SSC CHSL 2025 Tier-1 (Held On: 18 Nov, 2025 Shift 1) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2025 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Identify the part of the sentence that contains a grammatical error.

A. The group of students, B. along with the professor, C. were discussing the new findings D. in the research lab.

(a) The group of students
(b) along with the professor
(c) were discussing the new findings
(d) in the research lab.

Q2. Identify the part of the sentence that contains a grammatical error.

A. She spoke B. so fastly that C. I could barely understand D. what she was saying.

(a) She spoke
(b) so fastly that
(c) I could barely understand
(d) what she was saying.

Q3. Fill in the blank with the most appropriate preposition:

The researchers accounted _____ all variables before finalizing the data model.

(a) for
(b) to
(c) with
(d) on

Q4. Fill in the blank with the most appropriate verb:

She _____ her position on the matter only after repeated questioning by the press.

(a) reiterates
(b) clarified
(c) deflects
(d) assumes

Q5. Select the most appropriate synonym of the word: Pellucid

(a) Vague
(b) Clear
(c) Obscure
(d) Ambiguous

Q6. Select the most appropriate synonym of the word: Querulous

(a) Contented
(b) Complaining
(c) Cheerful
(d) Pleasant

Q7. Choose the correct meaning of the idiom: Out and about

(a) At home resting
(b) Doing errands
(c) Active and socializing
(d) Traveling to distant places

Q8. Select the most appropriate antonym of the word: Retired

(a) Active
(b) Idle
(c) Resting
(d) Inactive

Q9. Select the most appropriate antonym of the word: Veracity

(a) Falsehood
(b) Truth
(c) Accuracy
(d) Authenticity

Q10. Choose the correct one-word substitute for:

A style of writing characterized by exaggerated sentimentality

(a) Sentimentalism
(b) Romanticism
(c) Melodrama
(d) Expressionism

Q11. Which sentence contains a misspelled word?

(a) Many believed the new millennium would bring great change, but some felt embarrassed when their predictions failed.
(b) He didn't want to embarrass himself at the start of the new millenium.
(c) The celebration of the millennium was truly unforgettable, though it did embarrass a few politicians.
(d) She didn't expect the event to embarrass her during the millennium gala.

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

The student said, "I have been reading this book for a month, but I still do not understand the last chapter, which is the most crucial part."

(a) The student said that he had been reading that book for a month, but he still did not understand the last chapter, which was the most crucial part.
(b) The student said that he has been reading this bookfor a month, but he still does not understand the last chapter, which is the most crucial part.
(c) The student said that he had been reading this book for a month, but he still did not understand the last chapter, which was the most crucial part.
(d) The student said that he had been reading that book for a month, but he still does not understand the last chapter, which is the most crucial part.

Q13. Select the option that expresses the given sentence in indirect voice.

The doctor said, If you exercise regularly, you will feel better."

(a) The doctor said that if you exercised regularly, you would feel better.
(b) The doctor said that if he/she exercised regularly, he/she would feel better.
(c) The doctor said that if one exercises regularly, one will feel better.
(d) The doctor said that if one exercised regularly, one would feel better.

Q14. Which sentence contains a misspelled word?

(a) We went to a new restuarant downtown.
(b) That restaurant serves delicious food.
(c) Is there a restaurant nearby that's open late?
(d) They own the oldest restaurant in town.

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Q15. Choose the most suitable option to replace the highlighted part of the sentence:

All the jury members was divided in their opinions.

(a) All the jury member were divided
(b) All the jury members were divided
(c) All the jury were divided between their opinions
(d) All juries have divided in their opinions

Q16. Choose the most suitable option to replace the highlighted part of the sentence:

One should do ones' duty.

(a) One should do one's duty
(b) One should do ones duties
(c) One should do once duties
(d) One should do their duty

Q17. Choose the correct passive voice transformation of the sentence:

You must finish your homework.

(a) Your homework must be finished by you.
(b) Your homework must being finished by you.
(c) Your homework must have been finished by you.
(d) Your homework is must be finished by you.

Q18. Choose the correct passive voice transformation of the sentence:

The new intern had forgotten to lock the laboratory door before leaving.

(a) The laboratory door was forgotten to be locked by the new intern before leaving.
(b) The laboratory door had been forgotten to be locked by the new intern before leaving.
(c) The laboratory door has been forgotten to be locked by the new intern before leaving.
(d) The laboratory door had forgotten to lock by the new intern before leaving.

Q19. Select the option that expresses the given sentence in direct voice.

The student told his friend that he had to go home that day because he had been feeling unwell since the day before, and his parents were waiting for him.

(a) "I have to go home today because I was feeling unwell since yesterday, and my parents are waiting for me," the student said to his friend.
(b) "I had to go home that day because I had been feeling unwell since the day before, and my parents were waiting for me," the student said to his friend.
(c) "I must go home today because I was feeling unwell since yesterday, and my parents were waiting for me," the student said to his friend.
(d) "I have to go home today because I had been feeling unwell since yesterday, and my parents were waiting for me," the student said to his friend.

Directions

Read the passage and answer the following questions:

India's tryst with chess is deeply interwoven with its cultural heritage, for the game itself originally known as "chaturanga" emerged on the subcontinent over a millennium ago. Initially conceived as a strategic simulation of warfare, "chaturanga" evolved into shatranj under Persian influence before migrating westward, ultimately becoming modern chess.

In the contemporary era, India's prominence on the global chess stage began with the meteoric ascent of Viswanathan Anand in the late 20th century. Anand's fluid playing style, amalgamating tactical precision with positional depth, earned him the World Chess Championship title multiple times and inspired a generation of players. His success catalysed institutional investment in chess, leading to an upsurge in tournaments, academies, and grassroots initiatives across the country.

The 21st century has witnessed the emergence of prodigies such as Rameshbabu Praggnanandhaa, D. Gukesh, and Nihal Sarin, whose exploits in international arenas have positioned India as a formidable force in team events like the Chess Olympiad. Digital platforms have further accelerated talent development, enabling young aspirants to spar with grandmasters worldwide, thus refining their strategic acumen from an early age.

Today, India stands not merely as the cradle of chess's origins but as an influential power shaping its future. This continuity from ancient invention to modern innovation underscores the nation's enduring legacy in the chess world.

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Q20. The phrase "enabling young aspirants to spar with grandmasters worldwide" functions as:

(a) Noun clause
(b) Adverbial phrase
(c) Participle phrase
(d) Absolute phrase

Q21. Identify the voice in "Initially conceived as a strategic simulation of warfare".

(a) Active voice
(b) Passive voice
(c) Middle voice
(d) Causative voice

Q22. The word "meteoric" most nearly means:

(a) Gradual and steady
(b) Rapid and spectacular
(c) Temporary and weak
(d) Hidden and secretive

Q23. The word "acumen" means:

(a) Sharpness in understanding
(b) Physical strength
(c) Luck
(d) Longevity

Q24. According to the passage, what factor in recent years has accelerated chess talent development in India?

(a) Increase in board game shops
(b) Digital platforms allowing global practice
(c) Mandatory school chess programs
(d) Reduced emphasis on international events

Q25. Which of the following pairs of homonyms can be used to fill in the blanks most suitably?

The interior designer received a _____ from her client for choosing furniture that would perfectly _____ the walls and floors.

(a) counsel, council
(b) complement, compliment
(c) compliment, complement
(d) council, counsel

GENERAL INTELLIGENCE

Q26. Two numbers differ by 12. If their product is increased by the square of their difference, the result is 1008. Find the larger number.

(a) 18
(b) 24
(c) 30
(d) 36

Q27. The average score of 5 students in a test is 75. If the scores of four students are 70,80,65, and 90, what is the score of the fifth student?

(a) 60
(b) 70
(c) 75
(d) 80

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Q28. A, B, and C started a business by investing Rs. 2000, Rs. 3000, and Rs. 4000 respectively. If the total profit at the end of the year was Rs. 1800, what is B's share of the profit?

(a) Rs. 400
(b) Rs. 600
(c) Rs. 800
(d) Rs. 900

Q29. What is the average of the following numbers: 12, 18, 24, 30, 36 ?

(a) 24
(b) 25
(c) 26
(d) 27

Q30. If a car travels 180 km in 3 hours, what is its average speed in km/hr?

(a) 50 km/hr
(b) 60 km/hr
(c) 70 km/hr
(d) 80 km/hr

Q31. If a number is increased by 10% and then decreased by 10%, what is the net change?

(a) 1% increase
(b) 1% decrease
(c) No change
(d) 0.5% decrease

Q32. During Diwali, Meera arranges 50 lamps in a row. A golden lamp is 18th from left and 33rd from right. A silver lamp is 25th from left and 26th from right. How many lamps are there between the golden and silver lamps?

(a) 6
(b) 7
(c) This arrangement is impossible
(d) 5

Q33. A shop offers a 25% discount on the marked price of an item. If the selling price is Rs. 750, what is the marked price?

(a) Rs. 900
(b) Rs. 1000
(c) Rs. 1050
(d) Rs. 1200

Q34. A person walks 9 km west, then 12 km north, and finally 9 km east. In which direction is he from his starting point?

(a) North
(b) South
(c) East
(d) West

Q35. A person walks 9 km west, then 12 km north, and finally 9 km east. In which direction is he from his starting point?

(a) North
(b) South
(c) East
(d) West

Q36. Few of the letters are given followed by a question mark (?) these letters are following a specific pattern you have to give the correct option which can replace question mark.

Complete the sequence: T, Q, N, K, ?

(a) G

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(b) H
(c) I
(d) J

Q37. What will come in place of the question mark (?) in the following number series? 34, 55, 89, 144, 233, ?
(a) 367
(b) 387
(c) 377
(d) 477

Q38. Identify the missing number in the following number sequence.
20, 15, 40, 30, 120, 90, ?, 360
(a) 270
(b) 350
(c) 380
(d) 480

Q39. Which one of the following number pairs is divisible by both 13 and 17?
(a) (221, 443)
(b) (663, 884)
(c) (443, 663)
(d) (664, 884)

Q40. Complete the following series from the given options.
ab__baabxb_a__xba_bxba
(a) xaba
(b) xabx
(c) xaxa
(d) aaba

Q41. Which of the following options will replace the question mark (?) in the given series?
Z1, X2, V3, T4, ?
(a) R5
(b) S5
(c) P6
(d) Q5

Q42. What should come next in the following series?
A4, C16, F36, J64, ?
(a) 0100
(b) N100
(c) K100
(d) L100

Q43. If in a certain code, 'MANGO' is written as 'LKZYMLFENM', what is the code of 'GUITAR'?
(a) FESTHGRSZYPQ
(b) FETSHGQRYZPQ
(c) FETSGHRTZYPQ
(d) FETSHGSRZYQP

Q44. In the question given below, an assertion(A) is given, followed by a reason(R) which may or may not explain the assertion. From the given options, choose the right answer.
A) Apart from studies, playtime is also essential for children.
R) Engaging in play helps in physical development and improves co-ordination.
(a) Both A and R are true, and R is the correct explanation for A.

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(b) Both A and R are true, but R is not the correct explanation for A.
(c) A is true, while R is false.
(d) A is false, while R is true.

Q45. Based on the statement(s) given below, choose the best possible conclusion(s) that follows:

Statements:

Only candidates with 7 or above years of experience in marketing can apply for the post; otherwise, their applications will be rejected.

Conclusions:

I. Only candidates with an MBA degree in marketing can apply.

II. Applications of candidates with 6 years of experience in marketing will not be considered for the post.

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

Q46. Instructions: Carefully examine the Reference Statement. Then, identify the single option among the four alternatives (a, b, c, d) that is an EXACT AND COMPLETE REPLICATION of the Reference Statement. Pay exceptionally close attention to every character, number, symbol, space, and punctuation mark.

Reference: Mumbai (BOM), 26/11/2008, 09:30 PM.

(a) Mumbai (BOM), 26/11/2008, 09:30 PM.
(b) Mumbai (BOM), 26/11/2008, 09:30 P.M.
(c) Mumbai (BOM), 26/11/2008, 9:30 PM.
(d) Mumb_ai (BOM), 26/11/2008, 09:30 PM.

Q47. Instructions: For the question below, carefully examine the Reference Statement. Then, identify the single option among the four alternatives (a, b, c, d) that is an EXACT AND COMPLETE REPLICATION of the Reference Statement. Pay exceptionally close attention to every character, number, symbol, space, and punctuation mark.

Reference: Athens, GR: 24th July, 1974.

(a) Athens, GR: 24th July, 1974.
(b) Athens, Gr.: 24th July, 1974.
(c) Atens, GR: 24th July, 1974.
(d) Athens, GR: 24th July, 1947.

Q48. Instructions: For the question below, carefully examine the Reference Statement. Then, identify the single option among the four alternatives (a, b, c, d) that is an EXACT AND COMPLETE REPLICATION of the Reference Statement. Pay exceptionally close attention to every character, number, symbol, space, and punctuation mark.

Reference: Edinburgh: 24th June, 1314

(a) Edinburgh: 24th June, 1314
(b) Edinburg: 24th June, 1314
(c) Edinburgh: 24th June, 1413
(d) Edinburgh: 23rd June, 1314

Q49. In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

3	**2**	**5**
4	4	2
5	6	6
59	47	?

(a) 53
(b) 55
(c) 57

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(d) 59

Q50. In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

7	4	9
5	6	5
3	5	3
104	119	?

(a) 144
(b) 124
(c) 134
(d) 184

QUANTITATIVE APTITUDE

Q51. The intersection of Rational and Irrational numbers is:

(a) Rational
(b) Irrational
(c) Real
(d) Empty

Q52. Which number is NOT real?

(a) √7
(b) √-7
(c) 1/√7
(d) -√7

Q53. The number of rational numbers between any two rational numbers is:

(a) 0
(b) 1
(c) Finite
(d) Infinite

Q54. In triangle PQR, two medians, PS and QT, intersect each other at X at right angles. If PS = 18 cm and QT = 7.5 cm, then find the length of PQ.

(a) 11 cm
(b) 17 cm
(c) 13 cm
(d) 10 cm

Q55. If 8 men can do a piece of work in 14 days, the time taken by 12 men to do the same piece of work will be:

(a) 7.5 days
(b) 8 days
(c) 8.5 days
(d) 9.33 days

Q56. A does 60% of the work in 18 days. He then calls in B, and they together finish the remaining work in 4 days. How long would B alone take to do the whole work?

(a) 21 days
(b) 20 days
(c) 18 days
(d) 15 days

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Q57. The longest chord of a circle is:

(a) Radius
(b) Diameter
(c) A chord perpendicular to the radius
(d) Tangent

Q58. In a circle, chord AB subtends 60° at the center. The angle between the tangents at A and B is:

(a) 60°
(b) 90°
(c) 120°
(d) 150°

Q59. The radius of the circle passing through the vertices of a triangle with sides 6 cm, 8 cm, and 10 cm is:

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

Q60. The circumference of a circle is 132 cm. The radius of the given circle is equal to the radius of a cone having height 12 cm. Find the volume of the cone. (Take π = 22/7)

(a) 5044 cm3
(b) 5124 cm3
(c) 5784 cm3
(d) 5544 cm3

Q61. A circle is inscribed in ΔABC, touching AB, BC and AC at the points P, Q and R, respectively. If AB - BC = 4 cm, AB - AC = 2 cm and the perimeter of ΔABC = 36 cm, then PB + AR (in cm) is:

(a) 12
(b) 10
(c) 14
(d) 15

Q62. A man lends out a sum of money by putting 40% of it at 7.5% p.a. simple interest and the remaining 60% at 11.25% p.a. simple interest.

After 2½ years (2.5 years) his total interest income is Rs. 6,825. What was the original sum (principal) he lent?

(a) Rs. 25000
(b) Rs. 28000
(c) Rs. 30000
(d) Rs. 27692.31

Q63. Deepak spends 75% of his income, whereas Karan spends 80% of his income. Both of them save Rs. 7,500 each. The income of Sanjay is one-third of the sum of the income of Deepak and Karan. If Sanjay spends (7/9)th of his income, then find his savings.

(a) Rs. 5,500
(b) Rs. 5,900
(c) Rs. 5,000
(d) Rs. 5,700

Q64. In a partnership, the capital ratio between A and B is 5 : 7. If A invested Rs 50,000, how much did B invest?

(a) Rs 60,000
(b) Rs 70,000
(c) Rs 75,000
(d) Rs 80,000

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Q65. Two students' scores are 80% and 90% of a test's total score. What is the ratio of the first student's score to the second student's score?

(a) 8 : 9
(b) 9 : 8
(c) 4 : 5
(d) 5 : 4

Q66. The average age of 15 players in a hockey team is the same as it was 4 years ago because 5 players, whose current average age is 28 years, were replaced by 5 new players. What is the average age of the newcomers?

