SSC CHSL Exam 2023 Tier-II Official Paper (Held On: 02 Nov, 2023 Shift 1). (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2023 • 135 questions • 135 minutes • Answer key and solutions

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SECTION I

Q1. The concentration of three wines A, B and C are 10%, 20% and 30%, respectively. They are mixed in the ratio 2 : 3 : x resulting in a 23% concentration solution. Find the value of x.

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

Q2. A pole stands vertically on the ground with the help of a 12-metre steel wire tied to its top and affixed on the ground. If the steel wire makes an angle of 30º with the horizontal ground, then the height of the pole is equal to:

(a) 6 meters
(b) 6√3 meters
(c) 8 meters
(d) 8√3 meters

Q3. A sum of money is divided among A, B, and C in the ratio 4 : 3 : 6. If the share of C is Rs. 600 more than B, then how much amount will A get more than B?

(a) Rs. 200
(b) Rs. 250
(c) Rs. 100
(d) Rs. 150

Q4. A person borrowed some money on simple interest. After 3 years, he returned 4/3 of the money to the lender. What was the rate of interest?

(a) 114/9 % p.a
(b) 111/9 % p.a
(c) 112/9 % p.a
(d) 113/9 % p.a

Q5. A person covers 1/4 of his journey at the speed of 25 km/h, 1/2 of the journey at 40km/h and the remaining at the speed of 50 km/h. Find his average speed per hour for the whole journey (in km/h).

(a) 364/11
(b) 344/11
(c) 346/11
(d) 366/11

Q6. If cot^4 A + cot² A = 1, then find the value of cos^4 A - 3cos² A.

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

Q7. The cost of 4 chairs and 3 tables is Rs. 2,100 and the cost of 5 chairs and 2 tables is Rs. 1,750. Find the cost (in Rs.) of a chair.

(a) 130
(b) 140
(c) 150
(d) 125

Q8. The average weight of 40 students of a school is 52 kg. If the weight of the teacher is included, the average weight rises by 500 grams. Find the weight (in kg) of the teacher.

(a) 71.5
(b) 73.5
(c) 74.5
(d) 72.5

Q9. If (cbrt(0.08×0.8× p)=0.008 × 0.8 × cbrtq), then find the value of(p)/(q):

(a) 8^3 × 10^(-9)
(b) 8^3 × 10^(-8)
(c) 8^4 × 10^(-8)
(d) 8^4 × 10^(-9)

Q10. Which of the following statements is NOT true?

(a) The area of the triangle with the largest side l always has an area less than $(l^2)/(2)$.
(b) If the sides of a triangle are in the ration 13 : 5 : 12, then two of its angles are acute angles.
(c) The triangle formed by connecting the midpoints of the sides of a triangle has one-fourth area of the bigger triangle.
(d) The area of an isosceles triangle with sides 2a, 2a and 3a is $(3\sqrt{3}a^2)/2$.

Q11. A and B enter into a partnership with Rs. 25,000 and Rs. 50,000, respectively, in a company for a year. After 7 months, C gets into a partnership with them with Rs. 30,000 and A withdraws his contribution after 9 months. What would be C's share in the profit, assuming a total profit of Rs. 3,900 at the end of the year?

(a) Rs. 1,000
(b) Rs. 600
(c) Rs. 800
(d) Rs. 1,200

Q12. The population of the city was 1,75,000 two years ago. If it had increased by 4% and 5% in the last two years, find the present population of the city.

(a) 1,89,200
(b) 1,91,100
(c) 1,92,100
(d) 1,93,200

Q13. A and B can complete work in 9 days, while B and C can complete the same work in 18 days. When working together A, B and C, can finish the same work in 8 days. How many days will it take for A and C to complete the work together?

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

Q14. If (a - 2b) = 8 and 2ab = 9, then find the value of (a + 2b).

(a) 6
(b) 8
(c) 10
(d) 12

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Q15. In an election between two candidates, 64% of the voters cast their votes, out of which 4% of the votes were declared invalid. A candidate got 12,288 votes which were 64% of the total valid votes. Find the total number of votes enrolled in that election.

(a) 31,250
(b) 30,250
(c) 32,152
(d) 20,152

Q16. At a Yoga center, 60% of the members are men and 40% of the members are women. If the average age of the men is 55 years and the average age of the women is 45 years, then what is the average age (in years) of all the members?

(a) 49
(b) 48
(c) 50
(d) 51

Q17. The diameter of a sphere is increased by 30%. What is the percentage increase in its volume?

(a) 41.7%
(b) 119.7%
(c) 69%
(d) 90.5%

Q18. If x = ((3)/(2))²×((2)/(3))^(-4), find the value of x^(- 2).

(a) ((3)/(2))¹²
(b) ((2)/(3))^6
(c) ((3)/(2))^6
(d) ((2)/(3))¹²

Q19. If A and B events with P(A) = (3)/(8), P(B) = (1)/(2) and P(A ∩ B) = (1)/(4). Find P(A ∩ B).

(a) (1)/(8)
(b) (3)/(8)
(c) (7)/(8)
(d) (5)/(8)

Q20. A dishonest shopkeeper sells rice at a cost price but makes a 25% profit by using faulty weights. He decides to give a discount to attract more customers. What per cent of discount should he offer to make 10% profit?

(a) 9%
(b) 12%
(c) 10%
(d) 11%

Q21. A number is increased by 25% and then decreased by 16%, the final value of the number:

(a) decreases by 5%
(b) increases by 5%
(c) decreases by 13%
(d) does not change

Q22. Find the mode of the given data. 21, 15, 16, 48, 6, 15, 44, 16, 6, 5, 15, 16, 21, 6, 15 and 43

(a) 21
(b) 16
(c) 15
(d) 6

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Q23. A and B each have a certain number of oranges. A says to B, "If you give me 10 of your oranges, I will have twice the number of oranges left with you." B replies, "If you give me 10 of your oranges, I will have the same number of oranges left with you." Find the number of oranges that A has.

(a) 70
(b) 50
(c) 55
(d) 65

Q24. Let ABC and PQR be two congruent triangles, such that angle A = angle P = 90º. If BC = 29 cm, PR = 21 cm, find the value (in cm) of AB.

(a) 20
(b) 23
(c) 22
(d) 19

Q25. A shopkeeper sold his goods at half the list price and thus lost 17%. If he had sold on the listed price, then his gain percentage would be:

(a) 41%
(b) 83%
(c) 17%
(d) 66%

Q26. The radius and height of a right circular cone is increased by 25%. Find the increase in percentage of the volume of the cone (rounded off to 2 decimal places).

(a) 95.31%
(b) 94.51%
(c) 93.51%
(d) 94.31%

Q27. For an electric bill for Rs. 50,000, what is the difference between a discount of 30% and two successive discounts of 26% and 5%?

(a) Rs. 120
(b) Rs. 150
(c) Rs. 130
(d) Rs. 140

Q28. Calculate the mode from the following data.

Days of confinement	**6**	**7**	**8**	**9**	**10**
Numbers of patients	4	6	7	5	3

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

Q29. The diameter of a hemispherical bowl is 21 cm. The volume of the bowl is equal to: (use π = (22)/(7))

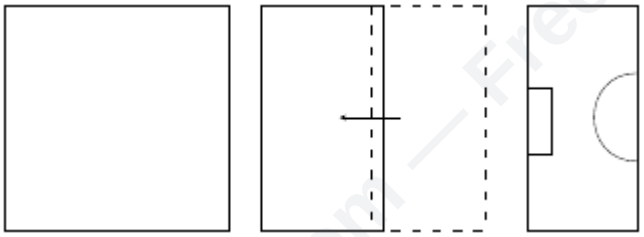
(a) 2,624.5 cm^3
(b) 2,524.5 cm^3
(c) 2,725.5 cm^3
(d) 2,425.5 cm^3

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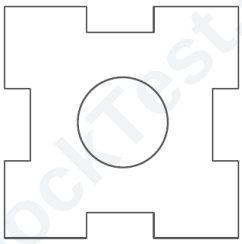
Q30. In ΔABC, angle A = 85º and angle C = 58º. If ΔPQR is similar to ΔABC, and in correspondence, then find angle Q.

(a) 58º
(b) 85º
(c) 37º
(d) 73º

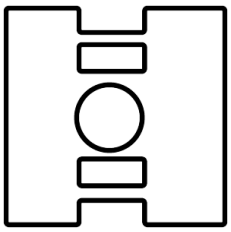
Q31. A square sheet of paper is folded along the dotted line successively along the directions shown and is then punched in the last. How would the paper look when unfolded?



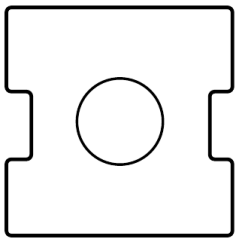
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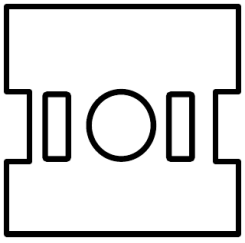
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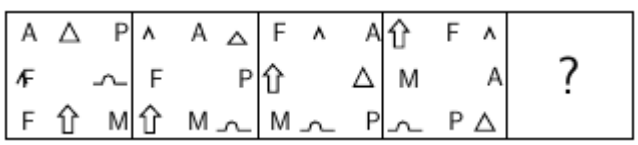
(c)



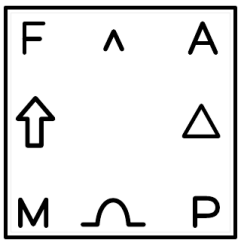
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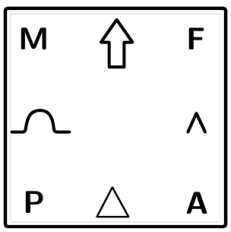
Q32. Identify the figure given in the options, which when put in place of '?' will logically complete the series.



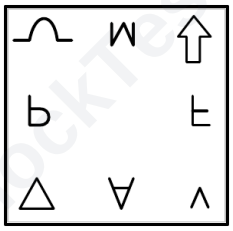
(a)



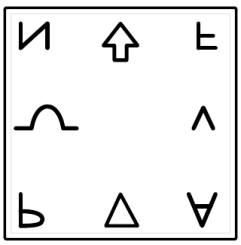
(b)



(c)



(d)



Q33. A statement is followed by two conclusions, numbered I and II. Find out which of the following conclusion(s) is/are true based on the given statements.

Statement: Z < Y = J ≥ G ≥ P ≥ C ≥ R

Conclusions:

I. Z ≥ R

II. J = C

(a) Only conclusion I is true

(b) Only conclusion II is true

(c) Neither conclusion I nor II is true

(d) Both conclusions I and II are true

Q34. In a certain code language, ‘FAWN’ is coded as ‘09()’ and ‘LAWN’ is coded as ‘9()1’.What is the code for ‘L’ in that code language?

(a) (

(b) 0

(c))

(d) 1

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Q35. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

TRY_ US_U V_YU _UYU XVY_

(a) FUUTH
(b) UYTWU
(c) UFYDJ
(d) UCRSD

Q36. How many meaningful English words can be formed using B, E, O and R using each letter only once in each word?

(a) One
(b) Two
(c) Zero
(d) Three

Q37. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

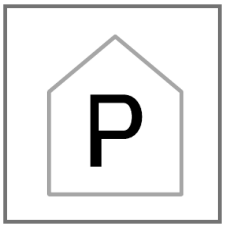
CDG_ IJ_Z O_SZ _VYZ _BEZ

(a) ZMPUA
(b) FUGUI
(c) OJGFU
(d) FJONI

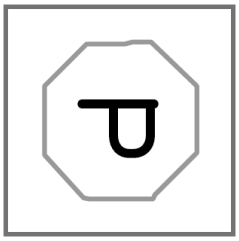
Q38. The first figure is related to the second figure in a certain way. Study the pattern and select the figure which should be placed in place of the question mark (?) such that the third figure is related to the fourth figure in the same way.



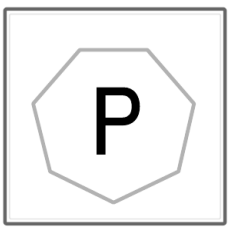
(a)



(b)



(c)



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(d)



Q39. What should come in place of '?' in the given series?

154, 159, 169, 184, ?, 229, 259

(a) 203
(b) 202
(c) 204
(d) 201

Q40. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

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

(4, 12, 8)

(2, 7, 5)

(a) 7, 2, 1
(b) 3, 6, 5
(c) 9, 4, 7
(d) 1, 4, 3

Q41. How many meaningful English words can be formed using second, third, sixth and seventh letters of the word 'CRACKER' (when counted from left to right) using each letter only once in each word?

(a) Two
(b) One
(c) Three
(d) Zero

Q42. What will come in place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

292 ÷ 2 - 15 + 164 × 4 = ?

(a) 558
(b) 555
(c) 556
(d) 557

Q43. Three of the following four word pairs are alike and thus form a group. Select the word pair that does NOT belong to that group.

(a) Hospital - doctors
(b) School - teachers
(c) Theatre - movies
(d) Restaurant - chefs

Q44. A statement is followed by two conclusions, numbered I and II. Find out which of the following conclusion(s) is/are true based on the given statements.

Statement: G < H > K ≤ S ≥ L = M < Q

Conclusions:

I. G > L

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II. H = Q

(a) Both conclusions I and II are true
(b) Only conclusion I is true
(c) Neither conclusion I nor II is true
(d) Only conclusion II is true

Q45. Select the word-pair that best represents a similar relationship to the one expressed in the pairs of words given below.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters / number of consonants / vowels in the word.)

Docile : Defiant, Placid : Turbulent

(a) Relinquish : Surrender
(b) Zenith : Nadir
(c) Optimal : Ideal
(d) Scrumptious : Delicious

Q46. Sunita is ranked 10th from the top and 18th from the bottom in her class. How many students are there in the class?

(a) 27
(b) 28
(c) 30
(d) 29

Q47. In a certain code language, 'TALKER' is coded as '!@#©$%' and 'TALKED' is coded as '$%@#!£'. What is the code for 'D' in that code language?

