtra.

• The state has a total population of around 112 million people.

• Chhattisgarh:

• It is a relatively new state that was carved out of Madhya Pradesh in 2000.

• It is known for its natural resources, including coal and iron ore.

• The state has a total population of around 28 million people.

Q38. Answer: (a) San Francisco

The correct answer is San Francisco.

Key Points

• The Ghadar Movement was a revolutionary movement founded by Punjabi Indians in 1913 with the aim of overthrowing British rule in India.

• The headquarters of the Ghadar Movement was located in San Francisco, USA.

• San Francisco was chosen as the headquarters due to its large population of Punjabi Indians and its location as a major port city for international communication and travel.

• The Ghadar Movement published a newspaper called Ghadar, which was printed in several languages and distributed throughout India and other parts of the world.

Additional Information

• London was a major center for Indian political activity during the time of the Ghadar Movement.

• New York was also a center for Indian political activity.

• The five boroughs that make up New York City are located where the Hudson River and the Atlantic Ocean converge.

• Kabul was the capital city of Afghanistan.

• 22 municipal districts make up its administrative division.

Q39. Answer: (a) Akbar

The correct answer is Akbar.

Key Points

• Mansabdari system was introduced by Akbar during his reign in the Mughal Empire.

• The system was a hierarchical ranking system based on military and administrative roles.

• It was designed to ensure loyalty and control over the nobility and military officials.

• The system required officials to maintain a certain number of soldiers and horses, and their rank was determined by the number of soldiers and horses they maintained.

• Akbar also introduced the concept of dual government, where the empire was divided into provinces and each province was governed by a governor and a revenue collector.

Additional Information

• Shah Jahan was the fifth Mughal Emperor and was known for his architectural achievements, such as the Taj Mahal.

• From 1628 until 1658, he was king.

• Aurangzeb was the sixth Mughal Emperor and is known for his religious policies and expansion of the empire.

• From 1658 until his passing in 1707, he was king.

• Jahangir was the fourth Mughal Emperor and is known for his love for art and culture.

• From 1605 until his passing in 1627, he was king.

Q40. Answer: (b) Physical quality of life index

The correct answer is Physical quality of life index.

Key Points

• The Physical Quality of Life Index (PQLI) is the best indicator to assess the living standard of people as it takes into account three basic dimensions of human life: basic literacy, life expectancy, and infant mortality rate.

• PQLI is a comprehensive indicator that measures the overall well-being of people, including their health, education, and standard of living.

• Literacy rate is an important indicator of the educational level of people, but it does not provide a complete picture of their living standard.

• Neonatal mortality rate and maternal mortality rate are important health indicators, but they do not capture the full range of factors that affect the living standard of people.

Additional Information

• Literacy rate:

• It is the percentage of people who can read and write in a given population.

• It is an important indicator of the educational level of people and their ability to access information and participate in the economy and society.

• Neonatal mortality rate:

• It is the number of deaths of infants under 28 days of age per 1,000 live births in a given population.

• It is an important health indicator that reflects the quality of maternal and child health care and the overall level of development of a society.

• Maternal mortality rate:

• It is the number of deaths of women due to pregnancy or childbirth-related complications per 100,000 live births in a given population.

• According to UN inter-agency projections, the worldwide maternal mortality ratio (MMR) decreased by 34% between 2000 and 2020, from 339 deaths to 223 deaths per 100,000 live births.

Q41. Answer: (d) Rani Rampal

The correct answer is Rani Rampal.

Key Points

• Coach and field hockey player Rani Rampal is Indian.

• She was the youngest player on the national squad that competed in the 2010 World Cup, having turned 15 years old.

• Rani Rampal is a renowned Indian female hockey player who has led the Indian women's hockey team to various victories, including the silver medal at the 2018 Asian Games and the qualification for the 2020 Tokyo Olympics.

• A stadium was named after Rani Rampal's name in March 2023.

Additional Information

• Poonam Rani is also an Indian female hockey player.

• It is claimed that after witnessing India win the gold medal at the 2002 Commonwealth Games in Manchester, England, she became encouraged to play hockey.

• Sushila Chanu is another Indian female hockey player.

• She has 150 international caps to her name and was the captain of the Indian national team in the past.

• Navjot Kaur is also an Indian female hockey player.

• She is competing in the Summer Olympics for India's women's hockey squad.

Q42. Answer: (c) lactose

The correct answer is Lactose.

Key Points

• Lactitol is a sugar alcohol that is commonly used as a low-calorie sweetener and a bulking agent in various food products.

• It is derived through the hydrogenation of lactose, which is a disaccharide composed of glucose and galactose.

• Glucose is a monosaccharide that is commonly used as a sweetener and a source of energy in the body, but it is not directly involved in the production of lactitol.

Additional Information

• Lactose is a natural sugar found in milk and dairy products, and it is commonly used as a substrate for the production of lactitol through hydrogenation.

• Maltose is a natural sugar found in grains and malt products, and it is commonly used as a substrate for the production of other sugar alcohols such as maltitol and sorbitol.