(a) 16 years
(b) 18 years
(c) 20 years
(d) 22 years

Q67. The average of 15 numbers is 28. If each number is doubled and then 5 is added to each, what will be the new average?

(a) 58
(b) 62
(c) 61
(d) 64

Q68. A flight covers 1,200 km in 2 hours. By what percent should its speed be decreased to cover the same distance in 3 hours?

(a) 25.50%
(b) 30.11%
(c) 33.33%
(d) 38.57%

Q69. A shopkeeper offers a 20% discount on the marked price of an article. If the marked price of the article is Rs. 2,500 and the shopkeeper further gives a 10% discount on the already reduced price, what is the final selling price of the article?

(a) Rs. 1,850
(b) Rs. 1,800
(c) Rs. 1,600
(d) Rs. 1,700

Q70. A shopkeeper offers two successive discounts of 10% and 20% on a laptop priced at Rs. 40,000. What is the final selling price after both discounts?

(a) Rs. 30,000
(b) Rs. 31,600
(c) Rs. 28,800
(d) Rs. 32,000

Q71. A 70-litre container is filled with a solution of wine and water, with the ratio of wine to water being 5 : 2. If 14 litres of the solution is removed and replaced with 14 litres of pure water, what is the new ratio of wine to water?

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

Q72. Arrange in ascending order: √3, cbrt5, 4√6.

(a) √3, cbrt5, 4√6
(b) 4√6, cbrt5, √3
(c) cbrt5, √3, 4√6
(d) cbrt5, 4√6, √3

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Q73. Find the equation of the line with slope-2 passing through the point (3, 5).

(a) y = -4x - 9
(b) y = x - 11
(c) y = -2x + 11
(d) y = 4x + 19

Q74. Two similar triangles have areas of 16 m2 and 25 m2. If the perimeter of the smaller triangle is 20 meters, what is the perimeter of the larger triangle?

(a) 17 m
(b) 25 m
(c) 23 m
(d) 33 m

Q75. In triangle ABC, D and E are points on sides AB and AC such that DE || BC. If AD = 4 cm, DB = 12 cm, A E = 3 cm, and EC = 9 cm, what is the ratio of the area of triangle ADE to the area of triangle ABC?

(a) 1 : 4
(b) 1 : 16
(c) 2 : 9
(d) 3 : 12

GENERAL AWARENESS

Q76. In March 2025, Operation Brahma was launched to assist earthquake hit _____.

(a) Bangladesh
(b) Myanmar
(c) Nepal
(d) Turkey

Q77. Srinivasa Ramanujan, the mathematical genius, was passed away on April 26, 1920, at about what age?

(a) 21
(b) 32
(c) 47
(d) 58

Q78. Who became the Chairman of ISRO in January 2025?

(a) S. Somanath
(b) K. Sivan
(c) V. Narayanan
(d) Koppillil Radhakrishnan

Q79. In November 2024, who has been appointed as Chief of BrahMos Aerospace?

(a) Jaiteerth Raghavendra Joshi
(b) Rakesh Sharma
(c) Jitender Pal Singh
(d) M. Mohan

Q80. In October 2024, who has been appointed as the Secretary of the Ministry of Coal?

(a) Vikram Dev Dutt
(b) Vijender Gupta
(c) Rekha Gupta
(d) Gopal Vittal

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Q81. In Budget 2025, the Union Finance Minister announced to set up fifty thousand Atal Tinkering Labs in Government schools in next _____ years.

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

Q82. SATAT initiative seen in news in November 2024 is related to which union ministry?

(a) Ministry of Petroleum & Natural Gas
(b) Ministry of Housing & Urban Affairs
(c) Ministry of Urban Development
(d) Ministry of Home Affairs

Q83. In Cricket, a _____ will be declared if the umpire thinks the batsman did not have a reasonable opportunity to score off the deliver.

(a) Fast ball
(b) Wide Ball
(c) Yorker
(d) Length Ball

Q84. In Track and Field Events, 800 meters and 1500 meters are of which type of race?

(a) Sprints
(b) Hurdles
(c) Middle/long
(d) Road running

Q85. As of 31 July 2025, who holds the record for most Asian Games medals by an Indian athlete?

(a) KD Jadhav
(b) Sachin Nag
(c) PT Usha
(d) Dutee Chand

Q86. In Cricket, a wide ball will add how many run/s to the batting team?

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

Q87. As of 31 July 2025, which is the second most successful team in Ranji Trophy?

(a) Railways
(b) Services
(c) Karnataka
(d) Maharashtra

Q88. The TrailGuard AI system has implemented as an anti-poaching tool in _____.

(a) Periyar Tiger Reserve
(b) Valmiki Tiger Reserve
(c) Similipal Tiger Reserve
(d) Gir National Park

Q89. In August 2025, Assam has launched the Operation Falcon _____.

(a) to protect one-horned rhinos from poachers
(b) to deport illegal migrants from Bangladesh to their country
(c) to tackle naxalism in the state
(d) to tackle leakages in direct benefit transfer

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Q90. Table tennis made its Olympic debut in _____.

(a) 1988
(b) 1992
(c) 1924
(d) 1928

Q91. ICC Men's ODI Cricket World Cup 2027 will be held in which continent?

(a) Africa
(b) Asia
(c) Europe
(d) Australia

Q92. Which traditional dance of Tamil Nadu is performed by women dancing in a circle while clapping their hands to a rhythm?

(a) Kummi
(b) Tusu
(c) Giddha
(d) Kathi

Q93. Interest payment on debt incurred by the government is part of the _____.

(a) Revenue receipt
(b) Revenue expenditure
(c) Capital receipt
(d) Capital expenditure

Q94. Bharatiya Reserve Bank Note Mudran Limited established as a fully owned subsidiary of the Reserve bank in the year _____.

(a) 1994
(b) 1996
(c) 1997
(d) 1995

Q95. In which year was the fixed rate repos in government securities was introduced to give maneuverability in liquidity management?

(a) 1995
(b) 1997
(c) 1998
(d) 1996

Q96. The Clearing Corporation of India Limited (CCIL) was established in _____.

(a) 2004
(b) 2006
(c) 2005
(d) 2001

Q97. As per census 2001, what was the sex ratio of India?

(a) 933
(b) 912
(c) 920
(d) 981

Q98. In the context of economy, if _____ is deducted from the gross value added to obtain the Net value added obtained.

(a) Depreciation
(b) Net indirect tax

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(c) Subsidy
(d) Wage

Q99. Where did Siddhartha Gautam meditate for many days?
(a) Lumbini
(b) Bodh Gaya
(c) Varanasi
(d) Ujjain

Q100. On the banks of which river was the Harappan site of 'Harappa' discovered in 1920-22?
(a) Ravi
(b) Ganga
(c) Luni
(d) Yamuna

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) were discussing the new findings

The correct answer is Option 3.

Key Points

• The primary error in the sentence lies in a lack of subject-verb agreement within the segment "were discussing the new findings."

• The true subject of the sentence is the singular collective noun "group" (in the phrase "The group of students").

• Interrupting phrases introduced by "along with," "as well as," or "in addition to" do not change the number of the subject. Therefore, the singular subject "group" still requires a singular verb.

• The plural helping verb "were" must be changed to the singular "was."

• Thus, the error is located in the segment were discussing the new findings.

Therefore, the correct answer is Option 3.

Correct Sentence: "The group of students, along with the professor, was discussing the new findings in the research lab."

Additional Information

• The group of students – This segment is grammatically correct. It establishes the singular subject of the sentence.

• along with the professor – This segment is correct. It acts as an interrupting prepositional phrase that provides extra information but does not affect the verb's conjugation.

• in the research lab. – This segment is grammatically correct. It is a well-formed prepositional phrase functioning as an adverb of place.

Q2. Answer: (b) so fastly that

The correct answer is Option 2.

Key Points

• The primary error in the sentence lies in the use of the word "fastly."

• "Fastly" is not a valid word in standard English. The word "fast" is an irregular adverb, meaning it functions as both an adjective and an adverb without needing the "-ly" suffix.

• Therefore, the correct adverbial form to describe how she spoke is simply "fast."

• Thus, the error is located in the segment so fastly that.

Therefore, the correct answer is Option 2.

Correct Sentence: "She spoke so fast that I could barely understand what she was saying."

Additional Information

• She spoke – This segment is grammatically correct. It establishes a clear subject and a past tense verb.

• I could barely understand – This segment is correct. "Barely" is used correctly as an adverb modifying the verb phrase "could understand."

• what she was saying. – This segment is correct. It functions perfectly as a noun clause acting as the direct object of "understand."

Q3. Answer: (a) for

The correct answer is 'for'.

Key Points

• The phrasal verb "account for" means to consider or include something when calculating or analyzing a situation.

• In the given context, the researchers considered all variables while finalizing the data model.

• The preposition "for" is the correct choice as it is used with "account" to convey the intended meaning.

Therefore, the correct answer is Option 1.

Complete Sentence: "The researchers accounted for all variables before finalizing the data model."

Additional Information

• Option 2: "to" is incorrect because "account to" does not convey the intended meaning in this context.

• Option 3: "with" is incorrect as it does not form a valid phrase with "account."

• Option 4: "on" is incorrect because "account on" is not a standard usage in this context.

Q4. Answer: (b) clarified

The correct answer is 'clarified'.

Key Points

• The verb "clarified" is the past tense of the verb "clarify" and is used to describe an action that has already been completed.

• The sentence indicates that the action (clarifying her position) occurred after repeated questioning, which implies a completed action in the past.

• Options 1, 3, and 4 are incorrect in this context because they do not align with the past tense requirement of the sentence.

Therefore, the correct answer is Option 2.

Complete Sentence: "She clarified her position on the matter only after repeated questioning by the press."

Additional Information

• Option 1: "reiterates" is incorrect because it is in the present tense, while the sentence requires a past tense verb.

• Option 3: "deflects" is incorrect because it implies avoiding the topic rather than addressing it directly.

• Option 4: "assumes" is incorrect because it does not fit the context of explaining one's position after being questioned.

Q5. Answer: (b) Clear

The solution is in Hindi. Read it online.

Q6. Answer: (b) Complaining

The solution is in Hindi. Read it online.

Q7. Answer: (c) Active and socializing

The solution is in Hindi. Read it online.

Q8. Answer: (a) Active

The solution is in Hindi. Read it online.

Q9. Answer: (a) Falsehood

The solution is in Hindi. Read it online.

Q10. Answer: (c) Melodrama

The solution is in Hindi. Read it online.

Q11. Answer: (b) He didn't want to embarrass himself at the start of the new millenium.

The solution is in Hindi. Read it online.

Q12. Answer: (a) The student said that he had been reading that book for a month, but he still did not understand the last c...

The correct answer is Option 1.

Key Points

• Direct Speech: The student said, "I have been reading this book for a month, but I still do not understand the last chapter, which is the most crucial part."

• Key Conversions:

• "have been reading" becomes "had been reading"

• Since the reporting verb "said" is in the past tense, the Present Perfect Continuous tense ("have been reading") changes to the Past Perfect Continuous tense ("had been reading").

• "this book" becomes "that book"

• In indirect speech, words expressing nearness in time or place change to words expressing distance. "This" becomes "that."

• "do not understand" becomes "did not understand"

• The Simple Present tense ("do not understand") changes to the Simple Past tense ("did not understand").

• "which is" becomes "which was"

• Similarly, the Simple Present verb "is" changes to the Simple Past verb "was."

• "I" becomes "he"

• The first-person pronoun "I" changes to the third-person pronoun "he" to match the subject (the student).

Therefore, the correct answer is Option 1.

Correct Sentence: The student said that he had been reading that book for a month, but he still did not understand the last chapter, which was the most crucial part.

Additional Information

• Option 2: "...he has been reading this book... does not understand... which is..."

• Incorrect because it fails to change the present tenses to past tenses and fails to change "this" to "that."

• Option 3: "...reading this book..."

• Incorrect solely because it retains the word "this" instead of changing it to "that."

• Option 4: "...does not understand the last chapter, which is..."

• Incorrect because while it fixes the first half of the sentence, it fails to backshift the verbs in the second half ("does not understand" and "is" should be in the past tense).

Q13. Answer: (d) The doctor said that if one exercised regularly, one would feel better.

The correct answer is Option 4.

Key Points

• Direct Speech: The doctor said, "If you exercise regularly, you will feel better."

• Key Conversions:

• "you" becomes "one"

• In the original sentence, "you" is used as a generic pronoun conveying general medical advice to anyone, rather than a specific individual. In formal indirect speech, when no specific listener is designated, the generic "you" is best replaced by the formal indefinite pronoun "one."

• "exercise" becomes "exercised"

• Since the reporting verb "said" is in the past tense, the Simple Present verb "exercise" must backshift to the Simple Past "exercised."

• "will feel" becomes "would feel"

• Similarly, the future modal "will" backshifts to its past form, "would." (This effectively changes a Type 1 Conditional into a Type 2 Conditional structure in the reported clause).

• Conjunction "that":

• The conjunction "that" is added to connect the reporting clause to the reported clause.

Therefore, the correct answer is Option 4.

Correct Sentence: The doctor said that if one exercised regularly, one would feel better.

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Additional Information

• Option 1: "The doctor said that if you exercised regularly, you would feel better."

• Generally considered incorrect in formal MCQ contexts because retaining "you" implies the doctor was speaking directly to the person reporting the speech, which loses the universal, general-advice tone of the original quote.

• Option 2: "The doctor said that if he/she exercised regularly, he/she would feel better."

• Incorrect because using "he/she" is clunky, awkward, and less standard than using the universal "one" for broad, generic statements.

• Option 3: "The doctor said that if one exercises regularly, one will feel better."

• Incorrect because it fails to backshift the verbs ("exercises" and "will") to match the past tense of the reporting verb ("said").

Q14. Answer: (a) We went to a new restuarant downtown.

The solution is in Hindi. Read it online.

Q15. Answer: (b) All the jury members were divided

The correct answer is '2' i.e. 'All the jury members were divided'.

Key Points

• The subject of the sentence, "jury members," is plural. Therefore, the verb must also be in the plural form to maintain subject-verb agreement.

• Option 1: "All the jury member were divided" is incorrect because "member" is singular, which does not match the plural subject "jury members."

• Option 3: "All the jury were divided between their opinions" is incorrect because "jury" is treated as a collective noun, and "between their opinions" is not grammatically accurate in this context.

• Option 4: "All juries have divided in their opinions" is incorrect because "juries" refers to multiple groups of jury, which changes the meaning of the sentence.

Therefore, the correct answer is Option 2.

Complete Sentence: "All the jury members were divided in their opinions."

Additional Information

• Subject-Verb Agreement: It is essential to match the subject and verb in number. A plural subject requires a plural verb, and a singular subject requires a singular verb.

• Collective Nouns: Words like "jury" can be singular or plural depending on whether they are acting as a single entity or as individuals. In this case, the sentence refers to individual members of the jury, so "members" is used.

Q16. Answer: (a) One should do one's duty

The correct answer is '1', i.e., 'One should do one's duty'.

Key Points

• The word "one" is a singular pronoun and requires the possessive adjective "one's" to denote possession or ownership.

• The use of "ones" without an apostrophe is incorrect, as it does not indicate possession.

• The use of "once" is incorrect, as it refers to a point in time, not possession.

• The use of "their" is incorrect because it is a plural possessive pronoun and does not agree with the singular subject "One."

Therefore, the correct answer is Option 1.

Complete Sentence: "One should do one's duty."

Additional Information

• Option 2: "One should do ones duties" is incorrect because "ones" is missing an apostrophe and should be written as "one's" to indicate possession.

• Option 3: "One should do once duties" is incorrect because "once" refers to time and does not make sense in the sentence.

• Option 4: "One should do their duty" is incorrect because "their" is a plural possessive pronoun and does not agree with the singular subject "One."

Q17. Answer: (a) Your homework must be finished by you.

The correct answer is Option 1.

Key Points

• The given sentence is in the active voice: "You must finish your homework."

• To convert it to passive voice, the object of the active sentence ("your homework") becomes the subject of the passive sentence.

• The modal "must" remains the same, and the verb "finish" changes to its past participle form "finished."

• The correct structure is: "Your homework must be finished by you."

• Incorrect options:

• Option 2: "Your homework must being finished by you." – Incorrect because "must being" is grammatically incorrect.

• Option 3: "Your homework must have been finished by you." – Incorrect because it changes the meaning and tense of the sentence.

• Option 4: "Your homework is must be finished by you." – Incorrect because it includes an extra verb ("is") that makes the sentence grammatically incorrect.