(a) %
(b) !
(c) £
(d) ©

Q48. Read the following information and answer the question that follows. Suresh has started practicing critical reasoning after hearing about Ramesh's incredible result in the competitive exam.

Which of the following can be inferred from the given statement? (An inference is something which is not directly stated but can be derived from the given facts/information in the statement)

I) Ramesh has scored most of the marks in critical reasoning.

II) Most of the questions in the exam constitute of critical reasoning questions.

(a) Only (II) can be inferred
(b) Only (I) can be inferred
(c) Neither (I) nor (II) can be inferred
(d) Both (I) and (II) can be inferred

Q49. How many meaningful four-letter English words can be formed using T, U, K and S using each letter only once in each word?

(a) More than two
(b) One
(c) None
(d) Two

Q50. This question has three statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusion(s) logically follow(s) from the given statements.

Statements:

•Some J's are A's.

•Some A's are B's.

•All the B's are C's.

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Conclusions:

I. Some C's are A's.

II. Some B's are J's.

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

Q51. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

FMD_ B_ZA _MVW TM_S PMN_

(a) ENKGF
(b) VJJFO
(c) EMXRO
(d) VHUYI

Q52. In this question, a statement is followed by two inferences numbered I and II. Based on the statement, you have to decide which of the inferences can be derived from the statement. (An inference is something which is not directly stated but can be derived from the given facts/information in the statement)

Statement: The eligibility for admission to the course is a minimum of 80% marks in the 10th standard board exams. However, students who have appeared for the 10th standard board exams this year can also apply.

Inference:

I. No 11th standard students can apply for the course.

II. Students who have appeared for 10th standard exams will get admission only if they score 80% or more in their exam

(a) Only (I) can be inferred.
(b) Both (I) and (II) can be inferred.
(c) Only (II) can be inferred.
(d) Neither (I) nor (II) can be inferred.

Q53. What will come in place of '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

313 ÷ 4 - 2107 × 7 + 24 = ?

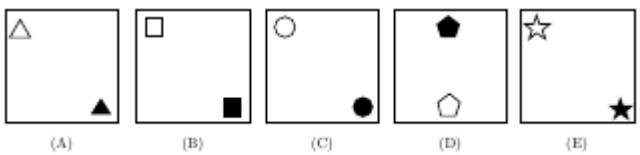
(a) 1537
(b) 1525
(c) 1527
(d) 1529

Q54. What should come in place of '?' in the given series?

16, 21, ?, 43, 60, 81, 106

(a) 31
(b) 32
(c) 33
(d) 30

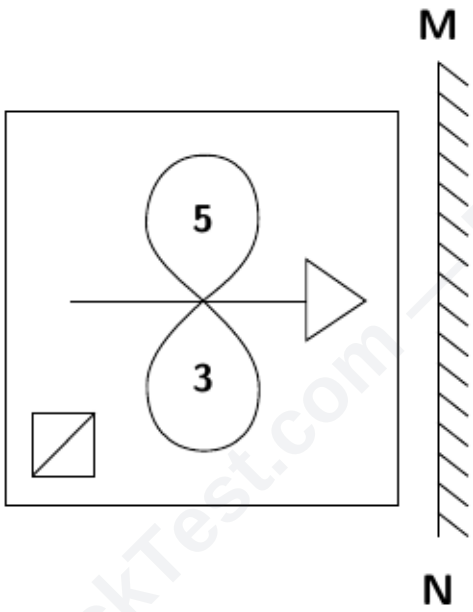
Q55. Four of the following five figures are alike in a certain way and thus form a group. Select the one that does NOT belong to that group.



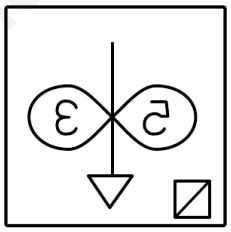
(a) A
(b) C

(c) D
(d) B

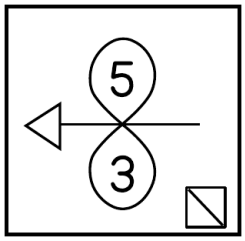
Q56. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



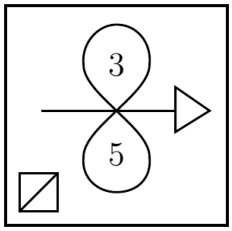
(a)



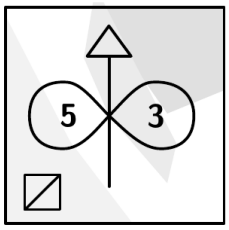
(b)



(c)



(d)



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Q57. Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

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

(a) 25, 100
(b) 13, 52
(c) 41, 164
(d) 33, 152

Q58. Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

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

(a) 38-114
(b) 41-123
(c) 25-75
(d) 33-97

Q59. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

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

(3, 5, 18)

(2, 3, 15)

(a) 1, 5, 11
(b) 1, 2, 13
(c) 5, 2, 10
(d) 5, 6, 11

Q60. A certain number of people are sitting in a row, facing north. Only two people sit between K and L. L sits third to the right of M. Only three people sit between I and J. I sits to the immediate right of K. If no other person is sitting in the row, how many people are there in total?

(a) Nine
(b) Eight
(c) Ten
(d) Twelve

SECTION II

Q61. Select the INCORRECTLY spelt word.

(a) Inconspicuous
(b) Susceptibility
(c) Superindednt
(d) Extemporise

Q62. Select the option that expresses the given sentence in passive voice.

He is eating an apple.

(a) He has been eating an apple.
(b) An apple is being eaten by him.
(c) An apple was eaten by him.
(d) He was eating an apple.

Q63. Select the most appropriate idiom that best explains the given sentence. Rajat irritated the street dog so much that it was about to bite him.

(a) If you can't beat 'em, join 'em.
(b) If it ain't broke, don't fix it.
(c) If you want something done right, you have to do it yourself.
(d) If you play with fire, you'll get burned.

Q64. Select the option that can be used as a one-word substitute for the given group of words.

The inability to obtain adequate sleep

(a) Pyromania
(b) Insomnia
(c) Andromania
(d) Mythomania

Q65. Parts of the given sentence have been underlined. One of the parts may contain an error. Select the option that rectifies the error. If you don't find any error, mark 'No error' as your answer.

Those players who chose not to play in the league were banned from playing in an World Cup.

(a) No error
(b) play in a league
(c) play in league
(d) the World Cup

Q66. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

Sincere students / like you and he should study / regularly to pass the examination.

(a) Sincere students
(b) like you and he should study
(c) regularly to pass the examination.
(d) No error

Q67. Select the option that expresses the given sentence in passive voice.

The team won the tournament after weeks of hard work and commitment.

(a) The tournament had been won by the team after weeks of hard work and commitment.
(b) The tournament was winning by the team after weeks of hard work and commitment.
(c) The tournament was being won by the team after weeks of hard work and commitment.
(d) The tournament was won by the team after weeks of hard work and commitment.

Q68. Choose the appropriate option to make the following sentence grammatically correct.

Neither of the biscuits you gave me _____ chocolate chips.

(a) contains
(b) are contained
(c) contain
(d) is contain

Q69. Select the option that can be used as a one-word substitute for the given group of words/phrase.

A phrase or words written in memory of a person who has died

(a) Epigram
(b) Tombstone
(c) Epitaph
(d) Calligraphy

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Q70. There is an error in the given sentence. From the options given, identify the sentence that corrects the error to make it a grammatically accurate sentence.

This lesser known heritage building is so beautiful as the Red Fort.

(a) This lesser known heritage building is very much beautiful as the Red Fort.
(b) This lesser known heritage building is as much beautiful as the Red Fort.
(c) This heritage building is as beautiful as the Red Fort.
(d) This less known heritage building is much beautiful than the Red Fort.

Q71. Parts of the given sentence have been underlined. One of the parts may contain an error. Select the option that rectifies the error. If you don't find any error, mark 'No error' as your answer.

It was the home minister of the country who took the decision to change a laws pertaining to migration of people from one state to another.

(a) No error
(b) the laws pertaining
(c) the migration
(d) an home minister

Q72. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required.'

I decided to call out to various bookstores in the area to see if any of them had the book I needed.

(a) call around
(b) No substitution required
(c) call off
(d) call on

Q73. Select the correct spelling from the given options to fill in the blank.

He was _____ going abroad for his further studies.

(a) contemplating
(b) cuntempltaing
(c) cuntemplating
(d) contempltaing

Q74. Select the most appropriate tense form to fill in the blank.

Mohnish and Ravi _____ to Canada next month.

(a) are moving
(b) has moving
(c) is moving
(d) has move

Q75. Select the sentence that has the correct use of words and spellings.

(a) The novel, with its intricate plot and multifaceted characters, captivated readers and left them pondering its deeper themes long after they finished reading.
(b) The novel, with its intricate plot and multifacted characters, captivated readers and left them paundering its deeper themes long after they finished reading.
(c) The novel, with its intricete plot and multifacted characters, captivated readers and left them pondering its deeper themes long after they finished reading.
(d) The novel, with its intrcate plot and multifaceted characters, captivated readers and left them pondering its deeper themes long after they finished reading.

Q76. Select the most appropriate homonym to fill in the blanks of the given sentences.

A. I use a _____ to weigh my ingredients while cooking.

B. The mountaineer is going to _____ the rocky hills.

(a) climb
(b) scale
(c) horn

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(d) crawl

Q77. Select the option that can be used as a one-word substitute for the given phrase.

One who believes in fate

(a) Fatalist
(b) Flirt
(c) Superstitious
(d) Fatal

Q78. Select the most appropriate idiom that best explains the given sentence.

I was unable to solve the geometry question myself. So, I have asked my teacher to help me out.

(a) Two wrongs don't make a right.
(b) You can't always get what you want.
(c) When the going gets tough, the tough gets going.
(d) Two heads are better than one.

Q79. The following sentence has been split into four segments. Identify the segment that contains an error.

The committee requested / the Chief Investigator / to personally / look after the matter.

(a) the Chief Investigator
(b) The committee requested
(c) to personally
(d) look after the matter

Q80. Select the option that will improve the given sentence by using the most appropriate pronoun.

Pradeep, whom is a teacher, also works as a content writer.

(a) Pradeep, which is a teacher, also works as a content writer.
(b) Pradeep, whose is a teacher, also works as a content writer.
(c) Pradeep, who is a teacher, also works as a content writer.
(d) Pradeep, that is a teacher, also works as a content writer.

Q81. Select the option that expresses the given sentence in indirect speech.

Rakesh said, "Wow! What a beautiful house".

(a) Rakesh told that it had been a beautiful house.
(b) Rakesh exclaimed with sorrow that it was a beautiful house.
(c) Rakesh exclaimed with surprise that it was must be beautiful house.
(d) Rakesh exclaimed that it was a beautiful house.

Q82. Select the most appropriate synonym of the given word.

Humble

(a) Beautiful
(b) Keen
(c) Amusing
(d) Modest

Q83. Select the most appropriate option to fill in the blank.

Stanley _____ to play the violin now, with an amateur instructor.

(a) had learnt
(b) will learn
(c) is learning
(d) was learning

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Q84. Select the most appropriate ANTONYM of the given word.

Sharp

(a) Blunt
(b) Kindled
(c) Magnetic
(d) Handy

Q85. Select the option that expresses the given sentence in reported speech.

The captain said to the soldiers, “Follow the enemy.”

(a) The captain said his soldiers to follow the enemy.
(b) The captain commanded his soldiers to follow the enemy.
(c) The captain charged his soldiers to followed the enemy.
(d) The captain requested his soldiers to follow the enemy.

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

The rescue team could have completed the task if there had been uninterrupted power supply.

(a) The task could have been completed by the rescue team if there had been uninterrupted power supply.
(b) The task could be completed by the rescue team if there was uninterrupted power supply.
(c) The task could have to be completed by the rescue team if there was uninterrupted power supply.
(d) The task can have completed by the rescue team if there was uninterrupted power supply.

Q87. Select the sentence that gives the most appropriate meaning of the idiom ‘In hot water’.

(a) The company faced challenges due to the economic downturn but managed to overcome them.
(b) The chef added spices to the dish to enhance its flavour and make it more delicious.
(c) After accidentally breaking the valuable vase, Sarah found herself in trouble with her parents.
(d) The children enjoyed playing in the pool on a hot summer day.

Q88. Parts of the given sentence have been underlined. One of them contains an error. The underlined parts are given as options with some changes. Select the option that correctly rectifies the error.

The film received critical acclaim for being a more innovative movie of the year.

(a) Film receives
(b) In the year.
(c) Acclaim at
(d) An innovative

Directions

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Girls have been the 1._____ of many crimes in India for years. The most fearful crime was female foeticide, in which girls were killed in the 2.____ of the mother after sex determination through ultrasound. ‘Save the Girl Child’ 3.____ has been launched by the government to end gender-selective abortions of female foetuses as well as other crimes 4._____ the girl child.

Q89. Select the most appropriate option to fill in blank number 1.

(a) scapegoats
(b) victims
(c) victors
(d) sites

Q90. Select the most appropriate option to fill in blank number 2.

(a) liver
(b) intestine
(c) kidney
(d) womb

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Q91. Select the most appropriate option to fill in blank number 3.

(a) campaign
(b) enterprise
(c) campfire
(d) undertaking

Q92. Select the most appropriate option to fill in blank number 4.

(a) across
(b) through
(c) against
(d) for

Directions

Read the given passage and answer the questions that follow.

Environmental or genetic influences antisocial conduct of a human being, which has an impact on behaviour, such as conduct disorder. In a recent study conducted, young people with conduct disorders had their brains examined, along with controls that were healthy and did not have the disease. The thickness of various regions of the cortex and the brain's outer layer was measured using the scanned images. It was demonstrated in the study that conduct disorder is a psychiatric condition rather than adolescent disobedience. Awareness, perception, attention, memory and language are all impacted by the cortex.

The findings of the study were unexpected. They demonstrated distinct disparities between adolescents whose behavioural issues began in adolescence and those whose issues began earlier in life. Although both groups were different from healthy controls, it was discovered that distinct regions of the cortex in the teenagers who had experienced early-onset behavioural issues were thicker in comparison to the healthy participants.