• Maltose is a disaccharide composed of two glucose molecules

• Lactic acid is commonly used as a food preservative and a flavoring agent, and it is also produced in the body during intense exercise and certain medical conditions.

• Lactic acid is a byproduct of anaerobic metabolism in muscle cells and certain bacteria

• Glucose is a primary source of energy for the body and is commonly used as a sweetener and a bulking agent in various food products.

• It can also be produced through the hydrolysis of starch and other carbohydrates.

Q43. Answer: (d) Kabaddi

The correct answer is Kabaddi.

Key Points

• Tackle point refers to a situation in Kabaddi where a defender successfully stops an opponent raider from crossing the midline of the court.

• Kabaddi is a contact sport that originated in India and is now played professionally in several countries.

• India has competed in kabaddi at four Asian Games and has won gold each time.

• India plays four different types of kabaddi: Amar, Suranjeevi, Huttuttoo, and Gaminee.

• Points in Kabaddi game is: Out, Bonus, All out, Technical, Super Tackle and if any team does not gain score in 3 consecutive attacks, then 1 point is given to the opposing team.

Additional Information

• Football is also known as soccer.

• It involves players using their feet to kick a ball and score goals.

• Baseball is a bat-and-ball game.

• It is played between two teams of nine players each, with the aim of scoring runs by hitting the ball thrown by the pitcher.

• Hockey is a team sport played on ice or field.

• Here players use sticks to hit a ball or puck into the opposing team's goal.

Q44. Answer: (c) Vikram Dev Dutt

The correct answer is Vikram Dev Dutt.

Key Points

• Vikram Dev Dutt was appointed as the next Director General in the Directorate General of Civil Aviation (DGCA) in January 2023.

• He is a senior Indian Administrative Service (IAS) officer from the 1991 batch of the Gujarat cadre.

• He has held various positions in the central and state governments, including as the Principal Secretary in the Gujarat Chief Minister's Office and as the Joint Secretary in the Ministry of Civil Aviation.

Additional Information

• Arvind Singh, is currently serving as the Chairman of the Airports Authority of India (AAI).

• He was previously the Managing Director of the Bangalore International Airport Limited (BIAL).

• MR synerm is a MD of Indian Tourism development corporation.

• He is an experienced IAS officer belonging to the Assam-Meghalaya Cadre's 2002 Batch.

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• V Vidyavathi is the first woman to be appointed as the Director General of Police (DGP) in Karnataka.

Q45. Answer: (a) Iodine test

The correct answer is Iodine test.

Key Points

• The iodine test is used for starch detection because iodine reacts with the starch molecules to form a blue-black color complex.

• The glucose test is used to detect the presence of glucose in a sample, not starch.

• Starch is a complex carbohydrate made up of glucose molecules.

• It is a common source of energy in many foods such as rice, potatoes, and bread.

Additional Information

• The glucose test involves the use of a reagent such as Benedict's solution, which changes color in the presence of reducing sugars such as glucose.

• The salt test is a test used to check the purity of a sample by adding salt to the sample and observing any changes in the physical properties such as solubility or melting point.

• The sodium test is a test used to detect the presence of sodium ions in a sample.

• It involves the use of a reagent such as, which reacts with sodium ions to form a yellow precipitate.

• Starch is an important component of many foods and is a major source of energy for humans and animals.

• It is also used in many industrial applications such as papermaking and textile manufacturing.

Q46. Answer: (b) Rs. 200 bank cheque

The correct answer is Rs. 200 bank cheque.

Key Points

• Fiat money is a currency that has value because the government has declared it to be legal tender.

• In India, fiat money includes currency notes and coins issued by the Reserve Bank of India (RBI).

• Rs. 500 currency note is an example of fiat money as it is a currency note issued by the RBI and has value because the government has declared it to be legal tender.

• Rather than the value of the commodity supporting it, the value of fiat money is determined by the relationship of supply and demand as well as the stability of the issuing government.

Additional Information

• Fiat money is defined as money that has been issued by the government and is not backed by a tangible asset like gold or silver.

• Instead, the government is the one issuing the money.

• Rs. 200 bank cheque is not an example of fiat money as it is not a currency issued by the RBI.

• It is a negotiable instrument that represents the funds in a bank account.

• Rs. 20 coin is an example of fiat money as it is a coin issued by the RBI and has value because the government has declared it to be legal tender.

• Rs. 10 coin is also an example of fiat money as it is a coin issued by the RBI and has value because the government has declared it to be legal tender.

Q47. Answer: (d) 5 wickets

The correct answer is 5 wickets.

Key Points

• India defeated Australia by 5 wickets in the first ODI of the three-match series in March 2023 at Mumbai's Wankhede Stadium.

• This win gave India a 1-0 lead in the series.

• Australia won the toss and elected to bat first.

• Australia scored 188 runs for 10 wickets in 35.4 overs.

• India chased down the target in 39.5 overs, losing 5 wickets.

• KL Rahul (75 not out) and Ravindra Jadeja (45 not out) were the top scorers for India.