Therefore, the correct answer is Option 1.

Correct Sentence: "Your homework must be finished by you."

Additional Information

• Active voice: The subject performs the action (e.g., "You must finish your homework").

• Passive voice: The object becomes the subject, and the focus shifts to the action being done (e.g., "Your homework must be finished by you").

• Structure for passive voice with modals: Modal + be + past participle.

Q18. Answer: (b) The laboratory door had been forgotten to be locked by the new intern before leaving.

The correct answer is Option 2.

Key Points

• Passive voice structure: The object of the active voice sentence becomes the subject of the passive voice sentence.

• In the active voice, the sentence is: "The new intern had forgotten to lock the laboratory door before leaving."

• To convert to passive voice: Place the object "the laboratory door" at the beginning.

• Change the active verb form "had forgotten" to "had been forgotten" (past perfect passive).

• Ensure the rest of the sentence remains grammatically correct and retains its original meaning.

Therefore, the correct answer is Option 2.

Correct Sentence: "The laboratory door had been forgotten to be locked by the new intern before leaving."

Additional Information

• Option 1: "The laboratory door was forgotten to be locked by the new intern before leaving." – Incorrect because "was" is used instead of "had been," which is required for past perfect tense.

• Option 3: "The laboratory door has been forgotten to be locked by the new intern before leaving." – Incorrect tense (present perfect passive instead of past perfect passive).

• Option 4: "The laboratory door had forgotten to lock by the new intern before leaving." – Incorrect structure; "had forgotten" must apply to the subject (intern), not the object (door).

Q19. Answer: (a) "I have to go home today because I was feeling unwell since yesterday, and my parents are waiting for me,"...

The correct answer is Option 1.

Key Points

• Indirect Speech: The student told his friend that he had to go home that day because he had been feeling unwell since the day before, and his parents were waiting for him.

• Key Conversions (Indirect to Direct):

• "told his friend" becomes "said to his friend"

• The reporting verb "told" followed by an object reverts to "said to" in direct speech.

• "had to go" becomes "have to go"

• The past obligation "had to" changes back to the present obligation "have to" (or "must").

• "that day" and "the day before" become "today" and "yesterday"

• Time indicators revert to their direct forms: "that day" becomes "today", and "the day before" becomes "yesterday."

• "had been feeling" becomes "was feeling"

• The Past Perfect Continuous ("had been feeling") shifts back to the Past Continuous ("was feeling") in the direct quote.

• "were waiting" becomes "are waiting"

• The Past Continuous ("were waiting") reverts to the Present Continuous ("are waiting").

• Pronoun Changes:

• "he" becomes "I", "his" becomes "my", and "him" becomes "me".

Therefore, the correct answer is Option 1.

Correct Sentence: "I have to go home today because I was feeling unwell since yesterday, and my parents are waiting for me," the student said to his friend.

Additional Information

• Option 2:

• Incorrect because it fails to reverse the backshifts. It keeps the indirect tense forms ("had to", "had been feeling", "were waiting") and indirect time markers ("that day", "the day before") inside the direct quotes.

• Option 3:

• Incorrect because it uses "were waiting" inside the quote. If the direct speech used "were waiting," it would have shifted to "had been waiting" in the indirect speech.

• Option 4:

• Incorrect because it uses "had been feeling" and "were waiting" inside the quote, failing to convert them back to their present/past counterparts ("was feeling" and "are waiting").

Q20. Answer: (c) Participle phrase

The correct answer is 'Option 3'.

Key Points

• Identification of the Phrase:

• The phrase begins with "enabling," which is the present participle form of the verb "enable." In this context, it describes or provides more information about the preceding noun/idea (Digital platforms).

• Function of a Participle Phrase:

• A participle phrase functions as an adjective. Here, "enabling young aspirants..." modifies the subject "Digital platforms," explaining what they do or the effect they have.

• Analysis of Other Options:

• Option 1: A noun clause usually starts with words like "that," "what," or "who" and acts as a subject or object (e.g., "I know that he is coming"). This phrase does not function as a noun.

• Option 2: An adverbial phrase modifies a verb, adjective, or adverb to show time, place, or manner. While this phrase shows the result, its grammatical structure (starting with a participle) specifically classifies it as a participle phrase.

• Option 4: An absolute phrase modifies a whole independent clause and usually consists of a noun followed by a participle (e.g., "Their hearts racing, the players began"). This phrase lacks its own subject.

Therefore, the correct answer is Participle phrase.

Additional Information

• Present Participle: Ends in "-ing" and acts as an adjective (e.g., the crying baby).

• Past Participle: Usually ends in "-ed," "-en," "-d," "-t," "-n," or "-ne" and acts as an adjective (e.g., the broken window).

• Contextual Usage: In professional or academic writing, participle phrases are frequently used to combine sentences and create a more fluid narrative flow, as seen in the passage.

Q21. Answer: (b) Passive voice

The correct answer is 'Option 2'.

Key Points

• Identification of the Voice:

• The phrase uses the past participle "conceived." In the full context of the sentence, it implies that "Chaturanga was initially conceived..."

• In Passive Voice, the subject of the sentence (Chaturanga) is the receiver of the action, not the doer. The game did not "conceive" itself; it was conceived by people/creators.

• Structural Analysis:

• Active Voice equivalent: "Creators initially conceived Chaturanga as a strategic simulation..." (The subject performs the action).

• Passive Voice (this phrase): "Initially conceived..." (The focus is on the thing being created/conceived).

• Analysis of Other Options:

• Option 1: Incorrect because the subject is not performing the action of conceiving.

• Option 3: Middle Voice is a grammatical voice where the subject both performs and is affected by the action (e.g., "The door opened"). This does not apply here.

• Option 4: Causative Voice indicates that the subject causes someone else to do something (e.g., "I had my hair cut"). This is not present in the phrase.

Therefore, the correct answer is Passive voice.

Additional Information

• Passive Voice Utility: Authors often use passive voice when the actor (the person who conceived the game) is unknown, irrelevant, or less important than the object (the game itself).

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• Past Participle as Adjective: In this specific phrase, "conceived" acts as a participle modifying "chaturanga," but its underlying grammatical relationship to the noun remains passive.

Q22. Answer: (b) Rapid and spectacular

The solution is in Hindi. Read it online.

Q23. Answer: (a) Sharpness in understanding

The solution is in Hindi. Read it online.

Q24. Answer: (b) Digital platforms allowing global practice

The correct answer is 'Option 2'.

Key Points

• Digital Acceleration:

• The passage explicitly mentions: "Digital platforms have further accelerated talent development..." It explains that these platforms allow young aspirants to play against (spar with) grandmasters from all over the world.

• Strategic Growth:

• The text notes that this global interaction helps in "refining their strategic acumen from an early age," moving beyond just local tournaments or traditional coaching.

• Analysis of Other Options:

• Option 1: The passage mentions academies and grassroots initiatives, but not "board game shops" as a primary factor.

• Option 3: While grassroots initiatives are mentioned, the passage does not state that chess programs are "mandatory" in schools.

• Option 4: Incorrect because the passage highlights an increased presence and success in international events like the Chess Olympiad.

Therefore, the correct answer is Digital platforms allowing global practice.

Additional Information

• Sparring: In this context, it refers to practicing or playing matches specifically for training purposes.

• Strategic Acumen: The ability to make good judgments and quick decisions in a complex environment (like a chess game).

• Cradle of Chess: A reference to India being the birthplace of the original game, "chaturanga."

Q25. Answer: (c) compliment, complement

The solution is in Hindi. Read it online.

Q26. Answer: (d) 36

Given:

Two numbers differ by 12.

Their product, when increased by the square of their difference, is 1008.

Let the numbers be x and y, where x > y.

Formula used:

Product of numbers + (Difference)² = 1008

Difference = x - y = 12

Calculation:

Let x × y = Product.

$x \times y + 12^2 = 1008$

$\Rightarrow x \times y + 144 = 1008$

$\Rightarrow x \times y = 1008 - 144$

$\Rightarrow x \times y = 864$

Also, x - y = 12.

Let x = 12 + y.

Substitute x = 12 + y into x × y = 864:

$(12 + y) \times y = 864$

$\Rightarrow 12y + y^2 = 864$

$\Rightarrow y^2 + 12y - 864 = 0$

Factorize:

$y^2 + 36y - 24y - 864 = 0$

=> y(y + 36) - 24(y + 36) = 0
=> (y - 24)(y + 36) = 0
=> y = 24 or y = -36
Since y is smaller, y = 24.
Substitute y = 24 into x - y = 12:
x - 24 = 12
=> x = 36
Therefore The larger number is 36 (Option 3).

Q27. Answer: (b) 70

Given:
Average score = 75
Scores of four students = 70, 80, 65, 90
Number of students = 5
Formula used:
Average = (Sum of scores)/(Number of students)
Sum of scores = Average × Number of students
Calculations:
Sum of scores = 75 × 5
=> Sum of scores = 375
Sum of four students' scores = 70 + 80 + 65 + 90
=> Sum of four students' scores = 305
Fifth student's score = Total score - Sum of four students' scores
=> Fifth student's score = 375 - 305
=> Fifth student's score = 70
Therefore The correct answer is option (1).

Q28. Answer: (b) Rs. 600

Given:
A's investment = Rs. 2000
B's investment = Rs. 3000
C's investment = Rs. 4000
Total profit = Rs. 1800
Formula used:
Profit share = (Individual's investment / Total investment) × Total profit
Calculation:
Total investment = 2000 + 3000 + 4000 = Rs. 9000
B's share of profit = (3000 / 9000) × 1800
=> B's share = (1/3) × 1800
=> B's share = Rs. 600
Therefore The correct answer is option (1).

Q29. Answer: (a) 24

Given:
Numbers = 12, 18, 24, 30, 36
Formula used:
Average = (Sum of numbers) ÷ (Total numbers)
Calculation:
Sum of numbers = 12 + 18 + 24 + 30 + 36
=> Sum = 120
Total numbers = 5
=> Average = 120 ÷ 5
=> Average = 24

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Therefore The correct answer is 24.

Q30. Answer: (b) 60 km/hr

Shortcut Trick

Average Speed = Total Distance ÷ Total Time

=> Average Speed = 180 ÷ 3

=> Average Speed = 60 km/hr

Therefore The correct answer is 60 km/hr.

Alternate Method

Given:

Total Distance = 180 km

Total Time = 3 hr

Formula Used:

Speed (s) = Distance (d) ÷ Time (t)

Calculations:

=> Average Speed = 180 km ÷ 3 hr

=> Average Speed = 60 km/hr

The calculated value corresponds to Option (2), which is the correct choice.

Therefore The correct answer is 60 km/hr.

Additional Information

Unit Conversion

To convert km/hr to m/s, multiply the speed by 5/18. Conversely, to convert m/s to km/hr, multiply by 18/5.

Harmonic Mean for Average Speed

If a journey is divided into two equal distances traveled at speeds x and y, the Average Speed = (2 × x × y) ÷ (x + y).

Relative Speed Concept

When two objects move in the opposite direction, their relative speed is the sum of their individual speeds (u + v).

Q31. Answer: (b) 1% decrease

Given:

Initial number = x

Percentage increase = 10%

Percentage decrease = 10%

Formula used:

Net change = Final value - Initial value

Final value after successive percentage changes = x × (1 + ^(increase%)/100) × (1 - ^(decrease%)/100)

Calculation:

Final value = x × (1 + 10/100) × (1 - 10/100)

=> Final value = x × (1.1) × (0.9)

=> Final value = x × 0.99

=> Net change = Final value - Initial value

=> Net change = x × 0.99 - x

=> Net change = x(-0.01)

=> Net change = -1% of x

Therefore The correct answer is option (1) 1% decrease.

Q32. Answer: (a) 6

Given: During Diwali, Meera arranges 50 lamps in a row. A golden lamp is 18th from left and 33rd from right. A silver lamp is 25th from left and 26th from right.

Total lamps = 50

Check positions:

• Golden lamp:

18th from left → position = 18

• Silver lamp:

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25th from left → position = 25
Positions from right:
Golden → 50 − 18 + 1 = 33 (Possible)
Silver → 50 − 25 + 1 = 26 (Possible)
Thus, number of lamps between them = 25 − 18 - 1 = 7 - 1 = 6
Thus, 6 lamps are there between the golden and silver lamps.
Hence, the correct answer is "Option 1".

Q33. Answer: (b) Rs. 1000

Given:
Discount = 25%
Selling Price (SP) = Rs. 750
Marked Price (MP) = ?
Formula used:
SP = MP × (1 - Discount/100)
Calculation:
750 = MP × (1 - 25/100)
=> 750 = MP × (75/100)
=> MP = 750 × (100/75)
=> MP = 750 × 4/3
=> MP = Rs. 1000
Therefore The marked price is Rs. 1000.

Q34. Answer: (a) North

Given: A person walks 9 km west, then 12 km north, and finally 9 km east.
Thus, the person is in North direction from his starting point.
Hence, the correct answer is "Option 1".

Q35. Answer: (a) North

Given: A person walks 9 km west, then 12 km north, and finally 9 km east.
Thus, the person is in North direction from his starting point.
Hence, the correct answer is "Option 1".

Q36. Answer: (b) H

The position and positional values or English Alphabets are:
Given: T, Q, N, K, ?
The logic followed here is:
Thus, H will complete the sequence.
Hence, the correct answer is "Option 1".

Q37. Answer: (c) 377

Given: 34, 55, 89, 144, 233, ?
The logic followed here is:
Logic: This is a classic Fibonacci sequence pattern.
34 + 55 = 89
55 + 89 = 144
89 + 144 = 233
144 + 233 = 377
Thus, 377 will come in place of the question mark (?).
Hence, the correct answer is "Option 3".

Q38. Answer: (d) 480

Given: 20, 15, 40, 30, 120, 90, ?, 360
The logic followed here is:

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Thus, 480 is the missing number in the following number sequence.
Hence, the correct answer is "Option 4".

Q39. Answer: (b) (663, 884)

Given:
Check divisibility by 13 and 17
LCM = 13 × 17 = 221
Formula used:
Number divisible by both => divisible by 221
Calculation:
=> (221, 443)
=> 221 ÷ 221 = 1 (Divisible)
=> 443 ÷ 221 = 2.004 (Not Divisible)
=> (663, 884)
=> 663 ÷ 221 = 3 (Divisible)
=> 884 ÷ 221 = 4 (Divisible)
=> (443, 663)
=> 443 (Not Divisible), 663 (Divisible) => Not both
=> (664, 884)
=> 664 (Not Divisible), 884 (Divisible) => Not both
Therefore Correct pair = (663, 884)

Q40. Answer: (a) xaba

Given: ab__baabxb_a__xba_bxba
Let's check each option:
1. xaba → abxba / abxba / abxba / abxba → abxba is repeated.
2. xabx → abxba / abxba / abxba / xbxba → No pattern is repeated.
3. xaxa → abxba / abxba / axxba / abxba → No pattern is repeated.
4. aaba → ababa / abxba / abxba / abxba → No pattern is repeated.
Hence, the correct answer is "Option 1".

Q41. Answer: (a) R5

The position and positional values or English Alphabets are:
Given: Z1, X2, V3, T4, ?
The logic followed here is:
Thus, R5 will replace the question mark (?) in the given series.
Hence, the correct answer is "Option 1".

Q42. Answer: (a) 0100

The position and positional values or English Alphabets are:
Given: A4, C16, F36, J64, ?
The logic followed here is:
Thus, 'O100' should come next in the following series.
Hence, the correct answer is "Option 1".

Q43. Answer: (d) FETSHGSRZYQP

The position and positional values or English Alphabets are:
The logic followed here is:
Similarly,
Thus, FETSHGSRZYQP is the code for GUITAR.
Hence, the correct answer is "Option 4".

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Q44. Answer: (a) Both A and R are true, and R is the correct explanation for A.

Given:

A) Apart from studies, playtime is also essential for children.

R) Engaging in play helps in physical development and improves co-ordination.

The reason clearly explains why playtime is essential (it supports physical growth and coordination).

Thus, both A and R are true, and R is the correct explanation for A.

Hence, the correct answer is "Option 1".

Q45. Answer: (b) Only conclusion II follows

Statements:

Only candidates with 7 or above years of experience in marketing can apply for the post; otherwise, their applications will be rejected.

Conclusions:

I. Only candidates with an MBA degree in marketing can apply. - Does not follow (Because, the statement says nothing about an MBA degree. So this cannot be concluded.)

II. Applications of candidates with 6 years of experience will not be considered. - Follows (Since 6 years is less than 7, their applications will be rejected.)

Thus, only conclusion II follows.

Hence, the correct answer is "Option 2".