Q93. Select the most appropriate summary of the sentence given below.

It was demonstrated in the study that conduct disorder is a psychiatric condition rather than adolescent disobedience.

(a) Conduct disorder is a mental condition rather than teen defiance.
(b) Conduct disorder is teen defiance and not a mental condition.
(c) Conduct disorder is neither a mental condition nor teen defiance.
(d) Conduct disorder is less of a mental condition and more of teen defiance.

Q94. Based on your reading of the passage, select the most appropriate option that describes the conclusion of the study.

(a) There were no distinct regions in the cortex of participants having early behavioural issues in comparison to healthy students.
(b) There were distinct regions in the cortex of healthy students in comparison to participants having early behavioural issues.
(c) Distinct regions of the cortex were thicker in the teenagers having early-onset behavioural issues in comparison to the healthy participants.
(d) There were participants having early behavioural issues in comparison to healthy students who had distinct regions in their cortex.

Q95. Which of the following is NOT impacted by the cortex?

(a) Attention and disobedience
(b) Memory and attention
(c) Language and awareness
(d) Memory and perception

Q96. Which of the following was measured in scanned images?

(a) Psychiatric condition
(b) Brain's outer layer
(c) Cortex disparities
(d) Behavioural issues

Directions

Read the given passage and answer the questions that follow.

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Taekwondo is a form of empty hand martial arts combat that requires the athlete to use all parts of the body in competition. Taekwondo is a self-defence discipline; the name is derived from the Korean words ‘tae’, meaning kick, ‘kwon’, a punch or other blow with the hand or fist, and ‘do’, which is a way or method of operation. Among the general public, taekwondo is distinguished from other martial arts by its high speed, sweeping kicks and emphatic punches. As with judo, taekwondo was developed as a sport that is also representative of a moral code, where principles of loyalty, faithfulness, respect, and the preservation of an indomitable spirit form a significant part of taekwondo training. Beginning in 1945, shortly after the end of World War II and Japanese Occupation, new martial arts schools called kwans opened in Seoul. These schools were established by Korean martial artists with backgrounds in Japanese and Chinese martial arts. At the time, indigenous disciplines (such as Taekkyeon) were being forgotten, due to years of decline and repression by the Japanese colonial government. The umbrella term traditional Taekwondo typically refers to the martial arts practiced by the kwans during the 1940s and 1950s, though in reality the term ‘Taekwondo’ had not yet been coined at that time, and indeed each kwan (school) was practicing its own unique style of the Korean art.

Q97. Which of the following is NOT a principle of Taekwondo?

(a) Faithfulness
(b) Indomitable spirit
(c) Loyalty
(d) Disrespect

Q98. Select the most appropriate synonym of the given word.

Representative

(a) Aberrant
(b) Unusual
(c) Theoretical
(d) Typical

Q99. What is Taekwondo a form of?

(a) Visual arts
(b) Conceptual arts
(c) Martial arts
(d) Performing arts

Q100. Select the most appropriate ANTONYM of the given word.

Indomitable

(a) Invincible
(b) Submissive
(c) Unstoppable
(d) Strong

Q101. Which of the following statements related to the launch of Platform of Platforms (POP) are correct?

1) The Union Minister of Agriculture and Farmers’ Welfare launched the POP under the National Agriculture Market (e-NAM) in Karnataka in October 2022.

2) An equity grant of over Rs. 37 crore was released to 1,018 Farmer Producer Organizations (FPOs) that will benefit about 3.5 lakh farmers.

3) e-NAM integrates the platform of Service Providers as ‘Platform of Platforms’, which includes Composite Service Providers, Logistics Service Provider, Quality Assurance Service Provider, Cleaning, Grading, Sorting and Packaging Service Provider etc.

4) 41 service providers from different platforms are covered under POP, facilitating various value chain services such as trading, quality checks, warehousing, fintech, market information, transportation etc.

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

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Q102. At standard temperature and pressure (STP), the value of temperature is:

(a) 273.15°C
(b) 0°C
(c) 25.51°C
(d) 27°C

Q103. The behaviour of lithium is similar to that of magnesium. This sort of similarity is commonly referred to as:

(a) inert pair effect
(b) diagonal relationship
(c) same Zeff
(d) isoelectronic species

Q104. The Reserve Bank of India was established in:

(a) 1948
(b) 1951
(c) 1935
(d) 1930

Q105. Deficiency of iodine results in an insufficient amount of the _____hormone.

(a) adrenaline
(b) thrombopoietin
(c) melatonin
(d) thyroid

Q106. Which of the following statement(s) is/are correct about the servants of India society?

A. The 'Servants of India Society' was founded by Gopal Krishna Gokhale at Fergusson hill on 12 June 1905 in Pune district of Maharashtra.

B. The Society focused on nation- building activities such as education, social welfare, upliftment of the downtrodden and betterment of the under -privileged sections of society.

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

Q107. Which of the following statements about GDP and Welfare are correct?

1) GDP of a country is a indicator of welfare of the people.

2) If GDP is rising, the welfare may not rise equally.

3) GDP and Welfare both are not related each other.

(a) 1, 2 and 3
(b) Only 1 and 2
(c) Only 1 and 3
(d) Only 2 and 3

Q108. Match the following states with their respective ranks at the Khelo India Youth Game 2023 and choose the correct code.

States	Their Ranks		
a.	Rajasthan	(i)	1^(st)
b.	Madhya Pradesh	(ii)	2^(nd)
c.	Haryana	(iii)	4^(th)
d.	Maharashtra	(iv)	3^(rd)

(a) a - iv. b - ii, c - i, d - iii
(b) a - i, b - iii, c - ii, d - iv

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(c) a - iii, b - iv, c - ii, d - i
(d) a - ii, b - iv, c - i, d - iii

Q109. The season for torrential downpours, often accompanied by hail, associated with violent winds, and localized thunderstorms. In West Bengal, these kinds of storms are known as:
(a) Trade winds
(b) Loo
(c) Kaal Baisakhi
(d) Mahawat

Q110. Mawsynram receives the highest average annual rainfall in the world because the Monsoon Winds of the Bay of Bengal strike the _____ hill.
(a) Chota Nagpur Plateau
(b) Khasi
(c) Western Ghats
(d) Aravalli

Q111. Match list I and list II.

List I	List II		
a.	Potential energy	i)	Solar thermal
b.	Chemical energy	ii)	Wind turbine
c.	Kinetic energy	iii)	Hydropower plant
d.	Radiation energy	iv)	Diesel generator

(a) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)
(b) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)
(c) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
(d) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

Q112. In May 2023, _____ in Madhya Pradesh became the first city in India to adopt the localisation of the United Nations-mandated sustainable development goals (SDGs) in collaboration with the UN-Habitat.
(a) Ujjain
(b) Bhopal
(c) Indore
(d) Ratlam

Q113. The 'Pradhan Mantri Jan Arogya Yojana' ('PM-JAY') scheme of the government is associated with which of the following Directive Principles of State Policy?
(a) Promotion of co-operative societies
(b) Participation of workers in the management of industries
(c) Duty of State to raise the level of nutrition and the improvement of public health
(d) Equal justice and free legal aid

Q114. Match List-I with List-II.

List-I (Governor General)	List-II (Period)		
A.	Warren Hasting	1.	1772-1785
B.	Lord Cornwallis	2.	1786-1793
C.	Sir John Shore	3.	1793-1798
D.	Lord Wellesley	4.	1798-1805

(a) A – 2, B – 1, C – 3, D – 4
(b) A – 2, B – 1, C – 4, D – 3

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(c) A – 4, B – 3, C – 2, D – 1
(d) A – 1, B – 2, C – 3, D – 4

Q115. Correctly match the following.

States	Bio-reserve		
1.	Assam	a.	Pachmarhi
2.	Madhya Pradesh	b.	Nokrek
3.	Odisha	c.	Manas
4.	Meghalaya	d.	Similipal

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

Q116. To check the presence of adulterated sugar solution in honey, a cotton wick dipped in the sample is ignited with a match stick. Adulteration is confirmed if:

(a) it burns with a violet coloured flame
(b) it burns smoothly
(c) it burns with a green coloured flame
(d) it burns with a crackling sound

Q117. Select the INCORRECT statement with regards to vitamins.

(a) Plants can synthesise almost all vitamins.
(b) Most of the vitamins cannot get synthesised in sufficient amount in our body.
(c) Vitamins are organic compounds.
(d) Some bacteria in the gut do not produce vitamins.

Q118. Who holds the portfolio of Ministry of Home Affairs (as of July 2023)?

(a) Amit Shah
(b) Nirmala Sitharaman
(c) Raj Nath Singh
(d) Nitin Gadkari

Q119. Match the sportspersons with the medals won by them in the respective events in the given categories at Commonwealth Games 2022 and choose the correct code.

Sportspersons	Medals Won		
a.	Vinesh Phogat	(i)	Gold, Wrestling Women's Freestyle, 62 kg
b.	Bajrang Punia	(ii)	Gold, Wrestling Women's Freestyle, 53 kg
c.	Sakshi Malik	(iii)	Gold, Wrestling Men's Freestyle, 86 kg
d.	Deepak Punia	(iv)	Gold, Wrestling Men's Freestyle, 65 kg

(a) a - iii, b - iv, c - ii, d - i
(b) a - ii, b - iv, c - i, d - iii
(c) a - i, b - iii, c - ii, d - iv
(d) a - iv, b - iii, c - i, d - ii

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Q120. Identify whether the following statements are correct or incorrect.

Statement 1: According to the Census of India-2011, among the Seven Sister States, Mizoram has the highest literacy rate.

Statement 2: According to the Census of India-2011, Bihar has the lowest literacy rate.

(a) Only statement 2 is correct
(b) Both the statements are incorrect
(c) Both the statements are correct
(d) Only statement 1 is correct

COMPUTER KNOWLEDGE

Q121. In computer memory, _____ bus is used to transfer addresses between CPU and the main memory.

(a) address
(b) data
(c) status
(d) control

Q122. In MS Office 365, the 'Table of Authorities' group can be found under which of the following tabs?

(a) View
(b) References
(c) Mailings
(d) Review

Q123. In computer memory, the width of the _____ bus specifies the maximum possible memory supported by a system.

(a) I/O
(b) address
(c) control
(d) data

Q124. Which of the following statements is/are correct for email?

I. A user can check the email header prior to downloading.

II. A user can partially download an email.

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

Q125. The CPU interacts directly with the _____ memory to perform read or write operation.

(a) secondary
(b) primary
(c) register
(d) cache

Q126. In MS-Excel 365, the _____ between two columns is an indicator that we have hidden a column.

(a) double arrow
(b) single arrow
(c) double line
(d) single line

Q127. In MS-Excel 365, you can use, _____ when you want to change a cell reference within a formula without changing the formula itself.

(a) TRANSPOSE
(b) VLOOKUP

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(c) MATCH
(d) INDIRECT

Q128. A _____ is a computer program that can self-replicate and propagate over the network.
(a) macro virus
(b) worm
(c) boot sector virus
(d) trojan horse

Q129. Which of the following types of firewall operates at the Network layer to examine incoming and outgoing packets?
(a) Circuit-level gateway
(b) Application-level gateway
(c) Packet filtering
(d) Network filtering

Q130. In File Explorer of Windows 11, to reduce the space between files, select View> _____ view.
(a) Stretch
(b) Compact
(c) Cloud
(d) Wide

Q131. A _____ bit is an extra bit included with a binary message to make the total number of 1's either odd or even.
(a) parity
(b) checker
(c) exclusive
(d) complementary

Q132. Which of the following keyboard shortcuts is used to copy the selected item in Windows 11?
(a) Ctrl + Insert
(b) Shift + Insert
(c) Shift + Enter
(d) Ctrl + Enter

Q133. Which of the following parts of given URL is a 'domain name'?
http://www.india.in/tallybook/tallybook.xyz
(a) www.india.in
(b) http:
(c) tallybook
(d) tallybook.xyz

Q134. In Windows 11, to open File Explorer you press the _____ on the keyboard.
(a) Windows logo key + E
(b) Windows logo key + O
(c) Windows logo key + F
(d) Windows logo key + W

Q135. In email, which of the following mode(s) is/are included in the Post Office Protocol (POP)?
I. Delete Mode
II. Keep Mode
(a) Neither I nor II
(b) Only II
(c) Only I
(d) Both I and II

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ANSWER KEY

1	a	2	a	3	a	4	b	5	a	6	b	7	c	8	d	9	d	10	d
11	b	12	b	13	c	14	c	15	a	16	d	17	b	18	d	19	b	20	b
21	b	22	c	23	a	24	a	25	d	26	a	27	b	28	a	29	d	30	c
31	c	32	b	33	c	34	d	35	b	36	d	37	a	38	c	39	c	40	d
41	a	42	a	43	c	44	c	45	b	46	a	47	c	48	c	49	b	50	a
51	c	52	c	53	d	54	d	55	c	56	b	57	d	58	d	59	b	60	d
61	c	62	b	63	d	64	b	65	d	66	b	67	d	68	a	69	c	70	b
71	b	72	a	73	a	74	a	75	a	76	b	77	a	78	d	79	d	80	c
81	d	82	d	83	c	84	a	85	b	86	a	87	c	88	d	89	b	90	d
91	a	92	c	93	a	94	c	95	a	96	b	97	d	98	d	99	c	100	b
101	a	102	b	103	b	104	c	105	d	106	c	107	b	108	c	109	c	110	b
111	d	112	b	113	c	114	d	115	d	116	d	117	d	118	a	119	b	120	c
121	a	122	b	123	b	124	d	125	b	126	c	127	d	128	b	129	c	130	b
131	a	132	a	133	a	134	a	135	d										

SOLUTIONS

Q1. Answer: (a) 5

Given:

Concentration of wine A = 10%

Concentration of wine B = 20%

Concentration of wine C = 30%

Ratio of mixing = 2 : 3 : x

Resulting concentration = 23%

Formula used:

Weighted average concentration = (C_A × W_A + C_B × W_B + C_C × W_C) / (W_A + W_B + W_C)

Where C_A, C_B, and C_C are concentrations of A, B, and C respectively, and W_A, W_B, and W_C are weights of A, B, and C respectively.