Additional Information

• A limited-overs cricket match between two teams with international status is called a One Day International (ODI).

• It is played over a set number of overs, typically 50, in a single day.

• Limited Overs Internationals (LOI) is another name for One Day International matches.

• Australia and England played their first One-Day International (ODI) at the Melbourne Cricket Ground on January 5, 1971.

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Q48. Answer: (c) All a, b and c

The correct answer is All a, b and c.

Key Points

• Sarhul festival is celebrated in Jharkhand by the tribal communities to worship nature and its elements.

• During the Sarhul festival, Sal tree flowers are collected and offered to God as they symbolize the fertility of Earth.

• The Sarhul festival marks the beginning of spring and is celebrated to seek blessings for a good harvest.

• The festival is also a symbol of unity and brotherhood among the tribal communities.

Additional Information

• The Sal tree is a sacred tree in Hinduism and is also known as Shala tree.

• Its wood is used for making furniture, boats, and agricultural tools.

• The tree is also known for its medicinal properties and is used in Ayurvedic medicine.

• Sarhul festival represents the start of the new year.

• The celebration lasts for three days, starting on Sukla Paksh's third day of the month of Chaitra and ending on Chaitra Purnima.

• The Sarhul festival is also celebrated in other states like Odisha and Bihar, but with different rituals and traditions.

Q49. Answer: (b) Waheeda Rehman

The correct answer is Waheeda Rehman.

Key Points

• Waheeda Rehman is a veteran actress and dancer who has worked in Hindi, Tamil, Telugu, and Bengali films.

• She has won several awards for her performances, including the National Film Award for Best Actress.

• In 2011, Waheeda Rehman was honoured with the Padma Bhushan award for her contribution to Indian cinema.

• Some of her notable films include "Guide", "Pyaasa", "Kabhi Kabhie", and "Trishul".

• Waheeda Rehman is considered to be one of the finest actresses in Indian cinema and has inspired generations of actors with her performances.

Additional Information

• Padma Bhushan is the third-highest civilian award in India, given for distinguished service of a high order in any field.

• Hema Malini is also known as the "Dream Girl" of Bollywood.

• She is a popular actress and dancer who has won several awards for her contributions to Indian cinema.

• Meena Kumari was a legendary actress who was known for her powerful performances in films like "Pakeezah" and "Sahib Bibi Aur Ghulam".

• Rekha is a versatile actress who has acted in over 180 films and has won several awards, including the National Film Award for Best Actress.

Q50. Answer: (c) Ponnani

The correct answer is Ponnani.

Key Points

• Bharathapuzha is also known as River Nila or River Ponnani.

• Bharathapuzha is the second longest river in Kerala, flowing for a distance of 209 km.

• It originates from the Anamalai hills in Tamil Nadu and flows through Palakkad district before draining into the Arabian Sea.

• Bharathapuzha is 250 km long in total, of which 41 km stretch along Tamil Nadu, its source state.

Additional Information

• Ittikkara:

• Ittikara river is situated in Kollam district in kerala.

• The origin of itthikara river is from the low hills situated near Madthuri Kunnu at about +240m above M.S.L.

• Ayiroor:

• It lies in the western portion of Ranni taluk, in the Pathanamthitta district of Kerala state, India,which is close to Thiruvalla.

• Ayiroor is situated along the Ayiroorpuzha river, which is among the tiniest rivers in Kerala, second only to the Manjeshwaram puzha.

• Kallayi:

• This river is in Kerala.

• Its starting point is at an elevation of 45 meters (148 feet) in Cherikkulathur, in the Western Ghats.

• Its length is 22 kilometers.

Q51. Answer: (d) 9

Shortcut Trick

Assume Total Work is the LCM of 10 and 15, which is 30 units.

Efficiency of A = 3 units/day and Efficiency of B = 2 units/day.

When a person leaves before completion, add their potential work to the total: Total Days = (Total Work + Work of person who left) ÷ Total Efficiency.

Total Days = (30 + 3 × 5) ÷ (3 + 2) = 45 ÷ 5 = 9 days.

Therefore The correct answer is 9 days.

Alternate Method

Given:

Time taken by A = 10 days

Time taken by B = 15 days

A left 5 days before the work was completed.

Person	Days	Total Work	Efficiency
A	10	30	3
B	15	2	

Calculations:

=> Let the total work be completed in x days.

=> A worked for (x − 5) days and B worked for x days.

=> Total work = (Efficiency of A × Time of A) + (Efficiency of B × Time of B)

=> 30 = 3 × (x − 5) + 2 × x

=> 30 = 3x − 15 + 2x

=> 30 + 15 = 5x

=> 45 = 5x

=> x = 9 days

Therefore The correct answer is 9 days.

Additional Information

Efficiency and Time

Efficiency is inversely proportional to the time taken. If time ratio is a:b, then efficiency ratio is b:a.

Work and Wages

Wages are generally distributed in the ratio of the work done by each person (Efficiency × Time).

Pipes and Cisterns

Similar logic applies; however, outlet pipes have negative efficiency as they empty the tank.