Q46. Answer: (a) Mumbai (BOM), 26/11/2008, 09:30 PM.

Reference	Options	Verdict	
Mumbai (BOM), 26/11/2008, 09:30 PM.	1	Mumbai (BOM), 26/11/2008, 09:30 PM.	Exactly Same
Mumbai (BOM), 26/11/2008, 09:30 PM.	2	Mumbai (BOM), 26/11/2008, 09:30 P.M.	Extra. is present between P and M.
Mumbai (BOM), 26/11/2008, 09:30 PM.	3	Mumbai (BOM), 26/11/2008, 9:30 PM.	0 is missing from 9:30 PM.
Mumbai (BOM), 26/11/2008, 09:30 PM.	4	Mumb_ai (BOM), 26/11/2008, 09:30 PM.	Extra _ is present in Mumbai.

Thus, option 1 is exactly the same as the one given.

Hence, the correct answer is "Option 1".

Q47. Answer: (a) Athens, GR: 24th July, 1974.

Reference	Options	Verdict	
Athens, GR: 24th July, 1974.	1	Athens, GR: 24th July, 1974.	Exactly Same
Athens, GR: 24th July, 1974.	2	Athens, Gr.: 24th July, 1974.	r is written in small letters in GR.
Athens, GR: 24th July, 1974.	3	Atens, GR: 24th July, 1974.	h is missing from Athens.
Athens, GR: 24th July, 1974.	4	Athens, GR: 24th July, 1947.	1947 is written instead of 1974.

Thus, option 1 is exactly the same as the one given.

Hence, the correct answer is "Option 1".

Q48. Answer: (a) Edinburgh: 24th June, 1314

Reference	Options	Verdict	
Edinburgh: 24th June, 1314	1	Edinburgh: 24th June, 1314	Exactly Same
Edinburgh: 24th June, 1314	2	Edinburg: 24th June, 1314	h is missing from Edinburgh.
Edinburgh: 24th June, 1314	3	Edinburgh: 24th June, 1413	1413 is written instead of 1314.
Edinburgh: 24th June, 1314	4	Edinburgh: 23rd June, 1314	23rd is written instead of 24th.

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Thus, option 1 is exactly the same as the one given.
Hence, the correct answer is "Option 1".

Q49. Answer: (d) 59

The logic followed here is:
Column 1: (3 × 4 × 5) - 1 = 60 - 1 = 59
Column 2: (2 × 4 × 6) - 1 = 40 - 1 = 47
Similarly,
Column 3: (5 × 2 × 6) - 1 = 60 - 1 = 59
Thus, ? = 59.
Hence, the correct answer is "Option 4".

Q50. Answer: (c) 134

The logic followed here is:
Logic: (First number × Second number × Third number) - 1 = Fourth number
Column 1: (7 × 5 × 3) - 1 = 105 − 1 = 104
Column 2: (4 × 6 × 5) - 1 = 120 - 1 = 119
Similarly,
Column 3: (9 × 5 × 3) - 1 = 135 - 1 = 134
Thus, 134 will be placed at the sign of question mark (?) from the given alternatives.
Hence, the correct answer is "Option 3".

Q51. Answer: (d) Empty

Shortcut Trick
Rational numbers and Irrational numbers are mutually exclusive categories by definition.
A Rational number can be written as a fraction, while an Irrational number cannot.
Since no number can satisfy both properties simultaneously, their intersection is always empty.
Therefore The correct answer is Empty.
Alternate Method
Given: Two sets of numbers − Rational (Q) and Irrational (Q^c).
Property: Real Numbers (R) = Rational Numbers (Q) U Irrational Numbers (Q^c).
Calculations:
=> Let Q = {p/q : p, q are integers and q ≠ 0}
=> Let Q' = {x : x is a real number and x is not rational}
=> Intersection (Q ∩ Q') represents elements present in both sets.
=> Since Q and Q' are disjoint sets by definition, Q ∩ Q' = {}
Therefore The correct answer is Empty.
Additional Information
Real Number System
The set of Real Numbers (R) is the union of Rational (Q) and Irrational (Q') numbers; mathematically, R = Q U Q'.
Rational Numbers
These include integers, terminating decimals (e.g., 0.25), and non-terminating repeating decimals (e.g., 0.333...).
Irrational Numbers
These consist of non-terminating and non-repeating decimals, such as π and √2.
Disjoint Sets
Two sets are disjoint if they have no common elements, meaning their intersection is the Null set or Empty set ({}).

Q52. Answer: (b) √-7

Concept Used:
A real number is a number that can be located on a number line and does not involve the square root of a negative number.
Calculation:
=> √7 is a real number because the square root of a positive number is real.
=> √-7 is not a real number because the square root of a negative number is imaginary.

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=> 1/√7 is a real number because it involves only the division of real numbers.
=> -√7 is a real number because it is the negative of a real square root.
Therefore The correct answer is option 2.

Q53. Answer: (d) Infinite

Given:
The number of rational numbers between any two rational numbers is:
Formula Used:
Rational numbers are numbers that can be expressed as a ratio of integers (p/q).
Between any two rational numbers, there exists infinitely many other rational numbers.
Calculation:
=> Let two rational numbers be a/b and c/d.
=> Calculate the average: (a/b + c/d) ÷ 2 = (ad + bc)/(2bd).
=> This average is also a rational number and lies between a/b and c/d.
=> Repeat the process to find infinitely many rational numbers between the two rational numbers.
Therefore The correct answer is Infinite.

Q54. Answer: (c) 13 cm

Given:
PS = 18
QT = 7.5
Medians intersect at right angle
Formula Used:
Median property: PX = 2 ÷ 3 × PS
Median property: QX = 2 ÷ 3 × QT
If medians are perpendicular: $PQ^2 = PX^2 + QX^2$
Calculation:
=> PX = 2 ÷ 3 × 18 = 12
=> QX = 2 ÷ 3 × 7.5 = 5
=> $PQ^2 = 12^2 + 5^2$
=> $PQ^2 = 144 + 25 = 169$
=> PQ = √169 = 13
Therefore The correct answer is 13 cm.

Q55. Answer: (d) 9.33 days

Given:
8 men can complete the work in 14 days.
12 men need to complete the same work.
Formula Used:
Work = Men × Days
Men × Days (initial) = Men × Days (final)
Calculation:
=> Work by 8 men in 14 days = Work by 12 men in x days
=> 8 × 14 = 12 × x
=> 112 = 12x
=> x = 112 ÷ 12
=> x = 9.33 days
Therefore The correct answer is 9.33 days.

Q56. Answer: (d) 15 days

Given:
A does 60% work in 18 days
Remaining work = 40%

A + B complete remaining work in 4 days

Formula Used:

Work Rate = Work ÷ Time

Calculation:

=> A's rate = 60 ÷ 18 = 10 ÷ 3 % per day

=> (A + B) rate = 40 ÷ 4 = 10 % per day

=> B's rate = 10 - (10 ÷ 3)

=> B's rate = (30 ÷ 3 - 10 ÷ 3) = 20 ÷ 3 % per day

=> Time taken by B = 100 ÷ (20 ÷ 3)

=> Time = 100 × (3 ÷ 20)

=> Time = 15 days

Therefore The correct answer is 15 days.

Q57. Answer: (b) Diameter

Concept Used:

The diameter of a circle is the longest chord.

Calculation:

=> By definition, the diameter passes through the center and is the longest chord in a circle.

Therefore The correct answer is Diameter.

Q58. Answer: (c) 120°

Shortcut Trick

The angle between the tangents drawn from an external point and the angle subtended by the chord at the center are supplementary (sum to 180°).

=> Angle between tangents + Angle at center = 180°

=> Angle between tangents + 60° = 180°

=> Angle between tangents = 180° − 60° = 120°

Therefore The correct answer is 120°.

Alternate Method

Given:

=> Angle subtended by chord AB at the center (O) = angle AOB = 60°.

=> Tangents are drawn at points A and B, meeting at an external point P.

Formula Used:

=> The radius is perpendicular to the tangent at the point of contact (angle OAP = angle OBP = 90°).

=> Sum of internal angles of a quadrilateral = 360°.

Calculations:

=> In quadrilateral OAPB:

=> angle OAP = 90° (Radius perpendicular to Tangent)

=> angle OBP = 90° (Radius perpendicular to Tangent)

=> angle AOB = 60° (Given)

=> angle AOB + angle OAP + angle APB + angle OBP = 360°

=> 60° + 90° + angle APB + 90° = 360°

=> 240° + angle APB = 360°

=> angle APB = 360° − 240° = 120°

Therefore The correct answer is 120°.

Additional Information

Tangent-Radius Property

The tangent at any point of a circle is perpendicular to the radius through the point of contact.

Length of Tangents

The lengths of tangents drawn from an external point to a circle are always equal (PA = PB).

Angle Bisector Property

The line joining the external point to the center of the circle bisects the angle between the two tangents (angle APO = angle BPO).

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Cyclic Nature

Quadrilateral OAPB is always cyclic because the sum of opposite angles (angle OAP + angle OBP = 180°) is constant.

Q59. Answer: (a) 5 cm

Given:

Sides = 6, 8, 10

Formula Used:

For right triangle: Radius of circumcircle = Hypotenuse ÷ 2

Calculation:

=> $6^2 + 8^2 = 36 + 64 = 100$

=> $\sqrt{100} = 10$

=> Radius = 10 ÷ 2

=> Radius = 5 cm

Therefore The correct answer is 5 cm.

Q60. Answer: (d) 5544 cm3

Given:

Circumference = 132

Height of cone = 12

$\pi = 22 \div 7$

Formula Used:

Circumference = $2 \times \pi \times r$

Volume of cone = $(1 \div 3) \times \pi \times r^2 \times h$

Calculation:

=> $132 = 2 \times (22 \div 7) \times r$

=> $132 = (44 \div 7) \times r$

=> $r = 132 \times (7 \div 44)$

=> $r = 21$

=> Volume = $(1 \div 3) \times (22 \div 7) \times 21^2 \times 12$

=> Volume = $(1 \div 3) \times (22 \div 7) \times 441 \times 12$

=> Volume = $(1 \div 3) \times 22 \times 63 \times 12$

=> Volume = $(1 \div 3) \times 16632$

=> Volume = 5544

Therefore The correct answer is 5544.

Q61. Answer: (c) 14

Given:

AB - BC = 4

AB - AC = 2

Perimeter = 36

Calculation:

Let AB = c, BC = a, AC = b

Semiperimeter s = $(a + b + c) \div 2$

AP = AR = s - a

BP = s - b

=> c - a = 4

=> c - b = 2

=> a + b + c = 36

=> a = c - 4, b = c - 2

=> (c - 4) + (c - 2) + c = 36

=> 3c - 6 = 36

=> 3c = 42

=> c = 14

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=> a = 10, b = 12
=> s = (10 + 12 + 14) ÷ 2 = 18
=> PB = s - b = 18 - 12 = 6
=> AR = s - a = 18 - 10 = 8
=> PB + AR = 6 + 8 = 14
Therefore The correct answer is 14.

Q62. Answer: (b) Rs. 28000

Given:
40% at 7.5%
60% at 11.25%
Time = 2.5 years
Total interest = 6825
Formula Used:
Simple Interest = (Principal × Rate × Time) ÷ 100
Total interest = Sum of individual interests
Calculation:
=> Let total principal = P
=> Interest = (0.4P × 7.5 × 2.5 ÷ 100) + (0.6P × 11.25 × 2.5 ÷ 100)
=> Interest = (0.4P × 18.75 ÷ 100) + (0.6P × 28.125 ÷ 100)
=> Interest = 0.075P + 0.16875P
=> Total interest = 0.24375P
=> 0.24375P = 6825
=> P = 6825 ÷ 0.24375
=> P = 28000
Therefore The correct answer is 28000.

Q63. Answer: (c) Rs. 5,000

Given:
Deepak saving = 7500
Karan saving = 7500
Deepak spends = 75%
Karan spends = 80%
Sanjay income = (1/3) of (Deepak income + Karan income)
Sanjay spends = 7/9 of income
Formula Used:
Income = Saving ÷ Saving percentage
Saving = Income × Saving fraction
Calculation:
=> Deepak saving % = 100 - 75 = 25%
=> Deepak income = 7500 ÷ 0.25 = 30000
=> Karan saving % = 100 - 80 = 20%
=> Karan income = 7500 ÷ 0.20 = 37500
=> Total income = 30000 + 37500 = 67500
=> Sanjay income = 67500 ÷ 3 = 22500
=> Sanjay saving fraction = 1 - 7/9 = 2/9
=> Sanjay saving = 22500 × 2 ÷ 9
=> Sanjay saving = 5000
Therefore The correct answer is 5000.

Q64. Answer: (b) Rs 70,000

Given:
Capital ratio between A and B = 5 : 7

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A's investment = Rs 50,000
Formula Used:
B's investment = (B's ratio ÷ A's ratio) × A's investment
Calculation:
=> B's investment = (7 ÷ 5) × 50,000
=> B's investment = 1.4 × 50,000
=> B's investment = Rs 70,000
Therefore The correct answer is Rs 70,000.

Q65. Answer: (a) 8 : 9

Given:
First student's score = 80% of the test's total score
Second student's score = 90% of the test's total score
Formula Used:
Ratio = (First student's score) ÷ (Second student's score)
Percentage conversion: x% = x ÷ 100
Calculation:
=> First student's score = 80 ÷ 100
=> Second student's score = 90 ÷ 100
=> Ratio = (80 ÷ 100) ÷ (90 ÷ 100)
=> Ratio = 80 ÷ 90
=> Ratio = 8 ÷ 9
=> Ratio = 8 : 9
Therefore The correct answer is 8 : 9.

Q66. Answer: (a) 16 years

Given:
Total players = 15
Time increase = 4 years
Players replaced = 5
Average age of removed players = 28
Formula used:
Change in total age = Number × years
Calculations:
Increase in total age in 4 years = 15 × 4 = 60
Since average remains same => total age must remain same
=> Replacement must reduce total age by 60
Removed players total age = 5 × 28 = 140
Let average of new players = x
New players total = 5x
=> 140 − 5x = 60
=> 5x = 140 − 60 = 80
=> x = 80 ÷ 5 = 16
Therefore Average age of newcomers = 16 years.

Q67. Answer: (c) 61

Given:
Average of 15 numbers = 28
Each number is doubled and 5 is added to each.
Formula Used:
New average = (Old average × multiplier) + increment
Multiplier = 2 (each number is doubled)
Increment = 5 (added to each number)

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Calculation:

=> New average = (28 × 2) + 5

=> New average = 56 + 5

=> New average = 61

Therefore The correct answer is 61.

Q68. Answer: (c) 33.33%

Shortcut Trick

When distance is constant, speed is inversely proportional to time.

Ratio of time (T1 : T2) = 2 : 3

Ratio of speed (S1 : S2) = 3 : 2

Decrease in speed = (3 − 2) / 3 × 100 = 1/3 × 100 = 33.33%

Therefore The correct answer is 33.33%.

Alternate Method

Given: Total Distance = 1,200 km, Initial Time = 2 hr, Target Time = 3 hr.

Formula Used: Speed = Distance / Time

=> Initial Speed (S1) = 1,200 ÷ 2 = 600 kmph

=> Final Speed (S2) = 1,200 ÷ 3 = 400 kmph

=> Decrease in speed = 600 − 400 = 200 kmph

=> Percentage decrease = (Decrease / Initial Speed) × 100

=> Percentage decrease = (200 / 600) × 100 = 1/3 × 100 = 33.33%

Therefore The correct answer is 33.33%.

Additional Information

Inversely Proportional Relation

When the distance is constant, if the time increases by x%, the speed must decrease to maintain the same distance. Formula: S1 × T1 = S2 × T2.

Percentage Decrease Formula

Percentage decrease in speed = [(Initial Speed − Final Speed) / Initial Speed] × 100.

Average Speed for Equal Distances

If an object travels equal distances at speeds x and y, the average speed is [2 × x × y] / (x + y).

Q69. Answer: (b) Rs. 1,800

Given:

Marked price = 2500

First discount = 20%

Second discount = 10%

Formula Used:

Selling price after discount = Marked price × (1 - discount)

Calculation:

=> Price after first discount = 2500 × (1 - 0.20)

=> Price after first discount = 2500 × 0.80 = 2000

=> Final selling price = 2000 × (1 - 0.10)

=> Final selling price = 2000 × 0.90 = 1800

Therefore The correct answer is 1800.