Calculation:

Let weights be 2, 3, and x respectively.

Resulting concentration = (10 × 2 + 20 × 3 + 30 × x) / (2 + 3 + x)

=> 23 = (20 + 60 + 30x) / (5 + x)

=> 23 × (5 + x) = 80 + 30x

=> 115 + 23x = 80 + 30x

=> 115 - 80 = 30x - 23x

=> 35 = 7x

=> x = 5

Therefore The value of x is 5.

Q2. Answer: (a) 6 meters

Given:

A pole stands vertically on the ground with the help of a 12-metre steel wire tied to its top and affixed on the ground. The steel wire makes an angle of 30º with the horizontal ground.

Formula used:

In a right triangle, height (h) = hypotenuse (H) × sin(angle)

Calculation:

Height of the pole (h) = 12 × sin(30º)

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=> h = 12 × 1/2

=> h = 6 meters

Therefore The correct answer is option (1).

Q3. Answer: (a) Rs. 200

Given:

A sum of money is divided among A, B, and C in the ratio 4 : 3 : 6. If the share of C is Rs. 600 more than B, then how much amount will A get more than B?

Formula used:

Let the shares of A, B, and C be 4x, 3x, and 6x respectively.

C - B = Rs. 600

Calculation:

6x - 3x = 600

=> 3x = 600

=> x = 200

Share of A = 4x = 4 × 200 = 800

Share of B = 3x = 3 × 200 = 600

Amount A gets more than B = 800 - 600 = 200

Therefore The correct answer is option (1).

Q4. Answer: (b) 111/9 % p.a

Given:

A person borrowed some money on simple interest. After 3 years, he returned ^4/3 of the money to the lender.

Formula used:

Simple Interest (SI) = P × R × T / 100

Where, P = Principal, R = Rate, T = Time

Calculation:

Let the principal amount be Rs. P.

After 3 years, the amount returned = ^4/3 P

Simple Interest (SI) = ^4/3 P - P

=> SI = ¹/3 P

We know SI = P × R × T / 100

=> ¹/3 P = P × R × 3 / 100

=> ¹/3 = R × 3 / 100

=> ¹/3 = R / 33.33

=> R = 33.33 × ¹/3

=> R = 111/9 % p.a

Therefore The correct answer is option (2).

Q5. Answer: (a) 364/11

Given:

of his journey at the speed of 25 km/h,

of the journey at 40 km/h

Remaining at the speed of 50 km/h.

Formula used:

Average Speed = Total Distance / Total Time

Calculations:

Let the total distance be 100 km.

=> 1/4 of the total distance = 100/4 = 25 km

So, time taken to cover 25 km at 25 km/h = 25/25 = 1 hour

=> 1/2 of the total distance = 100/2 = 50 km

So, time taken to cover 50 km at 40 km/h = 50/40 = 1.25 hours

=> Remaining distance = 100 - (50 + 25) = 100 - 75 = 25 km

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So, time taken to cover 25 km at 50 km/h = 25/50 = 0.5 hour
Now,
Average Speed = Total Distance / Total Time
=> Average Speed = 100/(1 + 1.25 + 0.5)
=> Average Speed = 100/2.75
=> Average Speed = 4/0.11 = 400/11
=> Average Speed = 36 4/11 km/h
Therefore The correct answer is option (1).

Q6. Answer: (b) -1

Given:
cot^4A + cot²A = 1
Formula used:
cot²A + 1 = cosec²A
Calculation:
cot4 A + cot2 A = 1
cot²A (cot²A + 1) = 1
=> cot2A.cosec2A = 1
=> cot2A = 1/cosec2A
=> cot2A = sin²A
=> cos²A / sin2A= sin2A
=> cos²A = sin2A.sin2A
=> cos²A = (1 - cos2A). (1 - cos2A)
=> cos²A = 1 - cos2A - cos2A + cos^4A
=> cos4A - 3cos2A + 1 = 0
=> cos4A - 3cos2A = -1
Therefore The value of cos^4A - 3cos²A is -1.

Q7. Answer: (c) 150

Given:
The cost of 4 chairs and 3 tables is Rs. 2,100 and the cost of 5 chairs and 2 tables is Rs. 1,750.
Formula used:
Let the cost of one chair be Rs. C and the cost of one table be Rs. T.
We have two equations:
4C + 3T = 2100
5C + 2T = 1750
Calculation:
First, we can multiply the equations to eliminate T:
4C + 3T = 2100 (Equation 1)
5C + 2T = 1750 (Equation 2)
Multiply Equation 1 by 2:
8C + 6T = 4200
Multiply Equation 2 by 3:
15C + 6T = 5250
Now, subtract the two new equations:
(15C + 6T) - (8C + 6T) = 5250 - 4200
=> 7C = 1050
=> C = 150
Therefore The correct answer is option (3).

Q8. Answer: (d) 72.5

Shortcut Trick
Weight of new person = Old Average + (New Total Strength × Increase in Average)

Old Average = 52 kg
New Total Strength = 40 + 1 = 41 people
Increase in Average = 500 g = 0.5 kg
Teacher's weight = 52 + (41 × 0.5) = 52 + 20.5 = 72.5 kg
Therefore The correct answer is 72.5 kg.
Alternate Method
Given:
Initial number of students = 40
Initial average weight = 52 kg
Increase in average = 500 g = 0.5 kg
Formula Used:
Total Weight = Average Weight × Total Number of Persons
Calculations:
=> Total weight of 40 students = 40 × 52 = 2080 kg
=> Total number of people after including teacher = 40 + 1 = 41
=> New average weight = 52 + 0.5 = 52.5 kg
=> Total weight including teacher = 41 × 52.5 = 2152.5 kg
=> Weight of teacher = Total weight with teacher − Total weight of students
=> Weight of teacher = 2152.5 − 2080 = 72.5 kg
Therefore The correct answer is 72.5 kg.
Additional Information
Basic Average Formula
The average of a set of observations is defined as the Sum of observations ÷ Number of observations.
Inclusion Rule
When a new person joins and the average increases, the new person's value = Old Average + (New Count × Increase).
Exclusion Rule
When a person leaves and the average increases, the left person's value = Old Average − (Remaining Count × Increase).
Unit Conversion
Always ensure all units are the same before calculation. For example, 1 kg = 1000 g, so 500 g = 0.5 kg.

Q9. Answer: (d) 8^4 × 10^(-9)

Given:
(cbrt(0.08×0.8× p)=0.008 × 0.8 × cbrtq)
Formula used:
(cbrta = a^(1/3)) and basic algebraic rearrangement
Calculation:
(cbrt(0.08×0.8× p)=0.008 × 0.8 × cbrtq)
(cbrt(0.064 × p)=0.0064 × cbrtq)
(cbrt0.064×cbrtp=0.0064 × cbrtq)
(0.4×cbrtp=0.0064 × cbrtq)
(cbrtp=0.016 × cbrtq)
(cbrtp/cbrtq=0.016)
=> (cbrt(p/q)=0.016)
=> (p/q=(0.016)³)
=> (p/q=0.000004096)
=> 84 × 10-9
Therefore The value of 84 × 10-9.

Q10. Answer: (d) The area of an isosceles triangle with sides 2a, 2a and 3a is (3√3a²)/2.

Given:
Which of the following statements is NOT true?
Option 1: The area of the triangle with the largest side l always has an area less than (l²)/(2).

Option 2: If the sides of a triangle are in the ratio 13 : 5 : 12, then two of its angles are acute angles.
Option 3: The triangle formed by connecting the midpoints of the sides of a triangle has one-fourth area of the bigger triangle.
Option 4: The area of an isosceles triangle with sides 2a, 2a and 3a is $(3\sqrt{3} \times a^2)/2$.
Formula used:
Heron's formula for the area of a triangle: $\sqrt{[s \times (s - a) \times (s - b) \times (s - c)]}$ where $s = (a + b + c) / 2$
Calculations:
For option 4:
Sides of the triangle are 2a, 2a, and 3a
$s = (2a + 2a + 3a) / 2$
$\Rightarrow s = 7a / 2$
Using Heron's formula:
Area $= \sqrt{[s \times (s - 2a) \times (s - 2a) \times (s - 3a)]}$
$\Rightarrow$ Area $= \sqrt{[(7a/2) \times (7a/2 - 2a) \times (7a/2 - 2a) \times (7a/2 - 3a)]}$
$\Rightarrow$ Area $= \sqrt{[(7a/2) \times (3a/2) \times (3a/2) \times (a/2)]}$
$\Rightarrow$ Area $= \sqrt{[(7a/2) \times (3a/2) \times (3a/2) \times (a/2)]}$
$\Rightarrow$ Area $= \sqrt{[(7 \times 3 \times 3 \times a^4) / 16]}$
$\Rightarrow$ Area $= (3\sqrt{7} \times a^2) / 4$
The given area in option 4 is $(3\sqrt{3} \times a^2) / 2$, which is incorrect.
Therefore The correct answer is option (4).

Q11. Answer: (b) Rs. 600

Given:
A's investment = Rs. 25,000 for 9 months
B's investment = Rs. 50,000 for 12 months
C's investment = Rs. 30,000 for 5 months
Total profit = Rs. 3,900
Formula used:
Share of profit = (Investment × Time) / Total Investment Time
Calculation:
A's share = 25000 × 9 = 225000
B's share = 50000 × 12 = 600000
C's share = 30000 × 5 = 150000
Total = 225000 + 600000 + 150000 = 975000
C's share of profit = (150000 / 975000) × 3900
$\Rightarrow$ C's share of profit = 600
Therefore The correct answer is option (2).

Q12. Answer: (b) 1,91,100

Shortcut Trick
Use Multiplying Factor method for successive growth.
Present Population = 1,75,000 × (104/100) × (105/100)
Present Population = 1,750 × 1.04 × 105 = 1,82,000 × 1.05
Present Population = 1,91,100
Therefore The correct answer is 1,91,100.
Alternate Method
Given: Initial Population = 1,75,000 | Growth Rate 1 (R1) = 4% | Growth Rate 2 (R2) = 5%
Formula Used: Final Value = Initial Value × (1 + R1/100) × (1 + R2/100)
$\Rightarrow$ Population after 1st year = 1,75,000 × (1 + 4/100)
$\Rightarrow$ Population after 1st year = 1,75,000 × 1.04 = 1,82,000
$\Rightarrow$ Population after 2nd year (Present) = 1,82,000 × (1 + 5/100)
$\Rightarrow$ Present Population = 1,82,000 × 1.05
$\Rightarrow$ Present Population = 1,91,100

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Therefore The correct answer is 1,91,100.

Additional Information

Successive Percentage Change

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

Depreciation

If the population decreases, use the formula: Final Value = Initial Value × $(1 - R/100)^n$.

Population n Years Ago

To find the population n years ago given the current population (P), use: $P_{ago} = P / (1 + R/100)^n$.

Q13. Answer: (c) 12

Given:

A and B together can complete the work in 9 days.

B and C together can complete the work in 18 days.

A, B, and C together can complete the work in 8 days.

Formula used:

Work done per day = 1 / Number of days

Calculation:

Let the total work be 1 unit.

Work done by A and B in 1 day = 1 / 9

Work done by B and C in 1 day = 1 / 18

Work done by A, B, and C in 1 day = 1 / 8

Let the work done by A in 1 day be a, B in 1 day be b, and C in 1 day be c.

Then:

a + b = 1 / 9

b + c = 1 / 18

a + b + c = 1 / 8

Subtract a + b from a + b + c:

c = (1 / 8) - (1 / 9)

c = 1 / 72

Substitute c into b + c:

b + 1 / 72 = 1 / 18

b = (1 / 18) - (1 / 72)

b = 1 / 24

Substitute b into a + b:

a + 1 / 24 = 1 / 9

a = (1 / 9) - (1 / 24)

a = 5 / 72

Work done by A and C in 1 day = a + c

a + c = (5 / 72) + (1 / 72)

a + c = 1 / 12

Therefore A and C together will complete the work in 12 days.

Q14. Answer: (c) 10

Shortcut Trick

Using the identity: $(a + 2b)^2 = (a - 2b)^2 + 4 \times (a \times 2b)$

Given (a − 2b) = 8 and 2ab = 9, substitute the values:

$(a + 2b)^2 = 8^2 + 4 \times 9 = 64 + 36 = 100$

$a + 2b = \sqrt{100} = 10$

Therefore The correct answer is 10.

Alternate Method

Given:

(a − 2b) = 8

2ab = 9

Formula Used:

We use the algebraic identity relating the square of a sum and the square of a difference:

$(x + y)^2 = (x - y)^2 + 4xy$

Calculations:

Let x = a and y = 2b.

$\Rightarrow (a + 2b)^2 = (a - 2b)^2 + 4 \times a \times 2b$

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

Substitute the given values into the equation:

$\Rightarrow (a + 2b)^2 = 8^2 + 4 \times 9$

$\Rightarrow (a + 2b)^2 = 64 + 36$

$\Rightarrow (a + 2b)^2 = 100$

Taking the square root on both sides:

$\Rightarrow a + 2b = \sqrt{100}$

$\Rightarrow a + 2b = 10$

Therefore The correct answer is 10.

Additional Information

Square of a Sum and Difference

$(x + y)^2 = x^2 + 2xy + y^2$ and $(x - y)^2 = x^2 - 2xy + y^2$.

Sum-Difference Square Relation

$(x + y)^2 - (x - y)^2 = 4xy$. This identity helps find one term when the other two are known.

Difference of Two Squares

$x^2 - y^2 = (x + y)(x - y)$. This is used for factorizing quadratic expressions.

Q15. Answer: (a) 31,250

Shortcut Trick

Successive fraction calculation using percentage conversions:

Total voters × (16/25) × (24/25) × (16/25) = 12,288

=> Total voters = 12,288 × (25/16) × (25/24) × (25/16)

=> Total voters = 2 × 25 × 25 × 25 = 31,250

Therefore The correct answer is 31,250.