Leaving Before Completion Trick

If a person leaves n days before completion, add their n days of work to the Total Work and divide by the sum of efficiencies.

Q52. Answer: (b) 45 : 48 : 100

Given:

x : y : z = 3 : 4 : 5

Calculation:

Let x = 3k y = 4k and z = 5k

So value of (x/y) : (y/z) : (z/x) is

3k/4k ; 4k/5k : 5k/3k

=> 3/4 : 4/5 : 5/3

=> (3/4) × 60 : (4/5) × 60 : (5/3) × 60

=> 3 × 15 : 4 × 12 : 5 × 20 = 45 : 48 : 100

Therefore The correct option is 2

Q53. Answer: (a) 0

Given:

cos θ + sec θ = √3,

Formula used:

$\cos3\theta + \sec3\theta = (\cos\theta + \sec\theta)^3 - 3(\cos\theta + \sec\theta)$

Calculation:

$\cos3\theta + \sec3\theta = (\cos\theta + \sec\theta)3 - 3(\cos\theta + \sec\theta)$

$\Rightarrow (\sqrt{3})^3 - 3\sqrt{3}$

$\Rightarrow 3\sqrt{3} - 3\sqrt{3} = 0$

Therefore The correct answer is 0.

Q54. Answer: (c) Tanvi

Calculation:

If a student secures 80% or more in a subject, the student is considered to have received a distinction in the subject.

In Geography Tanvi gets 85 /100 which is 85%.

Therefore The correct option is 3

Mistake Points The question is, "The following table gives the percentage of marks obtained by seven students in six different subjects in an examination."

So,

The percentage marks are given, not the absolute marks.

For example,

In computer science, Ayush's mark given in the table is 80. It means Ayush got 80% in computer science.

Ayush's marks in computer science = 80% of 40 = 32 marks out of 40

Now, the question asked, who among the students below received a distinction in exactly one of the six subjects?

So the question is, who among them received 80% or more marks in only one subject?

Tanvi received 80% or more marks only in Geography. So Tanvi is the right answer.

Q55. Answer: (c) 13059

Concept used:

The sum of the digits should be divisible by 9

Calculation:

Sum of the digits of the number 13051 is 1 + 3 +0 + 5 + 1 = 10

We have to add 8 which means 10 + 8 = 18 to make it divisible by 9

So the number will be 13051 + 8 = 13059

Therefore The correct option is 3

Q56. Answer: (a) 8800 cm^3

Given:

Height = 21 cm and slant height = 29 cm

Formula used:

Volume = $1/3\ \pi r^2 h$ (r = radius and h = height)

Slant height(l) = $\sqrt{(r^2 + h^2)}$

Calculation:

Slant height(l) = √(r2 + h2)

29 = √(r2 + 212)

=> 841 - 441 = r2

=> r2 = 400

=> r = 20

The volume will be,

$1/3 \times \pi \times 20 \times 20 \times 21$

=> × 22/7 × 20 × 20 × 21

=> 22 × 20 × 20 = 8800 cm3

Therefore The correct option is 1

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Q57. Answer: (b) Rs. 76,350

Given:

Principal = Rs. 75,000, rate of interest = 9%

Formula used:

Simple interest = P × R × T / 100 [P = principal, R = rate of interest, T = time]

Calculation:

Here total number of days will be 73 days

The simple interest for those 73 days is

SI = (75,000 × 9 × 73)/(365 × 100)

=> 150 × 9 = Rs 1350

Total amount to be paid 75000 + 1350 = Rs 76350

Therefore The correct option is 2

Q58. Answer: (a) Rs. 10,580

Calculation:

The total amount spent during the year 1999 was Rs. 46,000,

The amount spent on food was 23%

So value of 23% will be 46000 × 23/100 = Rs. 10,580

Therefore The correct option is 1

Q59. Answer: (d) 28°

Given:

cos(3α) = sin(α - 22°)

Concept used:

Cos θ = sin (90° - θ)

Calculation:

Here,

cos(3α) = sin(α - 22°)

=> sin (90° - 3α) = sin(α - 22°)

=> (90° - 3α) = (α - 22°)

=> 4α = 112

=> α = 28°

Therefore The correct option is 4

Q60. Answer: (b) $(1-m^2)/m$

Given:

$\sec\theta - \tan\theta = m$

Formula used:

$\sec^2\theta - \tan^2\theta = 1$

Concept used:

$\sec\theta - \tan\theta = m$, $\sec\theta + \tan\theta = 1/m$

Calculation:

$\sec\theta - \tan\theta = m$ 1

, $\sec\theta + \tan\theta = 1/m$ 2

By deducting equation 1 from 2 we get

$\sec\theta + \tan\theta = 1/m$

$\sec\theta - \tan\theta = m$

=> $2\tan\theta = 1/m - m$

=> $(1-m^2)/m$

Therefore The correct option is 2

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Q61. Answer: (b) 81 kg

Shortcut Trick

Total weight increase in the group = Total players × Increase in average weight

Total weight increase = 12 × 1.5 = 18 kg

New player weight = Old player weight + Total increase

New player weight = 63 kg + 18 kg = 81 kg

Therefore The correct answer is 81 kg.