Q70. Answer: (c) Rs. 28,800

Given:

Initial price = Rs. 40,000

First discount = 10%

Second discount = 20%

Formula Used:

Price after first discount = Initial price × (1 - First discount/100)

Price after second discount = Price after first discount × (1 - Second discount/100)

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Calculation:
=> Price after first discount = Rs. 40,000 × (1 - 10/100)
=> Price after first discount = Rs. 40,000 × 0.90
=> Price after first discount = Rs. 36,000
=> Price after second discount = Rs. 36,000 × (1 - 20/100)
=> Price after second discount = Rs. 36,000 × 0.80
=> Price after second discount = Rs. 28,800
Therefore The correct answer is Rs. 28,800.

Q71. Answer: (d) 4 : 3

Given:
Total solution = 70
Wine : Water = 5 : 2
Removed solution = 14
Added water = 14
Formula Used:
Quantity of component = Total × (ratio part ÷ total ratio)
Remaining quantity after removal = Initial × (1 - removed ÷ total)
Calculation:
=> Initial wine = 70 × 5 ÷ 7 = 50
=> Initial water = 70 × 2 ÷ 7 = 20
=> Remaining wine = 50 × (1 - 14 ÷ 70)
=> Remaining wine = 50 × (1 - 0.20) = 50 × 0.80 = 40
=> Remaining water = 20 × (1 - 14 ÷ 70)
=> Remaining water = 20 × 0.80 = 16
=> New water after adding = 16 + 14 = 30
=> Final ratio = 40 : 30
=> Final ratio = 4 : 3
Therefore The correct answer is 4 : 3.

Q72. Answer: (b) 4√6, cbrt5, √3

Given:
First number = √3
Second number = cbrt5
Third number = 4√6
Formula Used:
If a = b^x, then compare by converting to decimal values
Calculation:
=> √3 ≈ 1.732
=> cbrt5 ≈ 1.710
=> 4√6 ≈ 1.565
=> Ascending order: 4√6 < cbrt5 < √3
Therefore The correct answer is 4√6 < cbrt5 < √3.

Q73. Answer: (c) y = -2x + 11

Given:
Slope = -2
Point = (3, 5)
Formula Used:
Point-slope form: y - y1 = m × (x - x1)
Calculation:
=> y - 5 = -2 × (x - 3)
=> y - 5 = -2x + 6

=> y = -2x + 6 + 5

=> y = -2x + 11

Therefore The correct answer is y = -2x + 11.

Q74. Answer: (b) 25 m

Given:

Area of smaller triangle = 16

Area of larger triangle = 25

Perimeter of smaller triangle = 20

Formula Used:

Ratio of areas = (Ratio of sides)²

Perimeter prop. to side

Calculation:

=> Ratio of areas = 25 ÷ 16

=> Ratio of sides = √(25 ÷ 16)

=> Ratio of sides = 5 ÷ 4

=> Perimeter of larger triangle = 20 × 5 ÷ 4

=> Perimeter of larger triangle = 25

Therefore The correct answer is 25.

Q75. Answer: (b) 1 : 16

Given:

AD = 4

DB = 12

AE = 3

EC = 9

Formula Used:

Area ratio of similar triangles = (Ratio of corresponding sides)²

Calculation:

=> AB = 4 + 12 = 16

=> AC = 3 + 9 = 12

=> AD ÷ AB = 4 ÷ 16 = 1 ÷ 4

=> AE ÷ AC = 3 ÷ 12 = 1 ÷ 4

=> Ratio of sides = 1 ÷ 4

=> Area ratio = (1 ÷ 4)²

=> Area ratio = 1 ÷ 16

Therefore The correct answer is 1 ÷ 16.

Q76. Answer: (b) Myanmar

The correct answer is Myanmar.

Key Points

• Operation Brahma was launched in March 2025 by the Government of India to assist Myanmar after a devastating earthquake caused widespread destruction and loss of life.

• This operation was part of India’s commitment to providing humanitarian aid to its neighbors under its "Neighborhood First" policy.

• The assistance primarily included rescue operations, medical aid, and relief supplies, as Myanmar faced severe challenges due to the earthquake's aftermath.

• The operation was conducted with the support of Indian armed forces, medical teams, and disaster response units to ensure the swift delivery of aid.

• India has a history of supporting its neighbors during crises, reflecting its role as a responsible regional power and its strong bilateral ties with Myanmar.

Additional Information

• India-Myanmar Relations:

• Myanmar shares a 1,643 km-long border with India, touching four Indian states: Arunachal Pradesh, Nagaland, Manipur, and

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Mizoram.

• India and Myanmar have close historical, cultural, and economic ties. Myanmar is a key partner in India's Act East Policy.

• The two countries have collaborated on infrastructure projects such as the Kaladan Multi-Modal Transit Transport Project and the India-Myanmar-Thailand Trilateral Highway.

• Earthquake in Myanmar (March 2025):

• The earthquake caused significant damage to infrastructure, homes, and public services, displacing thousands of people.

• Many areas were left without basic necessities such as food, water, and medical care, prompting international humanitarian responses.

• India's Disaster Assistance Framework:

• India has a robust disaster response mechanism led by organizations such as the National Disaster Response Force (NDRF) and the armed forces.

• India has previously launched similar missions like Operation Maitri to assist Nepal after the 2015 earthquake and Operation Dost to aid Turkey and Syria in 2023.

• Neighborhood First Policy:

• India's Neighborhood First policy focuses on prioritizing relations with neighboring countries to ensure regional cooperation, stability, and development.

• Humanitarian assistance and disaster relief (HADR) operations are an integral part of this policy.

Important Points

• Operation Maitri (Nepal, 2015):

• Conducted in response to the devastating earthquake in Nepal, providing rescue and relief operations.

• Included the deployment of the Indian Air Force and NDRF teams for search and rescue operations.

• Operation Dost (Turkey and Syria, 2023):

• India provided aid after the massive earthquake in Turkey and Syria, showcasing its commitment to global humanitarian efforts.

• Assistance included rescue teams, medical personnel, and essential supplies.

• Disaster Response in India:

• India has a comprehensive disaster response system led by the Ministry of Home Affairs and specialized agencies like the NDRF.

• India is recognized globally for its quick and efficient response to natural disasters in the region.

Q77. Answer: (b) 32

The correct answer is 32.

Key Points

• Srinivasa Ramanujan, one of the greatest mathematical geniuses, was born on 22 December 1887 in Erode, Tamil Nadu, India.

• He passed away at the young age of 32 years on 26 April 1920 due to health complications, primarily tuberculosis and related ailments.

• Ramanujan made significant contributions to mathematical fields such as number theory, continued fractions, and infinite series, which remain influential in modern mathematics.

• During his short life, he compiled nearly 3,900 mathematical results, many of which were entirely original and groundbreaking.

• His work was recognized and supported by prominent mathematicians like G.H. Hardy, who invited Ramanujan to Cambridge University in 1914 to collaborate on mathematical research.

Additional Information

• Contributions to Mathematics:

• Ramanujan's discoveries include the Ramanujan prime, Ramanujan theta functions, and the famous Ramanujan conjecture, which influenced the development of modern number theory.

• His notebooks, containing thousands of formulas, are still studied by mathematicians worldwide for their depth and originality.

• Early Life and Struggles:

• Ramanujan displayed extraordinary mathematical talent from a young age but faced challenges due to lack of formal training and limited access to resources.

• Despite these obstacles, he independently derived results that were later proven correct and hailed as revolutionary.

• Cambridge Collaboration:

• In 1914, Ramanujan moved to Cambridge, where he worked with G.H. Hardy on groundbreaking mathematical theories.

• His time at Cambridge led to international recognition, including his election as a Fellow of the Royal Society in 1918.

• Legacy:

• Ramanujan's work continues to inspire new research in mathematics. His influence spans across fields like cryptography,

physics, and computer science.

• The Srinivasa Ramanujan Medal and the Ramanujan Prize are awarded annually to honor exceptional contributions in mathematics.

Important Points

• Ramanujan's Illness:

• He suffered from tuberculosis and malnutrition during his later years, exacerbated by the harsh weather conditions and food restrictions during World War I.

• These health challenges led to his untimely demise on 26 April 1920.

• Mathematical Recognition:

• Despite limited formal education, Ramanujan was one of the few Indian mathematicians whose work gained international acclaim during his lifetime.

• His contributions remain pivotal in areas like modular forms, partition theory, and mock theta functions.

Q78. Answer: (c) V. Narayanan

The correct answer is V. Narayanan.

Key Points

• V. Narayanan was appointed as the Chairman of the Indian Space Research Organisation (ISRO) in January 2025, succeeding the previous chairman.

• He has been a notable figure in ISRO, previously serving as the Director of the Liquid Propulsion Systems Centre (LPSC), a critical division of ISRO responsible for developing liquid propulsion systems for launch vehicles and spacecraft.

• V. Narayanan has been instrumental in India's space mission advancements, especially in areas like cryogenic propulsion and the development of GSLV and GSLV Mk-III launch vehicles.

• His leadership is expected to further enhance ISRO's capabilities in satellite launches, interplanetary missions, and the development of newer technologies.

• This appointment underscores his extensive contributions to India's space sector and his role in driving technological advancements.

Additional Information

• Indian Space Research Organisation (ISRO):

• ISRO is the space agency of the Government of India, founded in 1969 by Dr. Vikram Sarabhai.

• Its headquarters is located in Bengaluru, Karnataka.

• ISRO is known for its cost-effective space missions, including the Mangalyaan (Mars Orbiter Mission) and the Chandrayaan series.

• The organization focuses on satellite development, launch vehicle design, and interplanetary exploration.

• V. Narayanan's Contributions:

• He played a significant role in the development of cryogenic engines for ISRO's launch vehicles, including the CE-20 engine used in GSLV Mk-III.

• Under his leadership, ISRO achieved milestones in liquid propulsion technology and enhanced the efficiency of India's space programs.

• Predecessors:

• K. Sivan (2018–2022): Known for spearheading the Chandrayaan-2 mission and the planning of Gaganyaan, India's human spaceflight program.

• S. Somanath (2022–2025): Instrumental in advancing ISRO's launch vehicle capabilities and promoting international collaborations.

• Key ISRO Programs:

• Chandrayaan Missions: Focused on lunar exploration, including Chandrayaan-3.

• Gaganyaan: India's first human spaceflight program, expected to launch in the near future.

• Satellite Launches: Deployment of satellites for communication, navigation, and Earth observation.

Important Points

• ISRO's Future Goals:

• Developing advanced launch vehicles like Reusable Launch Vehicle (RLV) to reduce launch costs.

• Expanding India's presence in space exploration with missions to Venus and deep space.

• Enhancing collaboration with international space agencies for joint missions and technology sharing.

• Global Recognition:

• ISRO is globally recognized for its cost-effective space missions, achieving significant milestones at a fraction of the cost

compared to other space agencies.

• The organization's success has positioned India as a key player in the global space industry.

Q79. Answer: (a) Jaiteerth Raghavendra Joshi

The correct answer is Jaiteerth Raghavendra Joshi.

Key Points

• Jaiteerth Raghavendra Joshi has been appointed as the Chief of BrahMos Aerospace in November 2024, succeeding the previous officeholder.

• BrahMos Aerospace is a joint venture between India's Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyenia (NPOM), known for developing the world-renowned supersonic cruise missile, BrahMos.

• Jaiteerth Raghavendra Joshi is an accomplished professional with expertise in defense technology, strategic weapon systems, and management of aerospace projects.

• The appointment of Joshi reflects India's strategic focus on modernizing its defense capabilities and strengthening its indigenous weapon systems production.

• Under his leadership, BrahMos Aerospace is expected to focus on expanding its missile export markets and developing advanced variants of the BrahMos missile.

Additional Information

• BrahMos Missile:

• The BrahMos is a supersonic cruise missile developed jointly by India and Russia, named after the rivers Brahmaputra (India) and Moskva (Russia).

• It has a speed of up to Mach 3 (three times the speed of sound) and a range of approximately 450–500 km.

• It can be launched from various platforms including land, sea, air, and underwater, making it a versatile weapon system.

• It is capable of carrying conventional warheads and is known for its precision strike capability.

• BrahMos Aerospace:

• BrahMos Aerospace was established in 1998 as a joint venture between India's DRDO and Russia's NPOM.

• It aims to design, develop, produce, and market advanced missile systems for India and other friendly nations.

• The organization is headquartered in New Delhi, India.

• India’s Focus on Defense Exports:

• India has been actively promoting the export of BrahMos missiles to friendly countries such as Philippines, Vietnam, and Indonesia.

• In 2022, India signed a deal with the Philippines to export BrahMos missiles worth $375 million.

• Key Features of BrahMos Missile:

• The missile employs stealth technology to evade radar detection and has a very low radar cross-section.

• It has fire-and-forget capability, meaning it does not require further guidance after launch.

• The missile is powered by a solid propellant booster engine and a liquid ramjet engine, ensuring high speed and range.

Important Points

• Export Potential: BrahMos has emerged as a key component of India's defense exports, with countries showing significant interest due to its precision, versatility, and speed.

• Future Developments: BrahMos Aerospace is working on hypersonic variants of the missile, which will have speeds exceeding Mach 5.

• Strategic Importance: The BrahMos missile enhances India's defense capabilities and acts as a deterrent against adversaries.

Q80. Answer: (a) Vikram Dev Dutt

The correct answer is Vikram Dev Dutt.

Key Points

• Vikram Dev Dutt, a senior bureaucrat from the Indian Administrative Service (IAS), was appointed as the Secretary of the Ministry of Coal in October 2024.

• His appointment reflects his extensive experience in various administrative capacities and his ability to manage critical roles in government departments.

• The Ministry of Coal is responsible for overseeing coal production, distribution, and policy formation in India, one of the major sectors contributing to energy and industrial growth.

• Vikram Dev Dutt has previously held other significant positions, including being associated with the Ministry of Tourism, where he contributed to enhancing India's tourism sector.

• The appointment of a seasoned IAS officer like Vikram Dev Dutt ensures administrative efficiency and robust policy execution in the coal sector.

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Additional Information

• Ministry of Coal:

• The Ministry of Coal was established in 1974 to develop and manage India's coal resources.

• It oversees coal mining operations, formulates policies related to coal production, and ensures its sustainable use.

• India is the second-largest coal producer globally, and coal contributes significantly to the nation's energy sector.

• The ministry also focuses on promoting clean coal technologies and reducing environmental impacts.

• Role of the Secretary of Ministry of Coal:

• The Secretary of the Ministry of Coal is the administrative head of the ministry and is responsible for implementing government policies efficiently.

• Key responsibilities include ensuring adequate coal supply to power plants, industries, and other sectors.

• They also oversee the functioning of public sector undertakings like Coal India Limited and its subsidiaries.

• Promoting sustainable mining practices and exploring renewable energy alternatives also form part of their responsibilities.

• Vikram Dev Dutt:

• A 1993-batch IAS officer of the Arunachal Pradesh-Goa-Mizoram-Union Territory (AGMUT) cadre.

• He has served in various roles, including as the Chairman and Managing Director of Air India, contributing to the aviation sector's growth.

• Known for his administrative acumen, he has played pivotal roles in policy formulation and project implementation in different ministries.

• India's Coal Sector:

• Coal contributes to approximately 55% of India's energy needs, making it a vital resource for industrial and economic growth.

• Key producers of coal include Coal India Limited, which accounts for the majority of India's coal production.

• India's coal reserves are concentrated in states like Jharkhand, Odisha, Chhattisgarh, and West Bengal.

• The government is working towards enhancing coal production and transitioning to clean energy technologies to meet future energy demands sustainably.

Important Points

• Coal India Limited:

• Coal India Limited (CIL) is the world's largest coal producer and a Maharatna company under the Ministry of Coal.

• CIL operates through its subsidiaries and is responsible for producing and supplying coal to various sectors.

• It has been instrumental in ensuring India's energy security and driving industrial growth.

• Clean Coal Technologies:

• To address environmental concerns, India is investing in clean coal technologies, such as carbon capture and storage (CCS).

• Such technologies aim to reduce emissions from coal-based power plants and make coal usage more sustainable.

• Government initiatives like National Coal Gasification Mission are promoting the use of coal gasification for cleaner energy production.

Q81. Answer: (d) 5

The correct answer is 5 years.

Key Points

• In the Union Budget 2025, the Finance Minister announced the establishment of 50,000 Atal Tinkering Labs in government schools across India.

• The timeline for this ambitious project was set for completion within 5 years, ensuring a systematic rollout and implementation of the labs.

• The initiative aims to foster a culture of innovation, creativity, and scientific temperament among school students by providing them access to state-of-the-art tools and technologies.

• Atal Tinkering Labs are part of the Atal Innovation Mission (AIM), launched by the Government of India to promote entrepreneurship and innovation at the grassroots level.

• The labs are equipped with advanced technologies such as 3D printers, robotics kits, sensors, and microcontrollers, enabling students to work on hands-on projects and develop problem-solving skills.