Alternate Method

Given:

Percentage of enrolled voters who cast their votes = 64%

Percentage of votes declared invalid = 4% => Percentage of valid votes = 96%

Votes received by the candidate = 12,288 (which is 64% of valid votes)

Method Used:

We apply the successive percentage calculation to find the original total.

Enrolled Votes (x)

Cast Votes

Valid Votes

12,288 Votes

64% Cast

96% Valid

64% Got

x × 64% × 96% × 64% = 12,288

Calculations:

Let the total number of enrolled voters be x.

=> Number of votes cast = 64% of x = (16/25) × x

=> Invalid votes = 4% => Valid votes = 96% of Cast votes = (24/25) × (16/25) × x

=> Votes received by the candidate = 64% of Valid votes

=> (16/25) × (24/25) × (16/25) × x = 12,288

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=> x = 12,288 × (25/16) × (25/24) × (25/16)

=> x = (12,288 ÷ 16) × 25 × (25/24) × (25/16)

=> x = (768 ÷ 24) × 25 × 25 × (25/16)

=> x = (32 ÷ 16) × 625 × 25

=> x = 2 × 15,625 = 31,250

Therefore The correct answer is 31,250.

Additional Information

Election Base Percentage

The total number of voters on the voting list is always considered as the base (100%). All subsequent percentages regarding cast votes are calculated on this base.

Valid vs Invalid Votes

Invalid votes are strictly deducted from the total votes cast. Only the valid votes are considered for determining the winning and losing candidate's share.

Successive Percentage Method

When percentages are applied sequentially, multiply the continuous factors directly: Final Value = Base × P1% × P2% × P3%.

Reverse Calculation Trick

To find the initial base value from the final resultant value, simply multiply the final value by the reciprocals of the fraction equivalents of each percentage.

Q16. Answer: (d) 51

Given:

Percentage of men = 60%

Percentage of women = 40%

Average age of men = 55 years

Average age of women = 45 years

Formula used:

Weighted average age = (Percentage of men × Average age of men + Percentage of women × Average age of women) / 100

Calculation:

Weighted average age = (60 × 55 + 40 × 45) / 100

=> Weighted average age = (3300 + 1800) / 100

=> Weighted average age = 5100 / 100

=> Weighted average age = 51

Therefore The correct answer is option (4).

Q17. Answer: (b) 119.7%

Given:

Diameter of sphere is increased by 30%

Formula used:

Volume of sphere, $V = (4/3) \times \pi \times r^3$

New radius, $r_{(new)} = r \times 1.30$

New Volume, $V_{(new)} = (4/3) \times \pi \times (r \times 1.30)^3$

Calculation:

$V_{(new)} = (4/3) \times \pi \times (r \times 1.30)^3$

$= (4/3) \times \pi \times r^3 \times 1.30^3$

$= V \times 2.197$

Percentage increase in volume = $(V_{(new)} - V) / V \times 100\%$

$= (2.197 - 1) \times 100\%$

$= 1.197 \times 100\%$

$= 119.7\%$

Therefore The percentage increase in the volume is approximately 119.7%.

Q18. Answer: (d) ((2)/(3))^{12}

Given:

x = (3/2)^2 × (2/3)^(-4)

Formula used:

(a/b)^(-n) = (b/a)^n

Calculation:

x = (3/2)^2 × (3/2)^4

=> (3/2)^(2+4)

=> (3/2)^6

x^(- 2) = (1/ ((3/2)^6)^2)

x^(-2) = ((2)/(3))^{12}

Therefore The value of x^(-2) is ((2)/(3))^{12}

Q19. Answer: (b) (3)/(8)

Given:

P(A) = (3)/(8)

P(B) = (1)/(2)

P(A ∩ B) = (1)/(4)

Formula used:

P(A ∩ B) = 1 - P(A U B)

P(A U B) = P(A) + P(B) - P(A ∩ B)

Calculation:

P(A U B) = (3)/(8) + (1)/(2) - (1)/(4)

=> P(A U B) = (3)/(8) + (4)/(8) - (2)/(8)

=> P(A U B) = (5)/(8)

=> P(A ∩ B) = 1 - (5)/(8)

=> P(A ∩ B) = (3)/(8)

Therefore The correct answer is option (2).

Q20. Answer: (b) 12%

Given:

A dishonest shopkeeper sells rice at a cost price but makes a 25% profit by using faulty weights. He decides to give a discount to attract more customers. What percent of discount should he offer to make a 10% profit?

Formula used:

Let the cost price (CP) be 100 units.

Selling Price (SP) for 25% profit = CP + 25% of CP = 100 + 25 = 125 units

Let the new SP after discount be X units.

To achieve a 10% profit, the new SP should be = CP + 10% of CP = 100 + 10 = 110 units

Discount = SP (without discount) - SP (with discount)

Discount percent = (Discount / SP (without discount)) × 100

Calculations:

SP (without discount) = 125 units

SP (with discount) = 110 units

Discount = 125 - 110 = 15 units

Discount percent = (15 / 125) × 100

=> (15 / 125) × 100 = 12%

Therefore The correct answer is option (2).

Q21. Answer: (b) increases by 5%

Given:

A number is increased by 25% and then decreased by 16%.

Formula used:

Final value after increase and decrease = Initial value × (1 + Increase%) × (1 - Decrease%)

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Calculation:

Let the initial number be 100.

Increased value = 100 × (1 + 0.25) = 100 × 1.25 = 125

Decreased value = 125 × (1 - 0.16) = 125 × 0.84

=> Final value = 125 × 0.84 = 105

Percentage change = [(Final value - Initial value) / Initial value] × 100%

=> Percentage change = [(105 - 100) / 100] × 100% = 5%

Therefore The number increases by 5%

Q22. Answer: (c) 15

Given:

Data: 21, 15, 16, 48, 6, 15, 44, 16, 6, 5, 15, 16, 21, 6, 15, 43

Formula used:

Mode is the number that appears most frequently in a data set.

Calculation:

Count of each number:

21: 2 times

15: 4 times

16: 3 times

48: 1 time

6: 3 times

44: 1 time

5: 1 time

43: 1 time

=> The number that appears most frequently is 15, which appears 4 times.

Therefore The correct answer is option (3).

Q23. Answer: (a) 70

Given:

A and B each have a certain number of oranges. A says to B, "If you give me 10 of your oranges, I will have twice the number of oranges left with you." B replies, "If you give me 10 of your oranges, I will have the same number of oranges left with you."

Formula used:

Let A have x oranges and B have y oranges.

From A's statement: x + 10 = 2(y - 10)

From B's statement: y + 10 = x - 10

Calculation:

From A's statement:

=> x + 10 = 2y - 20

=> x - 2y = -30 … (1)

From B's statement:

=> y + 10 = x - 10

=> y - x = -20 … (2)

Solving equations (1) and (2):

From (2):

=> y = x - 20

Substitute y in (1):

=> x - 2(x - 20) = -30

=> x - 2x + 40 = -30

=> -x + 40 = -30

=> -x = -70

=> x = 70

Therefore The correct answer is option (1).

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Q24. Answer: (a) 20

Given:

Triangles ABC and PQR are congruent.

angle A = angle P = 90º

BC = 29 cm

PR = 21 cm

Formula used:

In congruent right triangles, corresponding sides are equal.

Calculations:

Since triangles are congruent:

BC = QR (hypotenuse) = 29 cm

AC = PR = 21 cm

Let, AB = PQ = x

Using Pythagoras theorem in ΔABC:

$BC^2 = AC^2 + AB^2$

BC = 29 cm

$\Rightarrow 29^2 = AB^2 + AC^2$

$\Rightarrow AB^2 = 841 - 441$

$\Rightarrow AB2 = 400$

$\Rightarrow AB = \sqrt{400}$

$\Rightarrow AB = 20$ cm

Therefore The value of AB is 20 cm.

Q25. Answer: (d) 66%

Given:

Shopkeeper sold goods at half the list price and lost 17%.

Formula used:

Loss percentage: (CP - SP) / CP × 100 = 17%

Selling price at half list price: SP = 0.5 × List Price

Calculations:

(CP - 0.5 × List Price) / CP × 100 = 17

$\Rightarrow$ CP - 0.5 × List Price = 0.17CP

$\Rightarrow$ CP = 0.5 × List Price + 0.17CP

$\Rightarrow$ CP - 0.17CP = 0.5 × List Price

$\Rightarrow$ 0.83CP = 0.5 × List Price

$\Rightarrow$ List Price = 0.83CP / 0.5

$\Rightarrow$ List Price = 1.66CP

If sold at the list price, gain percentage: (List Price - CP) / CP × 100

$\Rightarrow$ (1.66CP - CP) / CP × 100

$\Rightarrow$ 0.66CP / CP × 100

$\Rightarrow$ 66%

Therefore The correct answer is 66%.

Q26. Answer: (a) 95.31%

Given:

The radius and height of a right circular cone are increased by 25%.

Formula used:

Volume of a cone, $V = (1/3)\pi r^2 h$

Calculations:

Let the original radius be r and the original height be h.

Original volume, $V1 = (1/3)\pi r^2 h$

New radius = r + 0.25r = 1.25r

New height = h + 0.25h = 1.25h
New volume, V2 = (1/3)π(1.25r)²(1.25h)
=> V2 = (1/3)π(1.5625r²)(1.25h)
=> V2 = (1/3)π(1.953125r²h)
Increase in volume = V2 - V1
=> Increase in volume = (1/3)π(1.953125r²h) - (1/3)πr²h
=> Increase in volume = (1/3)πr²h(1.953125 - 1)
=> Increase in volume = (1/3)πr²h(0.953125)
Percentage increase in volume = (Increase in volume / Original volume) × 100
=> Percentage increase in volume = (0.953125 / 1) × 100
=> Percentage increase in volume = 95.31%
Therefore The correct answer is option (1).

Q27. Answer: (b) Rs. 150

Given:
Electric bill = Rs. 50,000
Formula used:
Single Discount = Initial Amount × (1 - Discount Rate)
Two Successive Discounts = Initial Amount × (1 - First Discount Rate) × (1 - Second Discount Rate)
Calculation:
Single Discount:
Single Discounted Amount = 50000 × (1 - 0.30)
=> Single Discounted Amount = 50000 × 0.70
=> Single Discounted Amount = Rs. 35,000
Two Successive Discounts:
First Discounted Amount = 50000 × (1 - 0.26)
=> First Discounted Amount = 50000 × 0.74
=> First Discounted Amount = Rs. 37,000
Second Discounted Amount = 37000 × (1 - 0.05)
=> Second Discounted Amount = 37000 × 0.95
=> Second Discounted Amount = Rs. 35,150
Difference between the two discounts:
Difference = 35150 - 35000
=> Difference = Rs. 150
Therefore The correct answer is option (2).

Q28. Answer: (a) 8

Formula used:
Mode is the value that appears most frequently in a data set.
Calculation:

Days of confinement	**6**	**7**	**8**	**9**	**10**
Numbers of patients	4	6	7	5	3

The mode is the value with the highest frequency.
So, highest frequency (number of patients) = 7
Days of confinement with the highest frequency = 8
Thus, Mode = 8
Therefore The correct answer is option (1).

Q29. Answer: (d) 2,425.5 cm³

Given:
Diameter of the hemispherical bowl = 21 cm

Formula used:

Volume of a hemisphere = $(2/3)\pi r^3$

Where, r = radius of the hemisphere

Calculation:

Radius (r) = Diameter / 2 = 21 cm / 2 = 10.5 cm

Volume = $(2/3) \times (22/7) \times (10.5)^3$

=> Volume = $(2/3) \times (22/7) \times 10.5 \times 10.5 \times 10.5$

=> Volume = $(2/3) \times (22/7) \times 1157.625$

=> Volume = $(2/3) \times 3.14 \times 1157.625$

=> Volume = $2.09333333 \times 1157.625$

=> Volume ≈ 2425.5 cm^3

Therefore The correct answer is option (4).

Q30. Answer: (c) 37º

Given:

In ΔABC, angle A = 85º and angle C = 58º

ΔPQR is similar to ΔABC

Formula used:

In similar triangles, corresponding angles are equal.

Calculation:

We need to find angle Q in ΔPQR, which corresponds to angle B in ΔABC.

Since the sum of angles in a triangle is 180º:

angle B = 180º - angle A - angle C

=> angle B = 180º - 85º - 58º

=> angle B = 37º

Therefore, the correct answer is option (3).

Q31. Answer: (c) [figure]

When the paper is unfolded, we get:

Hence, the correct answer is "Option 3".

Q32. Answer: (b) [figure]

The logic followed here is:

Logic: All the symbols of the image are moving in clockwise direction along the sides in the subsequent images.

Hence, the correct answer is "Option 2".

Q33. Answer: (c) Neither conclusion I nor II is true

The given statement is: Z < Y = J ≥ G ≥ P ≥ C ≥ R

Conclusions:

I. Z ≥ R → False (There is no definite relation; Z < Y = J ≥ G ≥ P ≥ C ≥ R)

II. J = C → False (There is no definite relation; J ≥ G ≥ P ≥ C)

Hence, the correct answer is "Neither conclusion I nor II is true".

Q34. Answer: (d) 1

According to the given information,

Here, we can see that the code for 'L' is 1.

Hence, the correct answer is "1".

Q35. Answer: (b) UYTWU

The logic followed here is,

Hence, the correct answer is "UYTWU".

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Q36. Answer: (d) Three

The meaningful English words that can be made using B, E, O and R using each letter only once in each word are shown below,

1) BORE (Verb): To make someone feel weary and uninterested by talking too much about something tedious.

2) ROBE (Noun): A long, loose outer garment typically worn on formal or ceremonial occasions.

3) BOER (Noun): A white person in South Africa who is related to the Dutch people who went to live there in the 17th century.

Hence, the correct answer is "Three".

Q37. Answer: (a) ZMPUA

The logic followed here is,

Hence, the correct answer is "ZMPUA".

Q38. Answer: (c) [figure]

The logic followed here is:

Logic: The letter turns 90° in clockwise direction and number of sides of the polygon decreases by 1 in the second image of the pair.