Alternate Method

Given:

Number of players = 12

Weight of the replaced player = 63 kg

Increase in average weight = 1.5 kg

Calculation:

=> Let the initial average weight of 12 players be 'A' kg.

=> Total weight of the group = 12A kg

=> New total weight after replacement = 12A − 63 + (New Player Weight)

=> New average = A + 1.5

=> (12A − 63 + New Player Weight) ÷ 12 = A + 1.5

=> 12A − 63 + New Player Weight = 12(A + 1.5)

=> 12A − 63 + New Player Weight = 12A + 18

=> New Player Weight = 18 + 63

=> New Player Weight = 81 kg

Therefore The correct answer is 81 kg.

Additional Information

Replacement Rule in Average

When one item is replaced, the change in total weight is always equal to (Number of items × Change in average). New Value = Replaced Value + (n × ΔAverage).

Average of a Group

The average weight is the sum of weights of all members divided by the total number of members. Average = (Sum) ÷ (Count).

Effect of Addition vs Replacement

In replacement, the count (n) remains constant. In addition, the count increases to (n+1), which requires a different calculation for the new average.

Q62. Answer: (a) 15 km/h

Given:

In a 5 km race, S gave a 500 m head start to T.

Concept used:

Distance = speed × time

Calculation:

When S moves 5 km then T moves (5 - 0.5) = 4.5 km

Speed of T is 13.5 km / h

So T moves moves 4.5 km in = 4.5/13.5 = 1/3 hour = 20 minutes

S moves 5 km in 1/3 hour

So in 1 hr S moves = 5 × 3/1 = 15 km / h

Therefore The correct option is 1

Q63. Answer: (c) 20√11 cm²

Given:

Chord AB = 20 cm, radius of the circle = 12 cm

Concept used:

OP is perpendicular on AB and height of triangle AOB

Formula used:

Area of a triangle = 1/2 × base × height

Calculation:

As per the question,

OP = $\sqrt{12^2 - 10^2}$

=>$\sqrt{44} = 2\sqrt{11}$

Base = AB = 20 cm height = $2\sqrt{11}$

The area of triangle AOB is,

1/2 × AB × OP

=> 1/2 × 20 × $2\sqrt{11} = 20\sqrt{11}$ cm2

Therefore The correct option is 3

Q64. Answer: (d) 164/361

Given:

$\tan\theta = 8/19$

Formula used:

$\sec^2\theta - \tan^2\theta = 1$

Calculation:

$\sec 2\theta - \tan 2\theta = 1$

$\sec 2\theta = \tan 2\theta + 1$

$\sec 2\theta = (8/19)^2 + 1$

=> 1 + (64/361) = 164/361

Therefore The correct option is 4

Q65. Answer: (a) Rs. 427

Shortcut Trick

Difference in quantity = (5 breads + 1 juice) − (3 breads + 1 juice) = 2 breads.

Difference in price = 433.50 − 323.50 = Rs. 110.

Cost of 1 bread = 110 ÷ 2 = Rs. 55.

Cost of 1 juice packet = 323.50 − (3 × 55) = Rs. 158.50.

Cost of 2 breads + 2 juices = 2 × (55 + 158.50) = 2 × 213.50 = Rs. 427.

Therefore The correct answer is Rs. 427.

Alternate Method

Given:

Cost of 3 breads and 1 juice packet = Rs. 323.50

Cost of 5 breads and 1 juice packet = Rs. 433.50

Let the cost of one bread be B and one juice packet be J.

=> 3B + J = 323.50 −−− (1)

=> 5B + J = 433.50 −−− (2)

Subtracting equation (1) from (2):

=> (5B + J) − (3B + J) = 433.50 − 323.50

=> 2B = 110

=> B = 55

Substitute B = 55 in equation (1):

=> 3(55) + J = 323.50

=> 165 + J = 323.50

=> J = 323.50 − 165 = 158.50

Required cost for 2 breads and 2 juice packets:

=> 2B + 2J = 2(B + J)

=> 2(55 + 158.50)

=> 2 × 213.50 = 427

Therefore The correct answer is Rs. 427.

Additional Information

Linear Equations in Two Variables

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These are equations of the form ax + by = c. They can be solved using the elimination method or substitution method.

Elimination Method

This involves adding or subtracting equations to remove one variable, making it easier to solve for the other.

Unitary Method

The technique of finding the value of a single unit and then multiplying by the desired number of units to find the total value.