Additional Information

• Atal Innovation Mission (AIM):

• AIM is a flagship initiative by the Government of India, launched under the NITI Aayog, to promote innovation and entrepreneurship.

• It focuses on creating an ecosystem that supports innovative ideas and transforms them into viable solutions for societal challenges.

• AIM operates multiple programs, including Atal Tinkering Labs, Atal Incubation Centers, and Mentor India Campaign.
• The mission targets schools, colleges, startups, and MSMEs to build a robust innovation-driven economy.
• Objective of Atal Tinkering Labs:
• The labs aim to nurture students from Classes VI to XII by exposing them to STEM (Science, Technology, Engineering, Mathematics) concepts.
• The primary goal is to develop critical thinking and problem-solving skills in young minds.
• Such initiatives ensure India's readiness for the Fourth Industrial Revolution.
• Eligibility for Atal Tinkering Labs:
• The program targets Government and Government-aided schools, ensuring inclusivity for underprivileged students.
• Schools are selected based on their proposals demonstrating a commitment to fostering an innovation culture.
• Impact of Atal Tinkering Labs:
• Over the years, these labs have successfully inspired students to participate in national and international competitions.
• They have helped create a generation of innovative thinkers and potential future entrepreneurs.
• Real-life examples include students designing solutions for environmental sustainability, healthcare challenges, and smart cities.

Important Points

• Budget 2025 Announcement:
• The Union Finance Minister emphasized the role of education and innovation in driving India's economic growth.
• Allocations were made to expand access to innovation hubs like the Atal Tinkering Labs.
• Global Context:
• Countries like Finland and Singapore have adopted similar STEM-focused initiatives in schools, showing significant improvements in student innovation capabilities.
• India's investment in Atal Tinkering Labs positions it as a global leader in grassroots innovation education.
• Technological Tools:
• Labs are equipped with tools like Arduino boards, Raspberry Pi kits, and IoT devices, enabling students to explore modern technologies.
• Such tools help students understand concepts like coding, robotics, and machine learning from an early age.

Q82. Answer: (a) Ministry of Petroleum & Natural Gas

The correct answer is Ministry of Petroleum & Natural Gas.

Key Points

• The SATAT initiative (Sustainable Alternative Towards Affordable Transportation) is spearheaded by the Ministry of Petroleum & Natural Gas.
• It was launched in October 2018 to promote the use of Compressed Bio-Gas (CBG) as a clean and affordable alternative fuel for transportation.
• The objective of the initiative is to boost the production of Compressed Bio-Gas (CBG) from various waste and biomass sources like agricultural residue, municipal solid waste, sugarcane press mud, and cattle dung.
• SATAT is aimed at reducing dependency on fossil fuels, addressing environmental concerns, and increasing farmer income by utilizing agricultural residue.
• The initiative also supports the government's vision of a "Swachh Bharat" (Clean India) by addressing the issue of organic waste management effectively.

Additional Information

• Compressed Bio-Gas (CBG):
• CBG is a purified version of biogas, which has properties similar to compressed natural gas (CNG).
• It can be used as a fuel for vehicles and has a calorific value of approximately 52,000 KJ/kg.
• CBG is produced through the anaerobic digestion of biomass and waste materials, ensuring efficient waste utilization.
• CBG can be transported through cylinders or pipelines and used for cooking, industrial purposes, and as automotive fuel.
• Benefits of SATAT Initiative:
• It helps in reducing carbon emissions by replacing fossil fuels with a cleaner alternative.
• Promotes effective waste management by utilizing organic waste for energy production.
• Creates job opportunities in rural areas, especially in the collection and processing of biomass.
• Enhances energy security by reducing dependency on imported crude oil.
• Stakeholders Involved:
• Public sector oil marketing companies (OMCs) like Indian Oil Corporation (IOC), Bharat Petroleum Corporation Limited (BPCL),

and Hindustan Petroleum Corporation Limited (HPCL) are key players in implementing the SATAT initiative.

• Private sector participation is encouraged to set up CBG production plants and supply chains.

• Government Goals:

• The SATAT initiative aligns with India's target of achieving Net Zero emissions by 2070.

• The government aims to establish 5,000 CBG plants across the country by 2025, with a production capacity of 15 million metric tonnes annually.

• It contributes to achieving the goals of the National Policy on Biofuels, which emphasizes the production of alternative fuels.

Important Points

• Other Ministries:

• Ministry of Housing & Urban Affairs: Focuses on urban development schemes like Smart Cities Mission and Swachh Bharat Mission.

• Ministry of Urban Development: Now merged with the Ministry of Housing & Urban Affairs.

• Ministry of Home Affairs: Handles internal security, disaster management, and law enforcement.

• Achievements of SATAT:

• Several CBG production plants have been commissioned under SATAT, generating employment and contributing to cleaner energy.

• The initiative has garnered interest from private players, leading to investments in bio-energy infrastructure.

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Q83. Answer: (b) Wide Ball

The correct answer is Wide Ball.

Key Points

• A Wide Ball is declared in cricket when the umpire judges that the bowler has delivered the ball too far away from the batsman, making it difficult or impossible for the batsman to play a legitimate shot.

• The rule governing a Wide Ball ensures that the bowler delivers the ball within a region where the batsman has a reasonable opportunity to score runs.

• If the ball passes on the leg side of the batsman or is significantly wide of the off stump, it may be adjudged as a Wide Ball, unless the batsman moves to make contact with the ball.

• A Wide Ball results in one run being added to the batting team's score, and the delivery does not count towards the bowler's over.

• The umpire signals a Wide Ball by extending both arms horizontally.

Additional Information

• Wide Ball Rule:

• A Wide Ball is part of the Laws of Cricket, specifically under Law 22, which governs the criteria for declaring a ball as "wide."

• The rule is meant to ensure fairness and competitiveness in the game, allowing batsmen a reasonable chance to play the ball.

• The ball must pass within a certain area on either side of the stumps to be considered a legitimate delivery.

• Impact of Wide Ball:

• It adds an extra run to the batting team's total score.

• The extra delivery ensures the batting side gets more opportunities to score.

• It is considered a mistake by the bowler and adds pressure by increasing the number of deliveries in an over.

• Comparison with Other Deliveries:

• Fast Ball: Refers to a delivery bowled at high speed. It is legitimate unless it breaches other rules (e.g., height restrictions).

• Yorker: A ball aimed at the batsman's feet, often used to restrict scoring opportunities. It cannot be a Wide Ball unless misdirected.

• Length Ball: Refers to balls pitched at a specific distance from the batsman. These are legitimate unless they stray wide.

• Umpire's Judgment:

• The umpire's role is critical in determining whether a ball is wide. Their decision is based on the batsman's stance and movement.

• Technological aids like the Decision Review System (DRS) are not typically used for Wide Ball decisions.

Important Points

• Wide Ball in Limited Overs Cricket:

• In formats like ODIs and T20s, stricter rules apply for Wide Balls, especially on the leg side.

• Bowling wides can significantly impact the game by giving away extra runs and disrupting the bowler's rhythm.

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• Penalties for Wides:

• Each Wide Ball results in one penalty run for the bowling team.

• Repeated wides can lead to extra pressure and loss of control in critical game situations.

• Examples:

• During the 2019 ICC Cricket World Cup, wides were a major factor in teams' strategies and scores.

• In many matches, wides have led to close finishes, emphasizing the importance of disciplined bowling.

Q84. Answer: (c) Middle/long

The correct answer is Middle/long.

Key Points

• Middle/long-distance races refer to track events that range from 800 meters to 10,000 meters. These events test both speed and endurance.

• The 800 meters race is considered a middle-distance event, requiring a combination of sprinting ability and aerobic endurance.

• The 1500 meters race, often called the "metric mile," is another middle-distance event where athletes need strategic pacing and stamina.

• Both races are conducted on a 400-meter standard track, with 800 meters requiring two laps and 1500 meters requiring three and three-quarters laps.

• These events are part of the Olympic Games and other international track and field championships, showcasing athletes' ability to balance speed and endurance.

Additional Information

• Characteristics of Middle/Long-Distance Races:

• Middle-distance races, like 800 meters and 1500 meters, require a balance between anaerobic and aerobic energy systems.

• Strategies such as pacing and positioning play a significant role in these races.

• These events often involve a final sprint in the last 100-200 meters to secure victory.

• Training for Middle-Distance Events:

• Athletes train to enhance their VO2 max (aerobic capacity) and lactate threshold for sustained performance.

• Workouts include a mix of interval training, long runs, and speed drills.

• Notable Records:

• The world record for 800 meters (as of 2023) is held by David Rudisha of Kenya, with a time of 1:40.91 set in 2012.

• The world record for 1500 meters (as of 2023) is held by Hicham El Guerrouj of Morocco, with a time of 3:26.00 set in 1998.

• Comparison with Other Race Types:

• Sprints: Events like 100m and 200m that rely purely on anaerobic energy and explosive power.

• Hurdles: Races like 110m hurdles where athletes jump over barriers while maintaining speed.

• Road Running: Includes marathons and half-marathons conducted on roads, requiring high endurance.

Important Points

• Historical Context: Middle/long-distance events have been a part of the Olympic Games since their inception in 1896.

• Physiological Demands: Athletes require a mix of fast-twitch and slow-twitch muscle fibers to excel in these races.

• Famous Athletes: Legends like Paavo Nurmi, Sebastian Coe, and Faith Kipyegon have excelled in these events, earning global recognition.

Q85. Answer: (c) PT Usha

The correct answer is PT Usha.

Key Points

• PT Usha, often referred to as the "Queen of Indian Track and Field," holds the record for the most Asian Games medals by an Indian athlete.

• She won a total of 11 medals at the Asian Games, including 4 gold medals, 7 silver medals, and no bronze medals.

• Her performance at the 1986 Seoul Asian Games was particularly remarkable, where she won 4 golds and 1 silver in track and field events.

• PT Usha competed in multiple editions of the Asian Games, including 1982, 1986, 1990, and 1994, showcasing her consistency and dominance in athletics.

• She specialized in sprints and hurdles, becoming an icon for Indian athletics and inspiring generations of athletes.

• PT Usha's achievements earned her numerous accolades, including the Arjuna Award in 1984 and the Padma Shri in 1985.

Additional Information

• Asian Games Overview:

• The Asian Games, also known as the Asiad, is a continental multi-sport event held every 4 years, featuring athletes from across Asia.
• India has participated in the Asian Games since its inception in 1951, when the first games were held in New Delhi, India.
• Indian athletes have excelled in sports like hockey, kabaddi, wrestling, and athletics at the Asian Games.
• PT Usha's Career Highlights:
• PT Usha was born in Kerala, India, in 1964. She began her athletic career at a young age and quickly rose to prominence.
• She narrowly missed a medal at the 1984 Los Angeles Olympics, finishing fourth in the 400m hurdles final by just 0.01 seconds.
• Her achievements earned her the nickname "Payyoli Express" due to her incredible speed and her hometown of Payyoli in Kerala.
• Other Indian Athletes at the Asian Games:
• KD Jadhav: India's first individual Olympic medalist but did not have significant achievements at the Asian Games.
• Sachin Nag: A swimmer who won medals at the 1951 Asian Games but did not reach PT Usha's level of dominance.
• Dutee Chand: A contemporary sprinter who has won medals at the Asian Games but does not hold the record for the most medals.
• Important Facts about Indian Athletics:
• Indian athletes have contributed significantly to the country's medal tally at the Asian Games, especially in track and field events.
• India's athletics legacy includes stars like Milkha Singh, Anju Bobby George, and Neeraj Chopra, alongside PT Usha.
• PT Usha's dominance at the Asian Games remains unparalleled, showcasing her dedication and skill in athletics.

Important Points

• Indian Athletics at International Events:
• PT Usha's near-miss at the 1984 Olympics remains one of the most discussed moments in Indian athletics history.
• India continues to produce world-class athletes, with Neeraj Chopra winning the gold medal in javelin at the 2020 Tokyo Olympics.
• PT Usha now serves as a mentor and coach, contributing to the development of the next generation of Indian athletes.

Q86. Answer: (a) 1

The correct answer is 1 run.

Key Points

• In the game of cricket, when a bowler bowls a delivery that is deemed too wide for the batsman to reach and play a legitimate shot, it is called a wide ball.
• A wide ball is signaled by the umpire by stretching both arms horizontally. The batting team is awarded 1 run for every wide ball bowled.
• Additionally, if the wicketkeeper or fielders fail to stop the ball, the batting team can score extra runs called "byes" on the wide delivery.
• A wide ball also adds to the bowler's tally of extra deliveries, meaning the bowler has to bowl another legal delivery to complete the over.
• The 1 run awarded for a wide ball is added to the team's total score but not to the batsman's individual score.

Additional Information

• Wide Ball in Cricket:
• A ball is considered wide if it is bowled outside the reach of the batsman on either the off-side or leg-side of the pitch, making it impossible for the batsman to play a normal shot.
• This rule ensures that bowlers maintain a fair and competitive line and length during the game.
• Penalty Runs:
• A wide ball contributes to the extras in the match, which include wides, no-balls, byes, and leg-byes.
• Extras are crucial in close matches and can significantly impact the outcome of the game.
• Impact on Bowling Statistics:
• Wide balls count as penalty deliveries and are added to the bowler's tally of balls bowled, but they do not count as legitimate deliveries.
• This can negatively affect the bowler's economy rate in the game.
• Examples in Matches:
• Wide balls have often been a deciding factor in limited-overs cricket, especially in tight games where every run counts.
• For instance, in the 2019 Cricket World Cup final, extras like wides played a key role in the final score.

Important Points

• ICC Rules: The rules regarding wides are defined by the International Cricket Council (ICC) and are followed in all international

and domestic matches.

• Wide in Different Formats: The interpretation of a wide ball can vary slightly in different formats of the game, such as Test matches, ODIs, and T20s.

• No-Ball vs. Wide Ball: While both result in extra runs, a no-ball also allows a free-hit in limited-overs cricket, whereas a wide ball does not.

Q87. Answer: (c) Karnataka

The correct answer is Karnataka.

Key Points

• Karnataka is the second most successful team in the history of the Ranji Trophy as of 31 July 2025, having won the prestigious cricket tournament multiple times.

• In the history of the Ranji Trophy, Karnataka has achieved 8 championship titles, showcasing consistent performances over the years.

• The team has produced numerous iconic players, including Rahul Dravid, Anil Kumble, Javagal Srinath, and KL Rahul, who have made significant contributions to Indian cricket.

• Karnataka's success in the Ranji Trophy stems from a robust cricketing infrastructure and a focus on nurturing young talent through state-level academies and programs.

• The team's dominance is highlighted by their ability to perform in high-pressure situations, often excelling in knockout matches to secure titles.

Additional Information

• About Ranji Trophy:

• The Ranji Trophy is India's premier domestic first-class cricket tournament, established in 1934.

• Named after Ranjitsinhji Vibhaji Jadeja, a cricket legend, the tournament is contested by regional teams representing various states and regions of India.

• The tournament follows a multi-stage format, including league matches and knockout rounds, culminating in the final.

• Most Successful Team:

• Mumbai is the most successful team in Ranji Trophy history, with an impressive record of 41 titles.

• The team has consistently dominated domestic cricket, often producing players who excel in international cricket.

• Railways and Services:

• Railways and Services have also had notable performances in the Ranji Trophy but are not among the top teams in terms of titles won.

• These teams represent government organizations and often rely on players recruited through their sports quotas.

• Other Teams:

• Maharashtra, while competitive, has not achieved as many titles as Karnataka or Mumbai.

• Other teams like Delhi, Tamil Nadu, and Uttar Pradesh have also had significant contributions to the tournament's history.

Important Points

• Key Players from Karnataka:

• Rahul Dravid: Known as "The Wall," his contributions to Karnataka's Ranji campaigns are legendary.

• Anil Kumble: India's highest wicket-taker in Tests, Kumble consistently performed for Karnataka in domestic cricket.

• KL Rahul: A modern-day Indian cricketer who started his career playing for Karnataka in Ranji Trophy.

• Significance of Ranji Trophy:

• The Ranji Trophy serves as a stepping stone for players aspiring to represent India at the international level.

• It is considered a vital tournament for assessing the form and capability of domestic players.

Q88. Answer: (c) Similipal Tiger Reserve

The correct answer is Similipal Tiger Reserve.

Key Points

• TrailGuard AI is an advanced anti-poaching system designed to protect wildlife from illegal poaching activities. It uses AI-powered cameras to detect intrusions in protected areas and send real-time alerts to authorities.