Similarly,

Hence, the correct answer is "Option 3".

Q39. Answer: (c) 204

The logic followed here is,

Hence, the correct answer is "204".

Q40. Answer: (d) 1, 4, 3

The logic followed here is:

Logic: Second number = First number + Third number

(4, 12, 8)

→ 12 = 4 + 8

(2, 7, 5)

→ 7 = 2 + 5

Now, let's check each option,

1) 7, 2, 1

→ 2 ≠ 7 + 1

2) 3, 6, 5

→ 6 ≠ 3 + 5

3) 9, 4, 7

→ 4 ≠ 9 + 7

4) 1, 4, 3

→ 4 = 1 + 3 => Follows the logic.

Hence, the correct answer is "1, 4, 3".

Q41. Answer: (a) Two

The meaningful words that can be formed using second, third, sixth and seventh letters of the word ‘CRACKER’ (when counted from left to right) using each letter only once in each word is shown below,

1) REAR → (Noun) The back part of something, especially a building or vehicle.

2) RARE → (Adjective) Not common; infrequent.

Hence, the correct answer is "Two".

Q42. Answer: (a) 558

Given equation: 292 ÷ 2 - 15 + 164 × 4 = ?

Sign	•	×
Interchange with	•	÷

After interchanging the signs, the equation we get: 292 × 2 + 15 - 164 ÷ 4 = ?

→ 292 × 2 + 15 - 164 ÷ 4 = ?

→ 292 × 2 + 15 - 41 =?

→ 584 + 15 - 41 =?

→ 599 - 41 =?

→ 558 =?

Hence, the correct answer is "558".

Q43. Answer: (c) Theatre - movies

The logic followed here is:

1) Hospital - doctors: This pair represents a place (hospital) and the professionals (doctors) who work there.

2) School - teachers: This pair represents a place (school) and the professionals (teachers) who work there.

3) Theatre - movies: This pair represents a place (theatre) and the main activity (movies) that takes place there.

4) Restaurant - chefs: This pair represents a place (restaurant) and the professionals (chefs) who work there.

Here, we can see that Option 3 doesn't belong to the group.

Hence, the correct answer is "Theatre - movies".

Q44. Answer: (c) Neither conclusion I nor II is true

The given statement is: G < H > K ≤ S ≥ L = M < Q

Conclusions:

I. G > L → False (There is no definite relation; G < H > K ≤ S ≥ L)

II. H = Q → False (There is definite relation; H > K ≤ S ≥ L = M < Q)

Hence, the correct answer is "Neither conclusion I nor II is true".

Q45. Answer: (b) Zenith : Nadir

The logic followed here is,

Logic: Both words of the pair are antonyms.

Docile: Defiant

→ Docile means obedient or easily managed. Defiant means boldly resisting or challenging authority.

→ Both are antonyms.

Placid: Turbulent

→ Placid means calm and peaceful. Turbulent means characterized by conflict, disorder, or confusion; not calm or controlled.

→ Both are antonyms.

Now, let's check each option,

1) Relinquish: Surrender

→ These words are synonyms, not antonyms.

2) Zenith: Nadir

→ These words are antonyms. Zenith means the highest point, while nadir means the lowest point.

3) Optimal: Ideal

→ These words are synonyms, not antonyms.

4) Scrumptious: Delicious

→ These words are synonyms, not antonyms.

Hence, the correct answer is "Zenith: Nadir".

Q46. Answer: (a) 27

According to the given information,

1) Sunita is ranked 10th from the top.

2) Sunita is 18th from the bottom in her class.

On combining, we get:

Number of students in the class = (9 + 1 + 17) = 27

Hence, the correct answer is "27".

Q47. Answer: (c) £

According to the given information,

Here, we can see that the code for 'D' is £.

Hence, the correct answer is "£".

Q48. Answer: (c) Neither (I) nor (II) can be inferred

The given statement is: Suresh has started practicing critical reasoning after hearing about Ramesh's incredible result in the competitive exam.

Inference:

I) Ramesh has scored most of the marks in critical reasoning → False (It is possible that Ramesh's overall incredible result inspired Suresh, but there is no direct indication that Ramesh scored most of his marks specifically in critical reasoning).

II) Most of the questions in the exam constitute of critical reasoning questions → False (The statement does not provide any information about the composition of the exam questions).

Hence, the correct answer is "Neither (I) nor (II) can be inferred".

Q49. Answer: (b) One

The meaningful four-letter English words that can be formed using T, U, K and S using each letter only once in each word is,

TUSK → A long, pointed tooth, especially one which sticks out of the mouth of animals such as elephants or walruses.

Hence, the correct answer is "One".

Q50. Answer: (a) Only Conclusion I follows

The least possible venn diagram is shown below,

Conclusions:

I. Some C's are A's → True (Some A's are B's and all the B's are C's implies that some A's which are B are also C).

II. Some B's are J's → False (Some J's are A and some A's are B implies that some B's can be J. This is possible but not definite).

Hence, the correct answer is "Only Conclusion I follows".

Q51. Answer: (c) EMXRO

The logic followed here is,

Hence, the correct answer is "EMXRO".

Alternate Method

X and R are only present in EMXRO, hence option(3) is the correct answer.

Q52. Answer: (c) Only (II) can be inferred.

The given statement is: The eligibility for admission to the course is a minimum of 80% marks in the 10th standard board exams. However, students who have appeared for the 10th standard board exams this year can also apply.

Inference:

I. No 11th standard students can apply for the course → False (11th standard students can apply for the course if they fulfill the eligibility of 80% marks in the 10th standard board exams).

II. Students who have appeared for 10th standard exams will get admission only if they score 80% or more in their exam → True (students who have appeared for the 10th standard board exams this year can apply, they will get admission only if they meet the minimum marks requirement of 80%).

Hence, the correct answer is "Only (II) can be inferred".

Q53. Answer: (d) 1529

Given equation: 313 ÷ 4 - 2107 × 7 + 24 = ?

Sign	•	×
Interchange with	•	÷

After interchanging the signs, the equation we get: 313 × 4 + 2107 ÷ 7 - 24 = ?

→ 313 × 4 + 2107 ÷ 7 - 24 = ?

→ 313 × 4 + 301 - 24 = ?

→ 1252 + 301 - 24 = ?

→ 1553 - 24 = ?

→ 1529 =?

Hence, the correct answer is "1529".

Q54. Answer: (d) 30

The logic followed here is,

Hence, the correct answer is "30".

Q55. Answer: (c) D

The logic followed here is,

Logic: The images are placed diagonally.

Let's check,

A)

=> Follows the logic.

B)

=> Follows the logic.

C)

=> Follows the logic.

D)

=> Doesn't follows the logic.

E)

=> Follows the logic.

Hence, the correct answer is "D".

Q56. Answer: (b) [figure]

The mirror image of the given figure is shown below,

Hence, the correct answer is "Option 2".

Q57. Answer: (d) 33, 152

The logic followed here is,

Logic: Second number = First number × 4

Let's check each option,

1) 25, 100

→ 100 = 25 × 4

2) 13, 52

→ 52 = 13 × 4

3) 41, 164

→ 164 = 41 × 4

4) 33, 152

→ 152 ≠ 33 × 4 => Doesn't follows the logic.

Hence, the correct answer is "33, 152".

Q58. Answer: (d) 33-97

The logic followed here is,

Logic: Second number = First number × 3

Now, let's check each option,

1) 38-114

→ 114 = 38 × 3

2) 41-123

→ 123 = 41 × 3

3) 25-75

→ 75 = 25 × 3

4) 33-97

→ 97 ≠ 33 × 3 => Doesn't follows the logic.

Hence, the correct answer is "33-97".

Q59. Answer: (b) 1, 2, 13

The logic followed here is,

Logic: Third number = (First number + Second number) + 10

(3, 5, 18)

→ 18 = 3 + 5 + 10

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(2, 3, 15)

→ 15 = 2 + 3 + 10

Let's check each option,

1) 1, 5, 11

→ 11 ≠ 1 + 5 + 10

2) 1, 2, 13

→ 13 = 1 + 2 + 10 => Follows the logic.

3) 5, 2, 10

→ 10 ≠ 5 + 2 + 10

4) 5, 6, 11

→ 11 ≠ 5 + 6 + 10

Here, we can see that only Option 2 follows the logic.

Hence, the correct answer is "1, 2, 13".

Q60. Answer: (d) Twelve

According to the given information,

1) L sits third to the right of M.

2) Only two people sit between K and L.

3) I sits to the immediate right of K.

4) Only three people sit between I and J.

Here, we can see that there are twelve people.

Hence, the correct answer is "Twelve".

Q61. Answer: (c) Superindednt

The solution is in Hindi. Read it online.

Q62. Answer: (b) An apple is being eaten by him.

The correct answer is ‘2’ i.e. An apple is being eaten by him.

Key Points

• To convert an active voice sentence into passive voice, the object of the active sentence becomes the subject of the passive sentence, and the subject of the active sentence becomes the agent (introduced by the preposition 'by').

• In the given active voice sentence 'He is eating an apple,' 'He' is the subject, and 'an apple' is the object.

• The passive voice construction will restructure it as 'An apple is being eaten by him.' This maintains the present continuous tense and correctly places the focus on the action being performed on the object.

• The other options do not correctly convert the sentence into passive voice:

• Option 1: 'He has been eating an apple.' - Incorrect as it is not in passive voice.

• Option 3: 'An apple was eaten by him.' - Incorrect tense; past simple instead of present continuous.

• Option 4: 'He was eating an apple.' - Incorrect as it is not in passive voice.

Hence, the correct answer is option 2.

Passive voice sentence: An apple is being eaten by him.

Additional Information

• Understanding the difference between active and passive voice helps in constructing sentences accurately:

• Example: Active: She is writing a letter.

Passive: A letter is being written by her.

Q63. Answer: (d) If you play with fire, you’ll get burned.

The solution is in Hindi. Read it online.

Q64. Answer: (b) Insomnia

The solution is in Hindi. Read it online.

Q65. Answer: (d) the World Cup

The correct answer is ‘4’ i.e. the World Cup.

Key Points

• The phrase 'an World Cup' is incorrect because 'World Cup' is a proper noun and should be preceded by 'the' instead of 'an'.

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• 'An' is used before words that begin with a vowel sound, while 'the' is used before specific items or proper nouns.

• The corrected sentence will be: "Those players who chose not to play in the league were banned from playing in the World Cup."

• The other underlined parts of the sentence are correct and do not require modification:

• Option 2: 'play in a league' is acceptable but 'the league' is contextually more appropriate.

• Option 3: 'play in league' is grammatically incorrect.

Hence, the correct answer is option 4.

Correct sentence: Those players who chose not to play in the league were banned from playing in the World Cup.

Additional Information

• Articles ('a,' 'an,' 'the') must be used correctly to ensure grammatical accuracy and clarity in sentences:

• Example: I saw an elephant.

I saw the elephant that you mentioned earlier.

Q66. Answer: (b) like you and he should study

The correct answer is ‘4’ i.e. No error.

Key Points

• All parts of the sentence are grammatically correct.

• The phrase 'like you and he' is correct because 'like' is used as a comparison to two subjects, and 'he' is the correct pronoun form to use as part of the compound subject 'you and he'.

• 'Sincere students like you and he' is a grammatically sound construction because it maintains parallel structure and the proper case for pronouns when used as subjects.

Hence, the correct answer is option 4.

Correct sentence: Sincere students like you and he should study regularly to pass the examination.

Additional Information

• Maintaining the correct form of pronouns and their cases in compound structures ensures that sentences are both grammatically correct and clear:

• Example: You and she are going to the market.

The coach congratulated him and her for their performance.

Q67. Answer: (d) The tournament was won by the team after weeks of hard work and commitment.

The option that expresses the given sentence in passive voice is ‘4’ i.e. The tournament was won by the team after weeks of hard work and commitment.

Key Points

• The sentence "The team won the tournament after weeks of hard work and commitment" is in active voice. In passive voice, the object of the action (the tournament) becomes the subject of the sentence.

• Option 4 correctly changes the sentence to passive voice: "The tournament was won by the team after weeks of hard work and commitment."

• The other options are incorrect:

• Option 1: Incorrect tense - 'had been won' is past perfect, not simple past.

• Option 2: Incorrect form - 'was winning' is not appropriate for this context.

• Option 3: Incorrect continuous tense - 'was being won' does not fit the context.

Hence, the correct answer is option 4.

Q68. Answer: (a) contains

The appropriate option to make the following sentence grammatically correct is ‘1’ i.e. contains.

Key Points

• In the phrase "Neither of the biscuits," the word 'neither' is considered singular. Therefore, a singular verb should follow it.

• Option 1 correctly uses the singular verb "contains" to match the singular subject "neither."

• The other options are incorrect:

• Option 2: 'are contained' is incorrect because it uses a plural verb and is in passive voice, which does not fit the context.

• Option 3: 'contain' is incorrect because it uses a plural verb.

• Option 4: 'is contain' is grammatically incorrect.

Hence, the correct answer is option 1.

Q69. Answer: (c) Epitaph

The solution is in Hindi. Read it online.

Q70. Answer: (b) This lesser known heritage building is as much beautiful as the Red Fort.

The correct option that makes the sentence grammatically accurate is '2' i.e. This lesser known heritage building is as much beautiful as the Red Fort.

Key Points

• In the original sentence, the phrase "so beautiful as" is incorrect. The correct comparative structure for emphasis should be "as much beautiful as."

• Option 2 uses the correct comparative structure "as much beautiful as" and makes the sentence grammatically accurate.

• The other options are incorrect:

• Option 1: Incorrect structure - "very much beautiful as" is grammatically incorrect.

• Option 3: Incorrect structure - "as beautiful as" does not emphasize "much" as intended.

• Option 4: Incorrect word usage - "less known" is incorrect and "much beautiful than" is also incorrect.

Hence, the correct answer is option 2.

Q71. Answer: (b) the laws pertaining

The correct option that rectifies the error in the sentence is '2' i.e. the laws pertaining.

Key Points

• The original sentence erroneously uses "a laws" which is incorrect since "a" is used for singular nouns and "laws" is plural.