Q66. Answer: (b) 2

Given:

PrincipalPrincepal = Rs. 40000, Amount = Rs. 46656, rate of interest = 8%

Formula used:

For compound interest, Amount = P (1 + R/100)n [P = principal, R = rate of interest and n = number of years}

Calculation:

As per the question,

46656 = 40000 (1 + 8/100)n [

=> (1 + 8/100)n = 46656 / 40000

=> (1 + 2/25)n = 729/ 625

=> (27/25)n = 729/ 625

From here we can say that

n = 2 years

Therefore The correct option is 2

Q67. Answer: (c) 48 sq.cm

Given:

The ratio of the sides 9 : 4, Area of the larger triangle is 243 sq.cm

Concept used:

Area of larger triangle / Area of smaller triangle = (side)² of larger triangle / (side)2 of smaller triangle

Calculation:

Let the area of smaller triangle = x

As per the question,

=> 243 / x = 9^2 / 4^2

=> 243 / x = 81 / 16

=> x = 16 × 3

=> x = 48 sq.cm

Therefore The correct option is 3

Q68. Answer: (b) √10

Given:

a = 1/(a-√6)

Formula used:

$(a + 1/a)^2 = (a - 1/a)^2 + 4$

Calculation:

a = 1/(a-√6)

=> a^2 - √6a = 1

=> a - 1/a = √6

=> $(a + 1/a)^2$ =6 + 4

=> $(a + 1/a)^2$ = 10

=> (a+ 1/a) = √10

Therefore The correct option is 2

Q69. Answer: (c) 14.4% profit

Given:

The marked price = 30% above its cost price.

Discount = 12%

Concept used:

SP = CP + profit

Profit/ loss is calculated on the cost price and discount on the market price.

Calculation:

Let the CP is = 100

The marked price is = 130

The selling price will be,

=> 130 × 88/100 =114.4

The profit percentage will be,

=> 100 - 114.40

=> 14.4% profit

Therefore The correct option is 3

Q70. Answer: (b) √29

Given:

x = 1/(x-5)

Formula used:

$(a + b)^2 = (a - b)^2 + 4ab$

Calculation:

x = 1/ (x -5)

=> $x^2 - 5x = 1$

Dividing both sides by x,

=> x - 5 = 1/x

=> x - 1/x = 5

(x + 1/x)2 = (x - 1/x)2 + 4 × x × 1/x

=> $(x + 1/x)^2 = 5^2 + 4$

=> (x + 1/ x)2 = 29

=> (x + 1/ x) = √29

Therefore The correct option is 2.

Q71. Answer: (b) 26%

Given:

The marked price = 40% above its cost price.

Discount = 10%. Selling price is Rs. 3,780

Concept used:

SP = CP + profit

Profit/ loss is calculated on the cost price and discount on the market price.

Calculation:

Let the CP is = 100

The market price is = 140

The selling price will be,

=> 140 × 90/100 = 126

The profit percentage will be,

=> 100 - 126

=> 26 % profit

Therefore The correct option is 2

Q72. Answer: (d) 6.33%

Calculation:

In the production increase of D-type cars in the year 2022 in comparison to the previous year is, (2100 - 1975) = 125

The percentage will be (125 / 1975) × 100 = 6.33%

Therefore The correct option is 4

Q73. Answer: (a) 22

Shortcut Trick

The length of an arc subtending an angle θ is given by (θ/360) × Circumference.

For θ = 90°, the arc length is exactly 1/4 of the total circumference.

Total Circumference (2πr) = 2 × (22/7) × 14 = 88 cm.

Required Arc Length = 88 ÷ 4 = 22 cm.

Therefore The correct answer is 22 cm.

Alternate Method

Given:

Radius (r) = 14 cm

Central Angle (θ) = 90°

Value of π = 22/7

Formula Used:

Length of Arc (l) = (θ / 360°) × 2πr

Calculations:

=> l = (90 / 360) × 2 × (22/7) × 14

=> l = (1 / 4) × 2 × 22 × (14 / 7)

=> l = (1 / 4) × 44 × 2

=> l = (1 / 4) × 88

=> l = 22 cm

Therefore The correct answer is 22 cm.

Additional Information

Area of a Sector

The area of a sector with radius r and angle θ is given by Area = (θ/360) × πr² or Area = (1/2) × l × r.

Perimeter of a Sector

The total boundary of a sector includes the arc length and two radii: Perimeter = l + 2r.

Circumference and Diameter

The ratio of the circumference to the diameter (2r) is always constant and is represented by π ≈ 22/7 or 3.14.

Q74. Answer: (d) Rs. 3,700

Shortcut Trick

According to the question, 30% of the Marked Price is equal to the discount amount.

30% → Rs. 1,110

1% → 1,110 ÷ 30 = 37

100% (Marked Price) → 37 × 100 = Rs. 3,700

Therefore The correct answer is Rs. 3,700.

Alternate Method

Given:

Discount Percentage = 30%

Discount Value = Rs. 1,110

Formula Used:

Discount = (Discount% ÷ 100) × Marked Price (MP)

Calculations:

=> Discount = 30% of Marked Price

=> 1,110 = (30 ÷ 100) × MP

=> MP = (1,110 × 100) ÷ 30

=> MP = 37 × 100

=> MP = Rs. 3,700

Therefore The correct answer is Rs. 3,700.

Additional Information

Marked Price and Selling Price Relation

The Selling Price (SP) is calculated by subtracting the discount from the Marked Price (MP): SP = MP − Discount.