• The Similipal Tiger Reserve, located in Odisha, India, is one of the largest tiger reserves in the country and is known for its rich biodiversity, including tigers, elephants, and other endangered species.

• This AI system has been implemented in Similipal Tiger Reserve to combat the serious threat of poaching, which affects wildlife conservation efforts in the area.

• The system consists of hidden cameras equipped with motion sensors and advanced AI algorithms that can distinguish between humans, animals, and other objects, ensuring precise identification of potential poachers.

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• By deploying TrailGuard AI, authorities aim to enhance the efficiency of anti-poaching operations, minimize human-animal conflicts, and ensure the long-term survival of wildlife in the reserve.

Additional Information

• Similipal Tiger Reserve:

• Located in Mayurbhanj district, Odisha, it covers an area of approximately 2,750 square kilometers.

• It was declared a tiger reserve in 1973 under Project Tiger and a biosphere reserve in 1994.

• Home to Bengal tigers, Asian elephants, gaurs (Indian bison), and leopards, as well as numerous bird and plant species.

• It is named after the Simul tree (Silk Cotton Tree), which is abundant in the area.

• TrailGuard AI System:

• Developed by RESOLVE, a US-based environmental conservation organization, in collaboration with tech companies like Intel.

• It uses a network of hidden, AI-enabled cameras to monitor wildlife habitats and detect illegal activities like poaching.

• The system is capable of sending real-time alerts to forest officials, enabling quick response to potential threats.

• It is designed to operate in remote and dense forest areas with minimal human intervention, reducing the need for constant patrolling by forest guards.

• Anti-Poaching Efforts in India:

• India has implemented various initiatives like Project Tiger, Project Elephant, and the Wildlife Crime Control Bureau (WCCB) to protect endangered species.

• Technological advancements, such as GPS tracking, AI-based surveillance, and drone monitoring, are being increasingly used to combat poaching.

• Community involvement through eco-tourism and awareness programs plays a vital role in wildlife conservation.

• Stringent laws like the Wildlife Protection Act, 1972, have been enacted to penalize poachers and protect wildlife habitats.

• Other Tiger Reserves in India:

• Periyar Tiger Reserve (Kerala): Known for its scenic beauty and significant population of tigers and elephants.

• Valmiki Tiger Reserve (Bihar): Located near the Indo-Nepal border, it serves as a crucial habitat for Bengal tigers.

• Gir National Park (Gujarat): Famous for being the only natural habitat of the Asiatic lion.

Important Points

• Significance of AI in Wildlife Conservation:

• AI systems like TrailGuard help to monitor and protect remote areas where traditional patrolling is challenging.

• They reduce the dependency on human resources and enhance efficiency in detecting poaching activities.

• By integrating AI with other technologies like drones and GIS mapping, authorities can develop a comprehensive approach to wildlife conservation.

• Challenges in Wildlife Protection:

• Poaching remains a significant threat to endangered species, driven by demand for animal parts in illegal markets.

• Habitat destruction due to deforestation, urbanization, and climate change further endangers wildlife.

• Lack of awareness and community participation often hinders conservation efforts.

Q89. Answer: (a) to protect one-horned rhinos from poachers

The correct answer is to protect one-horned rhinos from poachers.

Key Points

• Operation Falcon was launched by the Assam government in August 2025 to address the critical issue of poaching of one-horned rhinos in the state.

• The state of Assam is globally renowned for its Kaziranga National Park, which houses the majority of the world's population of Indian one-horned rhinos.

• The operation aims to strengthen anti-poaching measures by deploying advanced surveillance technology, increasing manpower, and intensifying security protocols in rhino habitats.

• One-horned rhinos are classified as vulnerable under the IUCN Red List, and their conservation is critical for maintaining biodiversity.

• Rhino poaching is primarily driven by the illegal trade of rhino horns, which are falsely believed to have medicinal properties in certain cultures.

Additional Information

• One-Horned Rhino Conservation Efforts:

• The Indian one-horned rhinoceros, also known as the Indian rhinoceros, is primarily found in Assam, particularly in Kaziranga National Park, Pobitora Wildlife Sanctuary, and Manas National Park.

• Conservation efforts have included the Indian Rhino Vision 2020, which aimed to increase the population of rhinos to 3,000 by

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2020 across protected areas in Assam.

• Efforts like anti-poaching camps, community awareness programs, and strict enforcement of wildlife laws have been implemented.

• Technology such as drones and GPS tracking has been increasingly employed for surveillance and monitoring of rhino habitats.

• Illegal Trade and Threats:

• Rhino horns are often trafficked in international markets, particularly in Asia, where they are falsely believed to have medicinal properties.

• The horns are composed primarily of keratin, the same substance found in human hair and nails, and have no proven medicinal value.

• Poaching, habitat loss, and human-wildlife conflict are the primary threats to rhino populations.

• Indian Wildlife Protection Framework:

• The conservation of rhinos is supported under the Wildlife Protection Act, 1972, which prohibits hunting and trade of endangered species.

• The National Board for Wildlife and various state wildlife boards actively work toward the protection of endangered species.

• Kaziranga National Park:

• Kaziranga National Park is a UNESCO World Heritage Site located in Assam, famous for its population of one-horned rhinos.

• The park spans an area of approximately 430 square kilometers and includes grasslands, wetlands, and tropical forests.

• Kaziranga has been a success story in rhino conservation, with the rhino population increasing due to stringent anti-poaching measures.

Important Points

• Other Conservation Programs:

• The Project Tiger and Project Elephant are similar initiatives aimed at conserving other endangered species in India.

• Community participation plays a vital role in wildlife conservation. Programs like the Eco-development Committees engage local communities in conservation efforts.

• International Agreements:

• India is a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which regulates trade in endangered species.

• Collaborative efforts with neighboring countries such as Nepal and Bhutan have been undertaken for transboundary conservation.

• Threatened Species in India:

• Other vulnerable species in India include the Bengal tiger, Asiatic lion, and Indian elephant, which are also subject to conservation initiatives.

Q90. Answer: (a) 1988

The correct answer is 1988.

Key Points

• Table Tennis made its Olympic debut in the year 1988 during the Summer Olympics held in Seoul, South Korea.

• It was included as a competitive sport with events for both singles and doubles categories for men and women.

• The inclusion of table tennis in the Olympics was a result of the growing popularity of the sport worldwide, especially in countries like China, Japan, South Korea, and European nations.

• China dominated the event from the very beginning and has maintained its stronghold on the sport, winning numerous medals across different categories.

• The Olympic table tennis competition follows rules set by the International Table Tennis Federation (ITTF), the governing body for the sport.

Additional Information

• Table Tennis History:

• Table Tennis, also known as Ping Pong, originated in England in the late 19th century as an indoor version of lawn tennis.

• The sport gained international recognition and was officially governed by the International Table Tennis Federation (ITTF), established in 1926.

• Olympic Events:

• Table tennis at the Olympics includes Men’s Singles, Women’s Singles, Men’s Doubles, Women’s Doubles, and since 2008, a Team Event.

• The matches are played as best of five games, with each game requiring a player to score 11 points to win.

• Dominance of China:

• China has historically been the most successful nation in Olympic table tennis, winning the majority of gold medals since its inclusion in 1988.

• Legendary players like Ma Long, Ding Ning, and Zhang Jike have represented China and dominated world rankings.

• Significance of Table Tennis in the Olympics:

• The inclusion of table tennis in the Olympics promoted the sport globally and encouraged participation from athletes in various countries.

• The event also serves as a platform for cultural exchange, as players from diverse nations compete under the Olympic spirit.

Important Points

• International Table Tennis Federation (ITTF):

• Founded in 1926, the ITTF is the governing body of international table tennis.

• It oversees major global tournaments, including the World Table Tennis Championships and the Olympic events.

• Evolution of the Sport:

• Modern table tennis equipment, such as rubber-coated paddles and high-speed balls, has significantly enhanced the game's pace and precision.

• Technological advancements have also helped in improving the quality of table tennis tables and tracking player performance.

• Global Impact:

• Table tennis is played in over 200 countries and is one of the most widely practiced sports worldwide.

• The sport has inspired numerous grassroots initiatives to promote physical activity and cultural exchange.

Q91. Answer: (a) Africa

The correct answer is Africa.

Key Points

• The ICC Men's ODI Cricket World Cup 2027 is scheduled to be held in Africa, marking a significant return of the tournament to the continent.

• The hosting rights for the 2027 World Cup have been awarded jointly to South Africa, Namibia, and Zimbabwe, ensuring a collaborative effort across these nations.

• This will be the second time Africa hosts the ICC Men's ODI Cricket World Cup. The first instance was in 2003, when South Africa, Zimbabwe, and Kenya jointly hosted the tournament.

• The decision reflects the ICC's commitment to promoting cricket globally and utilizing the growing infrastructure for cricket in African nations.

• The tournament will feature 14 teams, with matches played across various venues in South Africa, Namibia, and Zimbabwe.

Additional Information

• History of ICC Men's ODI Cricket World Cup:

• The tournament began in 1975 and is held every four years, making it one of the most prestigious events in cricket.

• It has been hosted by countries across continents, including Asia, Europe, Australasia, and Africa.

• The last World Cup held in Africa was the 2003 edition, which saw Australia emerge as champions.

• Infrastructure in African Nations:

• South Africa has world-class cricket stadiums, such as Newlands Cricket Ground (Cape Town) and Wanderers Stadium (Johannesburg).

• Zimbabwe and Namibia have also invested in improving their cricket facilities to host international events.

• Format of the 2027 World Cup:

• The tournament will feature 14 teams, compared to the 10 teams that participated in the 2019 and 2023 editions.

• The format will include group stages, followed by knockout rounds to determine the winner.

• Significance of Hosting in Africa:

• This event is expected to boost the popularity of cricket in Africa and provide a platform for local players to showcase their talents.

• It will also contribute to the economic growth of the host nations through tourism and global attention.

Important Points

• South Africa's Cricket History: South Africa has hosted several major ICC tournaments, including the 2003 Cricket World Cup and the inaugural ICC T20 World Cup in 2007.

• Namibia's Cricket Growth: Namibia has emerged as a strong associate nation, qualifying for recent ICC tournaments and improving its cricket infrastructure.

• Zimbabwe's Contribution: Despite challenges, Zimbabwe remains a significant part of African cricket and has hosted several bilateral and ICC events.

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• Global Reach: Hosting the World Cup in Africa showcases cricket's expansion beyond traditional strongholds and promotes inclusivity in the sport.

Q92. Answer: (a) Kummi

The correct answer is Kummi.

Key Points

• Kummi is a traditional folk dance of Tamil Nadu performed exclusively by women. It is one of the most ancient forms of folk dances in India.

• The dance is performed in a circle, where women clap their hands rhythmically while moving to the beat of the music.

• The word "Kummi" is derived from the Tamil word "Kommai," which means clapping hands. The clapping forms the core rhythm of the dance.

• Kummi is traditionally performed during festivals, celebrations, and special occasions like harvest festivals, especially Pongal, a major festival in Tamil Nadu.

• This dance form is known for its simplicity and does not involve elaborate instruments. The rhythm is often set by the clapping and occasionally accompanied by folk songs.

Additional Information

• Tusu:

• Tusu is a popular folk festival and dance performed in states like West Bengal, Odisha, and Jharkhand during the Makar Sankranti festival.

• The dance revolves around the worship of the Tusu goddess and is celebrated with vibrant songs and rituals.

• This dance is not associated with Tamil Nadu and does not involve clapping in a circle.

• Giddha:

• Giddha is a traditional dance form of Punjab, performed by women. It is characterized by energetic movements, rhythmic clapping, and singing boliyan (folk couplets).

• Unlike Kummi, Giddha involves intricate hand gestures and is accompanied by a dhol (drum).

• Kathi:

• Kathi is a form of traditional folk dance from the Gujarat region. It is performed with sticks and is a precursor to the popular Garba and Dandiya Raas dances.

• The use of sticks in this dance differentiates it from Kummi, which is focused on clapping.

Important Points

• Significance of Kummi:

• Kummi is deeply rooted in Tamil culture and often performed to express gratitude during harvest time.

• The simplicity of this dance makes it accessible to all, requiring no formal training or instruments.

• Regional Variations:

• Though primarily associated with Tamil Nadu, similar clapping dances exist in other South Indian states, showcasing cultural overlap.

Q93. Answer: (b) Revenue expenditure

The correct answer is Revenue expenditure.

Key Points

• Interest payment on debt incurred by the government is classified as Revenue expenditure. This is because it does not create any asset nor reduce any liability for the government.

• Revenue expenditure refers to expenditures incurred by the government for its day-to-day functioning and operations, including interest payments on loans, salaries, subsidies, and grants.

• Such expenditures are recurring in nature and are meant to ensure the smooth running of government services rather than creating or acquiring long-term assets.

• The interest payments by the government are part of its obligations to service its borrowings, and this expenditure is reflected in the Revenue Account of the budget.

• Unlike Capital expenditure, revenue expenditure does not contribute to the creation of infrastructure or investment in development projects.

Additional Information

• Revenue Receipt:

• Revenue receipts include income earned by the government through taxes (such as income tax, GST, and customs duty) and non-tax revenues (such as dividends from public sector enterprises).

• Unlike capital receipts, revenue receipts do not lead to any reduction in government liabilities or asset creation.

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• Capital Receipt:

• Capital receipts refer to funds received by the government that either increase its liabilities or decrease its assets. Examples include borrowings, disinvestment proceeds, and recovery of loans.

• These receipts are utilized for financing development projects and infrastructure creation.

• Capital Expenditure:

• Capital expenditure involves spending by the government to acquire assets such as buildings, roads, machinery, and infrastructure.

• It leads to the creation of long-term assets and contributes to economic growth and development.

• Distinction Between Revenue and Capital Expenditure:

• Revenue expenditure: Recurring and short-term expenses like salaries, interest payments, and subsidies.

• Capital expenditure: One-time investments aimed at asset creation, such as construction of highways, railways, and hospitals.

Important Points

• Union Budget Classification: The Indian government classifies its budget into Revenue Account (day-to-day expenses) and Capital Account (asset creation).

• Fiscal Responsibility and Budget Management (FRBM) Act: This act emphasizes the importance of controlling revenue expenditure to maintain fiscal discipline.

• Debt Servicing: Interest payments constitute a significant portion of revenue expenditure and are crucial for maintaining the government's creditworthiness.

• Examples of Revenue Expenditure: Education grants, subsidies, administrative expenses, and defense spending (excluding infrastructure creation).

• Budgetary Implication: High revenue expenditure on interest payments can limit the government's ability to allocate funds for developmental projects under capital expenditure.

Q94. Answer: (d) 1995

The correct answer is 1995.

Key Points

• Bharatiya Reserve Bank Note Mudran Limited (BRBNMPL) was established in 1995 as a fully owned subsidiary of the Reserve Bank of India (RBI).

• The primary objective of BRBNMPL is to cater to the increasing demand for currency notes in India and ensure smooth circulation of banknotes in the economy.

• BRBNMPL operates with two highly secure printing presses located at Mysuru, Karnataka, and Salboni, West Bengal.

• This establishment allowed the Reserve Bank of India to reduce dependence on external sources for currency printing, enhancing efficiency and security.

• BRBNMPL is responsible for printing Indian currency notes of various denominations, adhering to strict quality and security standards.

Additional Information

• Role of BRBNMPL:

• BRBNMPL is crucial for ensuring the availability of adequate currency notes to meet the needs of the Indian economy.

• It employs advanced technologies and the latest machinery to print high-quality and secure banknotes.

• The organization is also involved in research and development to innovate better techniques for counterfeit prevention.

• Other Currency Printing Presses in India:

• Apart from BRBNMPL, currency notes are also printed at presses managed by Security Printing and Minting Corporation of India Limited (SPMCIL).

• SPMCIL operates two presses located in Nashik, Maharashtra, and Dewas, Madhya Pradesh.

• Reserve Bank of India (RBI):

• Founded in 1935, the Reserve Bank of India is the central banking institution of India, responsible for regulating monetary policy and managing currency issuance.

• The RBI ensures the availability of sufficient currency notes and coins to maintain economic stability.

• Security Features of Indian Currency Notes:

• Indian currency notes include advanced security features such as watermarks, security threads, intaglio printing, micro-lettering, and color-shifting ink to prevent counterfeiting.

• Each denomination has unique tactile marks to assist visually impaired individuals in identifying the notes.

Important Points

• Currency Demand in India:

• India, as a growing economy, has a significant demand for physical currency due to its large population and cash-driven markets.

• The establishment of BRBNMPL has helped address this demand efficiently by increasing the domestic production capacity for banknotes.

• Security Printing and Minting Corporation of India Limited (SPMCIL):

• SPMCIL was established in 2006 and operates under the Ministry of Finance, Government of India.