• Option 2 corrects this error by changing "a laws" to "the laws," which is grammatically correct.

• The other options do not rectify the error:

• Option 3: the migration - This option changes a part of the sentence that is already correct and does not address the actual error.

• Option 4: an home minister - This option introduces a grammatical error because "an" should be "a" before "home minister."

Hence, the correct answer is option 2.

Q72. Answer: (a) call around

The correct option that can substitute the underlined segment in the sentence is '1' i.e. call around.

Key Points

• The original sentence uses "call out," which typically means to shout or speak loudly to attract attention and is not the most appropriate verb for contacting multiple places by phone.

• Option 1, "call around," is the correct phrase meaning to contact various people or places, which fits the context of the sentence.

• The other options are incorrect:

• Option 3: call off - This means to cancel something and does not fit the context of the sentence.

• Option 4: call on - This typically means to visit someone or request for someone to do something, which is not suitable in this context.

Hence, the correct answer is option 1.

Q73. Answer: (a) contemplating

The correct spelling to fill in the blank is '1' i.e. contemplating.

Key Points

• The correct spelling of the word meaning to think about or consider something carefully is "contemplating."

• The other options have incorrect spellings:

• Option 2: cuntempltaing - Incorrect spelling.

• Option 3: cuntemplating - Incorrect spelling.

• Option 4: contempltaing - Incorrect spelling.

Hence, the correct answer is option 1.

Q74. Answer: (a) are moving

The most appropriate tense form to fill in the blank is '1' i.e. are moving.

Key Points

• The subject "Mohnish and Ravi" is plural, so the verb form should be "are" instead of "is" or "has."

• Option 1, "are moving," is the correct present continuous form for a planned future action involving a plural subject.

• The other options are incorrect:

• Option 2: has moving - Incorrect as "has" is not used with "moving" for plural subjects.
• Option 3: is moving - Incorrect because it does not agree with the plural subject.
• Option 4: has move - Incorrect as "has" is not followed by the base form "move" and does not agree with the plural subject.
Hence, the correct answer is option 1.

Q75. Answer: (a) The novel, with its intricate plot and multifaceted characters, captivated readers and left them pondering...

The sentence that has the correct use of words and spellings is ‘1’.
Key Points
• Option 1 uses all words correctly spelled and in their proper forms:
• intricate: correct spelling, meaning very complicated or detailed.
• multifaceted: correct spelling, meaning having many aspects or sides.
• captivated: correct spelling, meaning attracted and held the interest of.
• pondering: correct spelling, meaning thinking deeply about.
• The other options contain misspellings:
• Option 2: multifacted (should be multifaceted), paundering (should be pondering).
• Option 3: intricete (should be intricate), multifacted (should be multifaceted).
• Option 4: intrcate (should be intricate).
Hence, the correct answer is option 1.

Q76. Answer: (b) scale

The most appropriate homonym to fill in the blanks of the given sentences is ‘2’ i.e. scale.
Key Points
• Scale is the correct homonym because it fits both sentences contextually:
• A. I use a scale to weigh my ingredients while cooking.
• B. The mountaineer is going to scale the rocky hills.
• The other options do not fit both sentences appropriately:
• Option 1: climb - Does not fit sentence A.
• Option 3: horn - Does not fit either sentence.
• Option 4: crawl - Does not fit sentence A.
Hence, the correct answer is option 2.

Q77. Answer: (a) Fatalist

The solution is in Hindi. Read it online.

Q78. Answer: (d) Two heads are better than one.

The solution is in Hindi. Read it online.

Q79. Answer: (d) look after the matter

The segment that contains an error in the sentence is ‘4’ i.e. look after the matter.
Key Points
• Look after means to take care of, which doesn’t fit the context. The correct term should be look into, meaning to investigate or examine.
• The correct sentence should be: "The committee requested the Chief Investigator to personally look into the matter."
• The other segments do not contain any errors:
• Option 1: the Chief Investigator - correct.
• Option 2: The committee requested - correct.
• Option 3: to personally - correct.
Hence, the segment with the error is ‘4’ look after the matter.

Q80. Answer: (c) Pradeep, who is a teacher, also works as a content writer.

The option that will improve the given sentence by using the most appropriate pronoun is ‘3’ i.e. "Pradeep, who is a teacher, also works as a content writer."
Key Points
• The correct relative pronoun to refer to a person who performs an action is who.

• "Pradeep, who is a teacher, also works as a content writer."

• The other options do not fit correctly:

• Option 1: which - used for things, not people.

• Option 2: whose - indicates possession.

• Option 4: that - used for things or as a restrictive clause indicator, not suitable here.

Hence, the correct answer is option 3.

Q81. Answer: (d) Rakesh exclaimed that it was a beautiful house.

The option that expresses the given sentence in indirect speech is ‘4’ i.e. "Rakesh exclaimed that it was a beautiful house."

Key Points

• When converting direct speech into indirect speech, exclamatory sentences need to be changed properly by using words like "exclaimed". The correct answer does this appropriately:

• "Rakesh exclaimed that it was a beautiful house."

• The other options do not correctly convey the original sentence:

• Option 1: Rakesh told that it had been a beautiful house – Incorrect tense and reporting verb.

• Option 2: Rakesh exclaimed with sorrow that it was a beautiful house – “With sorrow” is incorrect; the original exclamation is of surprise or admiration, not sorrow.

• Option 3: Rakesh exclaimed with surprise that it was must be beautiful house – The phrase “must be” is not necessary and grammatically incorrect here.

Hence, the correct answer is option 4.

Q82. Answer: (d) Modest

The solution is in Hindi. Read it online.

Q83. Answer: (c) is learning

The most appropriate option to fill in the blank is ‘3’ i.e. "is learning."

Key Points

• Since the phrase "to play the violin now" indicates an action currently taking place, the present continuous tense is most appropriate:

• "Stanley is learning to play the violin now, with an amateur instructor."

• The other options do not fit the context of "now":

• Option 1: had learnt - past perfect tense, indicates a completed action in the past.

• Option 2: will learn - future tense, indicates an action that will happen.

• Option 4: was learning - past continuous tense, indicates an action that was happening in the past.

Hence, the correct answer is option 3.

Q84. Answer: (a) Blunt

The solution is in Hindi. Read it online.

Q85. Answer: (b) The captain commanded his soldiers to follow the enemy.

The option that expresses the given sentence in reported speech is ‘2’ i.e. "The captain commanded his soldiers to follow the enemy."

Key Points

• When converting direct speech to reported speech, especially for commands, we use verbs like "commanded" to accurately convey the imperative nature of the original sentence:

• "The captain commanded his soldiers to follow the enemy."

• The other options do not fit correctly:

• Option 1: The captain said his soldiers to follow the enemy – Incorrect syntax.

• Option 3: The captain charged his soldiers to followed the enemy – "Charged" is less appropriate than "commanded" and "followed" is incorrectly conjugated.

• Option 4: The captain requested his soldiers to follow the enemy – “Requested” is incorrect as it conveys a polite request rather than a command.

Hence, the correct answer is option 2.

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Q86. Answer: (a) The task could have been completed by the rescue team if there had been uninterrupted power supply.

The option that expresses the given sentence in passive voice is '1' i.e. "The task could have been completed by the rescue team if there had been uninterrupted power supply."

Key Points

• When converting a sentence into passive voice, the object of the active sentence becomes the subject of the passive sentence, and the verb is adjusted accordingly:

• "The task could have been completed by the rescue team if there had been uninterrupted power supply."

• The other options do not correctly convey the passive voice or maintain the correct tense:

• Option 2: The task could be completed by the rescue team if there was uninterrupted power supply.– Incorrect tense.

• Option 3: The task could have to be completed by the rescue team if there was uninterrupted power supply.– Incorrect verb form.

• Option 4: The task can have completed by the rescue team if there was uninterrupted power supply.– Incorrect verb form and tense.

Hence, the correct answer is option 1.

Q87. Answer: (c) After accidentally breaking the valuable vase, Sarah found herself in trouble with her parents.

The solution is in Hindi. Read it online.

Q88. Answer: (d) An innovative

The option that correctly rectifies the error in the given sentence is '4' i.e. "An innovative"

Key Points

• The original phrase "a more innovative movie" is incorrect. The correct phrase should be "an innovative movie":

• "The film received critical acclaim for being an innovative movie of the year."

• The other options do not address the main error:

• Option 1: Film receives – changes the tense, which is unnecessary.

• Option 2: In the year. – does not correct the article error.

• Option 3: Acclaim at – changes the preposition, which is unnecessary.

Hence, the correct answer is option 4.

Q89. Answer: (b) victims

The correct answer is 'victims'.

Key Points

• The passage discusses serious crimes targeted at girls in India.

• The appropriate noun should indicate individuals who are harmed or negatively affected.

• "Victims" fits well as it denotes individuals who suffer from actions of others, especially crimes.

• Other options ("scapegoats", "victors", "sites") do not fit the context of discussing the harm and crimes directed at girls.

Therefore, the correct answer is 'Option 2'.

Q90. Answer: (d) womb

The correct answer is 'womb'.

Key Points

• The passage discusses the crime of female foeticide, which involves the killing of a female fetus.

• The appropriate noun refers to the part of the mother's body where the fetus develops.

• "Womb" fits well as it denotes the organ in which a fetus grows during pregnancy.

• Other options ("liver", "intestine", "kidney") are not related to fetal development.

Therefore, the correct answer is 'Option 4'.

Q91. Answer: (a) campaign

The correct answer is 'campaign'.

Key Points

• The passage discusses a government effort to end gender-selective abortions and other crimes against girls.

• The appropriate noun refers to a series of organized actions aimed at achieving this goal.

• "Campaign" fits well as it denotes an organized effort to achieve a social or political goal.

• Other options ("enterprise", "campfire", "undertaking") do not fit the context as effectively.

Therefore, the correct answer is 'Option 1'.

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Q92. Answer: (c) against

The correct answer is 'against'.

Key Points

• The passage discusses crimes aimed at harming the girl child.

• The appropriate preposition indicates opposition or harm directed toward a particular target.

• "Against" fits well as it denotes actions that are harmful or hostile toward someone.

• Other options ("across", "through", "for") do not convey the same meaning of opposition or harm.

Therefore, the correct answer is 'Option 3'.

Q93. Answer: (a) Conduct disorder is a mental condition rather than teen defiance.

The correct answer is '1' i.e. Conduct disorder is a mental condition rather than teen defiance.

Key Points

• Conduct disorder is identified as a psychiatric or mental condition in the study, and not just typical teenage rebellion or defiance.

• The study's findings emphasize the mental and structural brain differences in those with conduct disorder compared to healthy individuals.

Hence, the correct answer is option 1.

Q94. Answer: (c) Distinct regions of the cortex were thicker in the teenagers having early-onset behavioural issues in compa...

The correct answer is '3' i.e. Distinct regions of the cortex were thicker in the teenagers having early-onset behavioural issues in comparison to the healthy participants.

Key Points

• The study found that distinct regions of the cortex in teenagers with early-onset behavioural issues were thicker compared to healthy participants.

• This suggests that there are structural brain differences between teenagers with early behavioural problems and those without such issues.

Hence, the correct answer is option 3.

Q95. Answer: (a) Attention and disobedience

The correct answer is '1' i.e. Attention and disobedience.

Key Points

• The passage mentions that awareness, perception, attention, memory, and language are all impacted by the cortex.

• Disobedience is not listed as one of the functions impacted by the cortex.

Hence, the correct answer is option 1.

Q96. Answer: (b) Brain’s outer layer

The correct answer is '2' i.e. Brain’s outer layer.

Key Points

• The passage states that the thickness of various regions of the cortex and the brain’s outer layer was measured using the scanned images.

Hence, the correct answer is option 2.

Q97. Answer: (d) Disrespect

The correct answer is '4' i.e. Disrespect.

Key Points

• The passage provides a detailed description of Taekwondo, a martial art that emphasizes self-defense and moral discipline. It states that Taekwondo was developed with principles that go beyond physical techniques to include important moral values.

• Specifically, the passage lists four principles that are a significant part of Taekwondo training: loyalty, faithfulness, respect, and the preservation of an indomitable spirit. These principles reflect the ethical and philosophical underpinnings of Taekwondo, highlighting its role as not just a physical practice, but also a means of personal and moral development.

Therefore, based on the textual evidence provided, we can conclude that Disrespect is not a principle of Taekwondo.

Hence, the correct answer is option 4.

Q98. Answer: (d) Typical

The correct answer is 'Typical'.

Key Points

• In the context of the given passage, the word representative means something that is typical or characteristic of a particular group or quality.

• Among the given options, typical is the most appropriate synonym for representative.

Hence, the correct answer is option 4.

Q99. Answer: (c) Martial arts

The correct answer is 'Martial arts'.

Key Points

• Taekwondo is described as a form of martial arts in the given passage.

• The passage specifies that "Taekwondo is a form of empty hand martial arts combat."

Hence, the correct answer is option 3.

Q100. Answer: (b) Submissive

The correct answer is 'Submissive'.

Key Points

• The word indomitable means impossible to subdue or defeat.

• Among the given options, submissive is the opposite in meaning, as it refers to being ready to conform to the authority or will of others; meekly obedient or passive.

• The other options are closer in meaning to indomitable and not appropriate antonyms.

Hence, the correct answer is option 2.

Q101. Answer: (a) 2, 3 and 4

The correct answer is 2, 3 and 4.

Key Points

• The Union Minister of Agriculture and Farmers' Welfare launched the POP under the National Agriculture Market (e-NAM) in Karnataka on 14th July'2022. Hence, Statement 1 is incorrect*.*

• An equity grant of over Rs. 37 crore was released to 1,018 Farmer Producer Organizations (FPOs) that will benefit about 3.5 lakh farmers. Hence, Statement 2 is correct.

• e-NAM integrates the platform of Service Providers as a 'Platform of Platforms', which includes Composite Service Providers, Logistics Service Providers, Quality Assurance Service Providers, Cleaning, Grading, Sorting, and Packaging Service Providers etc. Hence, Statement 3 is correct.