Discount Percentage Formula

Discount % is always calculated on the Marked Price: Discount % = (Discount ÷ MP) × 100.

Successive Discounts

If two successive discounts of a% and b% are given, the equivalent single discount is given by (a + b − (a × b) ÷ 100)%.

Q75. Answer: (c) 39,191

Shortcut Trick

Total Selling Price (SP) = Initial Cost Price (CP) × (100 + P1)% × (100 − L2)%

SP = 37,800 × 108% × 96%

SP = 37,800 × 1.08 × 0.96 = 39,191.04

Rounding to the nearest rupee, we get 39,191.

Therefore The correct answer is Rs. 39,191.

Alternate Method

Given:

Cost Price for S = Rs. 37,800

Profit percentage of S = 8%

Loss percentage of P = 4%

Formula Used:

Selling Price (SP) = Cost Price (CP) × (100 ± Profit/Loss %)/100

Calculations:

=> Price at which S sells to P (which is CP for P) = 37,800 × (108/100)

=> CP for P = 378 × 108 = Rs. 40,824

=> Price at which P sells to Q (SP for P) = 40,824 × (100 − 4)/100

=> SP for P = 40,824 × 0.96

=> SP for P = 39,191.04

=> Rounding to the nearest rupee, we get Rs. 39,191.

Therefore The correct answer is Rs. 39,191.

Additional Information

Successive Percentage Change

When a value changes by x% and then y%, the net effective change is given by [x + y + (xy/100)]%.

Relation between CP and SP

Selling Price = Cost Price + Profit OR Cost Price − Loss. Profit % and Loss % are always calculated on the Cost Price unless stated otherwise.

Rounding Rules

If the decimal part is 0.5 or more, round up to the next integer. If it is less than 0.5, round down to the current integer.

Q76. Answer: (b) The cookies were baked on the weekend by Daddy.

The correct answer is: The cookies were baked on the weekend by Daddy.

Key Points

• In passive voice, the focus is on the action and the recipient of the action rather than the person or thing performing the action.

• Active Voice Structure: Subject + Verb + Object

• Example: The chef prepared a delicious meal. (Active)

• Passive Voice Structure: Object + "to be" + Past Participle of the main verb + By + Subject

• Example: A delicious meal was prepared by the chef. (Passive)

• Here, in the given sentence:

• The subject (Daddy), verb (baked), and object (the cookies).

• Place the object as the subject: "The cookies."

• Use the appropriate form of "to be": "were" (past tense).

• Use the past participle of the main verb: "baked."

• Include the original subject with "by"

Therefore, the correct answer is option 2.

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Q77. Answer: (b) tolerant

The solution is in Hindi. Read it online.

Q78. Answer: (a) the thieves have leave.

The correct answer is: the thieves have leave.

Key Points

• The error is related to the verb tense.

• In this case, the present perfect tense "have leave" is incorrect.

• The correct form should be in the past tense, as the action of leaving occurred before the recalling in the past.

• The correct phrase should be "the thieves had left."

• Corrected sentence: He finally recalled that the thieves had left from the front door.

• In this corrected sentence, the past perfect tense "had left" is used to indicate that the thieves left before the main action of recalling took place.

Thus, option 1 is the correct answer.

Q79. Answer: (d) Blandness

The solution is in Hindi. Read it online.

Q80. Answer: (b) stress

The solution is in Hindi. Read it online.

Q81. Answer: (d) ACDB

The correct answer is: ACDB

Key Points

• Sentence A: This sentence introduces the overarching theme of the importance of reading and its enduring significance over time.

• Sentence C: This sentence elaborates on one of the benefits of reading, emphasizing the acquisition of knowledge and wisdom.

• Sentence D: This sentence suggests a practical approach to instilling the habit of reading, particularly among the young generation, by making it a household practice.

• Sentence B: This sentence concludes the paragraph by highlighting the idea that once individuals comprehend the rationale for reading, they are likely to share this understanding with others.

• So, the order ACDB creates a coherent flow of ideas, starting with the historical significance of reading, moving on to its benefits, suggesting a practical implementation at home, and concluding with the idea of passing on the understanding to others.

Therefore, the correct answer is option 4.

Q82. Answer: (a) quickly

The correct answer is: Quickly

Key Points

• In the context of the sentence, "quickly" should be used to modify the verb "caught."

• Adverbs, like "quickly," are used to modify verbs, adjectives, or other adverbs and provide more information about how the action is performed.

• Corrected sentence: The flames caught so quickly that I had no time to think.

• So, "quickly" is the correct choice as it serves as an adverb, appropriately modifying the verb "caught" to convey the speed at which the flames ignited.

Therefore, the correct answer is option 1.

Additional Information

• "Quickest" is an adjective and does not fit syntactically in the sentence. Adjectives modify nouns.

• "As quick as" is a comparative phrase, it is used to compare the speed of two actions or objects.

• "Quicker" is an adjective and doesn't fit the sentence structure.

Q83. Answer: (b) won’t we?

The correct answer is: won’t we?