• It is responsible for producing coins, currency notes, passports, postage stamps, and other security documents.

• Currency Circulation Process:

• Once printed, currency notes are distributed by the Reserve Bank of India through its regional offices and branches.

• Banks further distribute these notes to the public via ATMs and branches.

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Q95. Answer: (b) 1997

The correct answer is 1997.

Key Points

• The fixed-rate repos in government securities were introduced in 1997 to enhance the Reserve Bank of India's (RBI) ability to manage liquidity effectively.

• This mechanism allowed the RBI to inject or absorb liquidity from the banking system by conducting repo operations at a predetermined fixed rate.

• The primary objective was to ensure stability in the money market and to provide banks with a reliable tool for short-term borrowing or lending.

• The introduction of fixed-rate repos was a significant step in modernizing India's monetary policy framework and aligning it with global practices.

• Fixed-rate repos contributed to better interest rate transmission, which helped the RBI in implementing its monetary policy more efficiently.

Additional Information

• Repo Rate:

• The repo rate is the rate at which the RBI lends money to commercial banks against government securities.

• It is a key monetary policy tool used to control inflation and regulate liquidity in the economy.

• Changes in the repo rate directly affect borrowing costs for banks and subsequently influence lending rates for consumers and businesses.

• Liquidity Adjustment Facility (LAF):

• The LAF was introduced by the RBI in 2000 as part of its monetary policy reforms.

• It comprises repo and reverse repo operations to manage liquidity in the banking system.

• While fixed-rate repos were introduced earlier in 1997, the LAF institutionalized their use alongside reverse repos to create a comprehensive framework.

• Impact of Fixed-Rate Repos:

• Improved the predictability and stability of liquidity management.

• Enhanced transparency in monetary policy operations by providing a clear signal to the market.

• Supported the development of a more robust and efficient government securities market.

• Historical Context:

• The introduction of fixed-rate repos came during a period of significant financial reforms in India, including the liberalization of the economy in the 1990s.

• These reforms aimed to modernize India's financial sector and integrate it with global markets.

Important Points

• Reverse Repo Rate:

• The reverse repo rate is the rate at which the RBI borrows money from commercial banks.

• It is used to absorb excess liquidity in the banking system and is typically lower than the repo rate.

• Government Securities:

• These are debt instruments issued by the government to finance its fiscal deficit.

• They are considered safe investments due to the government's backing and are used in repo transactions.

• Monetary Policy Transmission:

• The effectiveness of repo and reverse repo rates depends on how well they are transmitted to the broader economy.

• Efficient transmission ensures that changes in policy rates influence market rates, inflation, and economic growth.

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Q96. Answer: (d) 2001

The correct answer is 2001.

Key Points

• The Clearing Corporation of India Limited (CCIL) was established in the year 2001. It was created to provide clearing and settlement services for transactions in the financial markets.

• CCIL is headquartered in Mumbai, Maharashtra, India, and plays a crucial role in ensuring smooth functioning and stability in the Indian financial system.

• The corporation primarily serves markets such as government securities, money markets, foreign exchange (FX) markets, and derivatives.

• One of the key objectives of CCIL is to mitigate counterparty risk, which is achieved through processes such as novation and guaranteed settlement.

• It operates under the regulatory oversight of the Reserve Bank of India (RBI), ensuring compliance with financial standards and market integrity.

Additional Information

• Functions of CCIL:

• CCIL acts as a central counterparty (CCP) for clearing and settlement of trades in various segments such as government securities, FX, and money markets.

• It provides risk management services by ensuring that trades are settled even if one of the parties defaults.

• CCIL manages a Trade Repository for recording and storing trade data, enhancing transparency in the financial markets.

• It also offers services such as collateral management and valuation of securities for market participants.

• Regulatory Oversight:

• CCIL is regulated by the Reserve Bank of India (RBI) under the Payment and Settlement Systems Act, 2007.

• The oversight ensures that CCIL complies with international standards and maintains financial stability in the markets it serves.

• Key Features of CCIL:

• CCIL provides a guaranteed settlement mechanism, ensuring that trades are settled without risk of default.

• It uses advanced technology platforms to execute clearing and settlement processes efficiently and securely.

• CCIL supports multiple financial markets, making it an integral part of India's financial infrastructure.

• Historical Context:

• CCIL was established in response to the growing need for a robust clearing and settlement system in India, particularly after the financial sector reforms in the 1990s.

• Its creation marked a significant step toward improving market efficiency and reducing systemic risk in Indian financial markets.

Important Points

• Government Securities Market:

• CCIL plays a pivotal role in the government securities market by providing efficient clearing and settlement services.

• It ensures that transactions in government bonds are completed without delays or risks.

• Foreign Exchange Markets:

• In the FX market, CCIL provides guaranteed settlement for interbank trades, thereby mitigating counterparty risks.

• It also offers CLS (Continuous Linked Settlement) services to reduce settlement risks in cross-currency transactions.

• Membership:

• Market participants such as banks, financial institutions, and primary dealers are members of CCIL.

• These members benefit from the secure and efficient clearing and settlement services provided by the corporation.

• Recognition:

• CCIL has received international recognition for its role in enhancing market stability and reducing systemic risks.

• It adheres to global standards set by organizations such as the Bank for International Settlements (BIS).

Q97. Answer: (a) 933

The correct answer is 933.

Key Points

• The sex ratio is defined as the number of females per 1,000 males in a population. It is a critical demographic indicator that reflects the social and economic conditions of a society.

• As per the Census 2001, the sex ratio of India was 933 females per 1,000 males. This was an improvement from the sex ratio of 927 recorded in the Census 1991.

• The sex ratio in India varies significantly across states and regions. For instance, states like Kerala reported a higher sex ratio of 1,058, while states like Haryana recorded much lower figures at 861.

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• The improvement in the overall sex ratio in 2001 can be attributed to increased awareness about gender equality and various government initiatives aimed at reducing gender disparities.

• The sex ratio is an important measure for policymakers as it highlights issues related to gender equity, female mortality, and the impact of social practices like preference for male children.

Additional Information

• Key Terminologies:

• Sex Ratio: The number of females per 1,000 males in a population.

• Child Sex Ratio (CSR): The sex ratio among children aged 0-6 years. In Census 2001, the CSR was 927, indicating a preference for male children in society.

• Regional Variations:

• Kerala: Known for its high literacy rates and progressive social indicators, it had the highest sex ratio of 1,058 in 2001.

• Haryana: This state recorded one of the lowest sex ratios, highlighting issues like female infanticide and gender bias.

• National Capital Territory (Delhi): Reported a sex ratio of only 821, indicating urban challenges in gender equity.

• Factors Influencing the Sex Ratio:

• Social Practices: Practices like female infanticide, dowry system, and preference for male children heavily skew the sex ratio.

• Economic Factors: In rural areas, male children are often seen as assets for farming, while females are perceived as financial burdens.

• Healthcare: Lack of access to healthcare for women, especially during pregnancy and childbirth, contributes to higher female mortality rates.

• Government Initiatives:

• The Beti Bachao Beti Padhao scheme launched in 2015 aims to address the declining child sex ratio and promote gender equality.

• The Janani Suraksha Yojana focuses on reducing maternal and infant mortality by promoting institutional deliveries.

• Awareness campaigns and stricter enforcement of the Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act, 1994, which prohibits sex determination tests, have been implemented to combat gender-based sex selection.

• Global Comparison:

• The global average sex ratio at birth is around 952 females per 1,000 males. India’s overall sex ratio in 2001 was below this global average.

• Countries like China and Pakistan also face similar challenges with skewed sex ratios due to cultural preferences for male children.

Important Points

• The improvement in the sex ratio from 927 in 1991 to 933 in 2001 was a significant milestone, reflecting a gradual shift in societal attitudes towards gender equality.

• The child sex ratio remains a critical area of concern, as it reflects deep-rooted gender biases and the prevalence of practices like female foeticide.

• Efforts to improve the sex ratio must focus on a multi-pronged approach, including education, awareness campaigns, and strict enforcement of laws against gender discrimination.

Q98. Answer: (a) Depreciation

The correct answer is Depreciation.

Key Points

• Gross Value Added (GVA) measures the total value of goods and services produced in an economy before accounting for depreciation or capital consumption.

• When Depreciation (also known as capital consumption) is subtracted from GVA, the resulting value is Net Value Added (NVA).

• Depreciation refers to the decrease in the value of capital assets (like machinery, buildings, etc.) over time due to wear and tear, obsolescence, or usage.

• This deduction is crucial as it reflects the actual net output or production of an economy by excluding the value lost due to asset degradation.

• In the calculation of NVA, other components like taxes, subsidies, wages, etc., are not directly subtracted from GVA but are considered under different accounting measures. Hence, Depreciation is the correct answer.

Additional Information

• Gross Value Added (GVA):

• GVA is a measure of economic productivity, showing the value of output less intermediate consumption.

• It is used to assess the contribution of various sectors to the overall economic activity of a country.

• GVA is a critical indicator for policymakers to understand sectoral performance and plan interventions accordingly.

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• Net Value Added (NVA):
• NVA is derived by subtracting depreciation from the Gross Value Added.
• It represents the true economic value created by an economy, excluding the cost of maintaining and replacing capital assets.
• NVA is used to understand the net productivity and efficiency of an economy.
• Depreciation:
• Depreciation is the systematic reduction in the value of an asset over its useful life.
• It accounts for wear and tear, obsolescence, and usage, ensuring accurate financial representation of assets.
• Methods to calculate depreciation include straight-line method, declining balance method, and units of production method.
• Other Components in Economic Accounting:
• Net Indirect Tax: It represents the difference between indirect taxes and subsidies and is added to NVA to calculate GDP at market prices.
• Subsidy: A financial aid provided by the government to reduce the cost of goods or services, influencing the overall economic calculation.
• Wages: Payments made to labor, which are part of the compensation of employees but not deducted from GVA directly.

Important Points

• Gross Domestic Product (GDP):
• GDP at market prices is calculated by adding Net Indirect Taxes to GVA at factor cost.
• It provides a comprehensive measure of economic activity, including taxes and subsidies on products.
• Economic Accounting Systems:
• National accounts use measures like GVA, NVA, and GDP to assess economic performance.
• These metrics are essential for policy formulation, economic planning, and international comparisons.
• Application of Depreciation:
• Depreciation is crucial in corporate accounting for tax benefits and accurate financial reporting.
• It ensures businesses set aside resources for asset replacement, maintaining operational efficiency.

Q99. Answer: (b) Bodh Gaya

The correct answer is Bodh Gaya.

Key Points

• Bodh Gaya is the sacred site where Siddhartha Gautama, later known as Lord Buddha, attained enlightenment under the Bodhi Tree.
• This location is situated in the state of Bihar, India, and is considered one of the most important pilgrimage sites for Buddhists worldwide.
• Siddhartha Gautama meditated here for several days, during which he overcame temptations and distractions and achieved enlightenment, becoming the Buddha.
• The Mahabodhi Temple Complex at Bodh Gaya is now a UNESCO World Heritage Site, commemorating this significant event in Buddhist history.
• The Bodhi Tree, under which Buddha meditated, is a direct descendent of the original tree and is revered by millions of followers.
• Hence, the correct answer is Bodh Gaya.

Additional Information

• Lumbini:
• Lumbini, located in present-day Nepal, is the birthplace of Siddhartha Gautama.
• It is another important site for Buddhists, marked by the Maya Devi Temple and the Ashokan Pillar erected by Emperor Ashoka.
• While significant, it is not the location where Buddha attained enlightenment.
• Varanasi:
• Varanasi, also known as Kashi, is where Buddha delivered his first sermon after attaining enlightenment.
• The site of the sermon is Sarnath, located near Varanasi, and is associated with the
• It is important in Buddhist tradition but not the location of his meditation and enlightenment.
• Ujjain:
• Ujjain is an ancient city known for its spiritual significance in Hinduism, especially for the Mahakaleshwar Jyotirlinga.
• It has no direct connection to the life of Buddha or his meditation and enlightenment.
• Significance of Bodh Gaya:
• The Mahabodhi Temple was first built by Emperor Ashoka in the 3rd century BCE and later renovated and expanded.
• Bodh Gaya remains a center of Buddhist learning and pilgrimage, attracting visitors from across the globe.

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• The annual celebrations during Buddha Purnima are held here to honor Buddha's enlightenment.

Important Points

• Siddhartha Gautama:

• Born in 563 BCE in Lumbini, Nepal, Siddhartha Gautama was a prince of the Shakya clan.

• After renouncing his royal life, he wandered in search of truth and spiritual awakening.

• His teachings later formed the foundation of Buddhism, emphasizing the Four Noble Truths and the Eightfold Path.

• Buddhism:

• Buddhism is a religion and philosophy founded on Buddha's teachings, focusing on compassion, mindfulness, and the cessation of suffering.

• It spread from India to various parts of Asia, including Sri Lanka, China, Japan, Thailand, and Tibet.

• Key Buddhist scriptures include the Tipitaka and other sutras written in Pali and Sanskrit.

• UNESCO Recognition:

• The Mahabodhi Temple Complex was designated a UNESCO World Heritage Site in 2002 for its cultural and historical significance.

• This recognition highlights its importance as a global spiritual landmark.

Q100. Answer: (a) Ravi

The correct answer is Ravi River.

Key Points

• The Harappan site of Harappa was discovered on the banks of the Ravi River during the excavations conducted between 1920-22 by archaeologists under the leadership of Sir John Marshall, Rai Bahadur Daya Ram Sahni, and others.

• Harappa is one of the most significant archaeological sites of the Indus Valley Civilization, showcasing a highly developed urban settlement of the Bronze Age.

• The site is located in present-day Sahiwal district, Punjab, Pakistan. The Ravi River played a crucial role in the establishment and sustenance of the settlement by providing water resources and facilitating trade and agriculture.

• The discovery of Harappa and Mohenjo-daro led to the identification of the Indus Valley Civilization, also known as the Harappan Civilization, which dates back to approximately 3300 BCE to 1300 BCE.

• The findings at Harappa include granaries, wells, drainage systems, seals, terracotta figurines, and evidence of trade networks, suggesting a sophisticated and organized urban lifestyle.

• The Ravi River, along with other rivers like the Indus, Ghaggar-Hakra, and Saraswati, was integral to the development of settlements in the Indus Valley region.

Additional Information

• Indus Valley Civilization (IVC):

• The Indus Valley Civilization is one of the world's earliest urban civilizations, contemporaneous with Mesopotamia and Ancient Egypt.

• It extended across parts of present-day India, Pakistan, and Afghanistan, with major sites including Harappa, Mohenjo-daro, Lothal, Dholavira, Kalibangan, and Banawali.

• The civilization is known for its advanced urban planning, including grid-pattern cities, drainage systems, and standardized weights and measures.

• It thrived on agriculture, trade, and craft production, with evidence of trade links extending to Mesopotamia.

• Ravi River:

• The Ravi River is one of the five rivers of the Punjab region, flowing through India and Pakistan.

• It originates from the Kullu hills in Himachal Pradesh, India, and flows into Pakistan, eventually merging with the Chenab River.

• Historically, the Ravi River has been a lifeline for civilizations settled along its banks, including the Harappan Civilization.

• Excavation of Harappa:

• The archaeological excavations at Harappa were initiated by Rai Bahadur Daya Ram Sahni under the supervision of Sir John Marshall, then Director-General of the Archaeological Survey of India.

• The findings included seals, pottery, beads, tools, and burial sites, providing insights into the socio-economic and cultural aspects of the civilization.

• The discovery of Harappa marked the beginning of systematic study and understanding of the Indus Valley Civilization.

• Significance of Harappa:

• Harappa is considered the first urban center of the Indus Valley Civilization.

• The site provides critical evidence of advanced urban planning, agricultural practices, and trade networks in ancient times.

• The artifacts discovered include seals with inscriptions in the still undeciphered Harappan script, which is believed to represent

one of the earliest writing systems.

Important Points

• Other Rivers in the Question:

• Ganga River: It is a major river in northern India and holds significant religious importance, but it is not related to the Harappan site of Harappa.

• Luni River: This river flows through the Thar Desert in Rajasthan, India, and is associated with other archaeological sites like Balathal but not Harappa.

• Yamuna River: A tributary of the Ganga, it flows through northern India and is important in Indian culture and history but does not relate to Harappa.

• Key Takeaways:

• Harappa's location on the Ravi River highlights the importance of rivers in sustaining ancient civilizations.

• The discoveries at Harappa provide valuable insights into the socio-economic and cultural practices of the Indus Valley Civilization.

• The site’s archaeological significance continues to contribute to our understanding of ancient history and urban development.

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