Key Points

• The original sentence is a tag question, which is used to confirm or seek agreement on a statement.

• In English, the tag question typically includes an auxiliary verb opposite in polarity to the main clause.

• In this case, the main clause is positive ("We will go to Spain this summer"), so the tag question should have a negative auxiliary

verb.

• So, the correct option to improve the underlined part of the given sentence is "won't we?"

• Corrected sentence: We will go to Spain this summer, won't we?

• The negative tag question provides a balanced and grammatically correct structure, seeking confirmation or agreement with the positive statement in the main clause.

Therefore, the correct answer is option 2.

Q84. Answer: (c) To add fuel to the fire

The solution is in Hindi. Read it online.

Q85. Answer: (d) Obligate

The solution is in Hindi. Read it online.

Q86. Answer: (d) The food is prepared by the chef in the kitchen.

The correct answer is: The food is prepared by the chef in the kitchen.

Key Points

• In the passive voice, the object of the active sentence becomes the subject, the verb is changed to its passive form, and the original subject is mentioned as the agent is introduced by the preposition "by."

• The prepositional phrase remains in the same position.

• Active Voice Structure: Subject + Verb + Object + Prepositional Phrase

• Example: The gardener plants beautiful flowers in the garden. (Active)

• Passive Voice Structure: Object (from the active sentence) + Verb (in passive form) + Agent ('by') + Prepositional Phrase

• Example: Beautiful flowers are planted in the garden by the gardener. (Passive)

Therefore, the correct answer is option 4.

Q87. Answer: (a) hits the nail on the head

The solution is in Hindi. Read it online.

Q88. Answer: (a) Ridicule

The solution is in Hindi. Read it online.

Q89. Answer: (b) SQPR

The correct answer is: SQPR

Key Points

• S (Subject): "The name 'Madurai'" is the subject of the sentence. It introduces what the sentence is about.

• Q (Qualifier): "evokes in the minds of the Tamils" is a qualifier that provides additional information about how the name 'Madurai' is perceived by the Tamils.

• P (Predicate): "the golden era when their language, culture, and arts flourished" serves as the predicate, explaining what 'Madurai' evokes. It completes the main idea of the sentence.

• R (Qualifier): "under the patronage of successive Pandian kings" adds more detail about the historical context of the golden era mentioned in the predicate.

• So, when arranged in the correct order (SQPR), the sentence reads: "The name 'Madurai' evokes in the minds of the Tamils the golden era when their language, culture, and arts flourished under the patronage of successive Pandian kings."

Therefore, the correct answer is option 2.

Q90. Answer: (c) Directory

The solution is in Hindi. Read it online.

Q91. Answer: (d) versatile

The solution is in Hindi. Read it online.

Q92. Answer: (a) for

The correct answer is: for

Key Points

• The use of "since" in the original sentence is incorrect because "since" is typically used to refer to a specific point in time, indicating when something started.

• When expressing a duration of time, "for" is the appropriate preposition to use.

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• In this case, the speaker is expressing the duration of time spent in Chennai (a week), which requires the preposition "for."
• Corrected sentence: I have been in Chennai for a week, but I am planning to return now.
• The corrected sentence uses "for" to indicate the period of one week during which the speaker has been in Chennai.

Therefore, the correct answer is option 1.

Additional Information

• "From" is used to indicate the point of origin or starting point of something.
• "In" is used to indicate a location, place, or enclosed space.

Q93. Answer: (a) huge

The solution is in Hindi. Read it online.

Q94. Answer: (b) supersede

The solution is in Hindi. Read it online.

Q95. Answer: (b) Opulence

The solution is in Hindi. Read it online.

Q96. Answer: (b) of

The correct answer is: Of

Key Points

• 'Of' is used to indicate possession, belonging, or association.
• Example: The colour of the sky is blue.
• In the given context, "of" is the appropriate preposition in this context to convey the relationship between friendship and human life, indicating that friendship is one of the key elements or aspects within the realm of human experience.

Therefore, the correct answer is option 2.

Additional Information

• On: Indicates a position, location, or surface.
• For: Indicates purpose, duration, or reason.
• By: Indicates the agent or means by which an action is done.

Q97. Answer: (b) together

The solution is in Hindi. Read it online.

Q98. Answer: (b) individuals

The solution is in Hindi. Read it online.

Q99. Answer: (d) However

The correct answer is: However

Key Points

• 'However' is used to introduce a contrasting or opposing idea; nevertheless; on the other hand.
• Example: She studied diligently for the exam; however, she didn't perform as well as she had hoped.
• In this context, the use of "however" implies that despite any potential challenges or difficulties, there is still an acknowledgement of the effort, patience, and understanding needed to establish and sustain friendships.

Therefore, the correct answer is option 4.

Additional Information

• 'Similarly' is used when comparing two things and highlighting their shared qualities.
• 'And' is used to combine items or show addition, sequence, or connection.
• 'Because' is used to show cause and effect, explaining why something happened.

Q100. Answer: (a) toxic

The solution is in Hindi. Read it online.

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