• 41 service providers from different platforms are covered under POP, facilitating various value chain services such as trading, quality checks, warehousing, fintech, market information, transportation, etc. Hence, Statement 4 is correct.

Statements 2, 3, and 4 are correct. Hence, the correct answer is option 1.

Q102. Answer: (b) 0°C

The correct answer is 0ºC

Key Points

• 0ºC is the standard temperature at standard temperature and pressure (STP).

• STP is a reference point used in science to specify a set of conditions for experimental measurements.

• At STP, the temperature is set to 0ºC (273.15 K) and the pressure is set to 1 atmosphere (atm).

• These conditions allow scientists to compare different sets of data under consistent conditions.

• STP is commonly used in chemistry and physics to measure gases and perform calculations based on the ideal gas law.

Additional Information

• The standard pressure at STP is 1 atm, which is equivalent to 101.325 kPa.

• STP conditions are used as a reference to calculate the properties of gases, such as volume, pressure, and temperature relationships.

• Another set of standard conditions often used in chemistry is Standard Ambient Temperature and Pressure (SATP), which sets the temperature to 25ºC and the pressure to 1 atm.

• The concept of STP is crucial for understanding and applying the ideal gas law, which relates the pressure, volume, temperature, and number of moles of a gas.

Q103. Answer: (b) diagonal relationship

The correct answer is diagonal relationship

Key Points

• The behavior of lithium is similar to that of magnesium due to a phenomenon known as the diagonal relationship.

• The diagonal relationship is observed in the periodic table where certain elements in period 2 show similarities with elements in period 3 that are positioned diagonally.

• This relationship arises because of similarities in ionic sizes and charge densities of the elements involved.

• For example, lithium (Li) in group 1 and period 2 shows similarities with magnesium (Mg) in group 2 and period 3.

Additional Information

• The diagonal relationship is a concept in chemistry where certain pairs of diagonally adjacent elements in the periodic table exhibit similar properties.

• This phenomenon is particularly noticeable among the elements in the s- and p-blocks of the periodic table.

• Other examples of diagonal relationships include beryllium (Be) with aluminum (Al) and boron (B) with silicon (Si).

• The cause of the diagonal relationship is primarily due to the balance between the increase in nuclear charge and the increase in atomic size as one moves diagonally across the periodic table.

Q104. Answer: (c) 1935

The correct answer is 1935

Key Points

• The Reserve Bank of India (RBI) was established on 1st April 1935.

• The RBI was originally set up as a private entity but was nationalized in 1949.

• It serves as the central bank of India, responsible for regulating the issue and supply of the Indian rupee and managing the country's main payment systems.

• The RBI plays a crucial role in the development strategy of the Government of India and is the main authority in implementing monetary policy.

• It also supervises and regulates the financial system, aiming to maintain financial stability and public confidence in the system.

Additional Information

• The RBI was established based on the recommendations of the Hilton Young Commission.

• The central office of the RBI was initially established in Kolkata but was permanently moved to Mumbai in 1937.

• The Reserve Bank's affairs are governed by a central board of directors. The board is appointed by the Government of India in accordance with the Reserve Bank of India Act.

• The RBI also manages the country's foreign exchange and gold reserves.

• It acts as the banker to the Government of India and the state governments.

Q105. Answer: (d) thyroid

The correct answer is thyroid.

Key Points

• Thyroid hormone is produced by the thyroid gland, which is located in the neck.

• The thyroid gland uses iodine from the diet to produce thyroid hormones, which regulate the body's metabolism.

• A deficiency of iodine can lead to insufficient production of thyroid hormones, a condition known as hypothyroidism.

• Hypothyroidism can cause symptoms such as fatigue, weight gain, and cold intolerance.

• In severe cases, iodine deficiency can lead to the development of a goiter, which is an enlargement of the thyroid gland.

Additional Information

• Iodine is an essential mineral that is naturally present in some foods and added to others.

• Common sources of iodine include iodized salt, dairy products, seafood, and certain vegetables.

• Ensuring adequate iodine intake is important for the proper functioning of the thyroid gland and overall health.

• Public health measures, such as iodization of salt, have been implemented in many countries to prevent iodine deficiency.

Q106. Answer: (c) Both A and B

The correct answer is Both A and B.

Key PointsServants of India Society:

• The 'Servants of India Society' was founded by Gopal Krishna Gokhale at Fergusson hill on 12 June 1905 in Pune district of Maharashtra. Hence, Statement A is correct.

• The Society focused on nation-building activities such as education, social welfare, upliftment of the downtrodden, and betterment of the under-privileged sections of society. Hence, Statement B is correct.

• Gopal Krishna Gokhale, a prominent social and political leader during the Indian Independence Movement, established the Society with the aim of promoting social and human development.

• The members of the Society were committed to dedicated service to the nation, working selflessly for the upliftment of the people.

• They engaged in various activities including running schools, promoting healthcare, and working towards the eradication of social evils.

Q107. Answer: (b) Only 1 and 2

The correct answer is Only 1 and 2.

Key Points

• GDP as an Indicator of Welfare: GDP (Gross Domestic Product) of a country is often used as an indicator of the economic health and a proxy for the welfare of the people. It reflects the total value of goods and services produced over a specific time period within a nation. A higher GDP usually suggests better living standards and economic stability. Hence, Statement 1 is correct.

• GDP Growth and Welfare: Even if GDP is rising, it does not necessarily mean that the welfare of all people is rising equally. The benefits of GDP growth might not be evenly distributed among the population. For instance, income inequality, environmental degradation, and other social factors can affect overall welfare despite GDP growth. Hence, Statement 2 is correct.

• Relation Between GDP and Welfare: GDP and welfare are related, but they are not the same. GDP measures economic activity, while welfare encompasses a broader range of factors including health, education, and overall quality of life. Therefore, it is incorrect to say that GDP and welfare are not related at all. Hence, Statement 3 is not correct.

Based on the above points, the correct answer is Only 1 and 2.

Q108. Answer: (c) a - iii, b - iv, c - ii, d - i

The correct answer is a-iii, b-iv, c-ii, d-i.

Key Points

• Rajasthan was ranked 4^(th) in the Khelo India Youth Games 2023. Hence, a matches with iii.

• Madhya Pradesh secured the 3^(rd) rank in the Khelo India Youth Games 2023. Hence, b matches with iv.

• Haryana achieved the 2^(nd) position in the Khelo India Youth Games 2023. Hence, c matches with ii.

• Maharashtra topped the Khelo India Youth Games 2023 with the 1^(st) rank. Hence, d matches with i.

States	Their Ranks		
a.	Rajasthan	(iii)	4^(th)
b.	Madhya Pradesh	(iv)	3^(rd)
c.	Haryana	(ii)	2^(nd)
d.	Maharashtra	(i)	1^(st)

Additional Information

• Khelo India Youth Games:

• The Khelo India Youth Games is an annual event aimed at promoting sports and fitness among young athletes in India.

• It features a wide range of sports disciplines and provides a platform for young athletes to showcase their talent and compete at a national level.

• The event is organized by the Ministry of Youth Affairs and Sports, Government of India.

• Performance of States:

• The performance of states in the Khelo India Youth Games is often seen as a reflection of their investment in sports infrastructure and training programs for young athletes.

• Top-performing states are usually those that have made significant efforts to nurture and support their young sports talent.

Q109. Answer: (c) Kaal Baisakhi

The correct answer is Kaal Baisakhi

Key Points

• Kaal Baisakhi is the term used in West Bengal for the violent thunderstorms that occur during the pre-monsoon season.

• This phenomenon is characterized by torrential downpours, often accompanied by hail, violent winds, and localized thunderstorms.

• These storms typically occur in the months of April and May and are known for their sudden and severe nature.

• The name "Kaal Baisakhi" translates to "Calamity of the month of Baisakh" (April-May) in Bengali.

Additional Information

• Kaal Baisakhi is a localized weather event and is part of the broader weather patterns influenced by the South Asian climate.

• These storms are crucial for the agricultural sector in the region, providing much-needed rainfall for crops.

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• However, due to their intensity, they can also cause significant damage to property and agriculture.

• Similar weather phenomena are observed in other parts of India and are known by different names, such as "Nor'westers" in Assam and Odisha.

Q110. Answer: (b) Khasi

The correct answer is Khasi

Key Points

• Mawsynram receives the highest average annual rainfall in the world.

• This is primarily due to the Monsoon Winds of the Bay of Bengal.

• These winds strike the Khasi hills, leading to heavy rainfall.

• The geographical location and the topography of the Khasi hills play a crucial role in this phenomenon.

• Mawsynram is located in the East Khasi Hills district of the Indian state of Meghalaya.

Additional Information

• The heavy rainfall in Mawsynram is often attributed to its location on the windward side of the Khasi hills.

• Cherrapunji, another town in Meghalaya, also experiences very high rainfall and is located close to Mawsynram.

• The unique climatic conditions in these regions make them some of the wettest places on Earth.

• Understanding the monsoon patterns and their interaction with the Khasi hills is essential for meteorological studies in the region.

Q111. Answer: (d) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

The correct answer is (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

Key Points

• Potential energy is typically associated with objects positioned at a height or in a state where they can do work due to their position. In this context, a hydropower plant converts the potential energy of water stored at a height into electrical energy. Hence, (a) matches with (iii).

• Chemical energy is stored in the bonds of chemical compounds. A diesel generator converts the chemical energy stored in diesel fuel into electrical energy. Hence, (b) matches with (iv).

• Kinetic energy is the energy of motion. A wind turbine converts the kinetic energy of moving air (wind) into electrical energy. Hence, (c) matches with (ii).

• Radiation energy is energy that travels by waves or particles, particularly electromagnetic radiation such as heat or light. A solar thermal system harnesses radiation energy from the sun to generate heat or electricity. Hence, (d) matches with (i).

List I	List II		
a.	Potential energy	iii)	Hydropower plant
b.	Chemical energy	iv)	Diesel generator
c.	Kinetic energy	ii)	Wind turbine
d.	Radiation energy	i)	Solar thermal

Additional Information

• Potential Energy:

• Potential energy is the energy held by an object because of its position relative to other objects, stresses within itself, its electric charge, or other factors.

• In hydropower plants, water stored at height has potential energy which is converted into kinetic energy as it flows down, and subsequently into electrical energy via turbines.

• Chemical Energy:

• Chemical energy is released during a chemical reaction, often in the form of heat; such reactions are called exothermic.

• Diesel generators utilize the chemical energy stored in diesel fuel to generate electricity through combustion.

• Kinetic Energy:

• Kinetic energy is the energy that an object possesses due to its motion.

• Wind turbines convert the kinetic energy of moving air into mechanical energy, which is then converted into electrical energy.

• Radiation Energy:

• Radiation energy is the energy of electromagnetic waves. It is a form of energy that can travel through space.

• Solar thermal systems convert the sun's radiation energy into thermal energy, which can be used for heating or to generate electricity.

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Q112. Answer: (b) Bhopal

The correct answer is Bhopal

Key Points

• Bhopal in Madhya Pradesh became the first city in India to adopt the localisation of the United Nations-mandated sustainable development goals (SDGs) in collaboration with the UN-Habitat.

• This initiative aims to align the city's development strategies with the global SDGs to ensure sustainable and inclusive growth.

• The collaboration with UN-Habitat will provide technical support and guidance for implementing these goals effectively at the local level.

• Localisation of SDGs involves adapting global goals to the local context, ensuring that they address specific challenges and opportunities within the city.

• This approach helps in monitoring progress, identifying gaps, and mobilising resources more efficiently to achieve sustainable development.

Additional Information

• The United Nations Sustainable Development Goals (SDGs) consist of 17 goals aimed at ending poverty, protecting the planet, and ensuring prosperity for all by 2030.

• UN-Habitat is the United Nations program working towards a better urban future, focusing on promoting socially and environmentally sustainable towns and cities.

• Localisation of the SDGs is crucial for their successful implementation, as it ensures that the goals are relevant and attainable within specific local contexts.

• Other cities in India are expected to follow Bhopal's example and adopt similar initiatives to localise the SDGs.

• This pioneering effort by Bhopal sets a precedent for urban development strategies that are aligned with global sustainability standards.

Q113. Answer: (c) Duty of State to raise the level of nutrition and the improvement of public health

The correct answer is Duty of State to raise the level of nutrition and the improvement of public health.

Key Points

• The 'Pradhan Mantri Jan Arogya Yojana' ('PM-JAY') aims to provide health coverage to economically vulnerable families.

• It is associated with the Directive Principle of State Policy that mandates the duty of the State to raise the level of nutrition and the improvement of public health.

• This is outlined in Article 47 of the Indian Constitution.

• The scheme provides an insurance cover of up to Rs. 5 lakh per family per year for secondary and tertiary care hospitalization.

Additional Information

• The PM-JAY scheme is a flagship initiative under the Ayushman Bharat program, launched in 2018.

• It is the world's largest government-funded healthcare program.

• The scheme is designed to cover over 10 crore poor and vulnerable families (approximately 50 crore beneficiaries).

• It aims to reduce the financial burden on poor and vulnerable groups arising out of catastrophic hospital episodes and ensure their access to quality health services.

• The scheme is cashless and paperless at public hospitals and empaneled private hospitals.

Q114. Answer: (d) A – 1, B – 2, C – 3, D – 4

The correct answer is A-1, B-2, C-3, D-4.

Key Points

• Warren Hastings served as the first Governor-General of India from 1772 to 1785. Hence, A matches with 1.

• Lord Cornwallis served as the Governor-General from 1786 to 1793. Hence, B matches with 2.

• Sir John Shore served as the Governor-General from 1793 to 1798. Hence, C matches with 3.

• Lord Wellesley served as the Governor-General from 1798 to 1805. Hence, D matches with 4.

• | (Governor General) | (Period) | | |

A.	**Warren Hasting**	**1.**	**1772-1785**
B.	Lord Cornwallis	2.	1786-1793
C.	Sir John Shore	3.	1793-1798
D.	Lord Wellesley	4.	1798-1805

Additional Information

• Warren Hastings:
• He was the first Governor-General of India and played a crucial role in consolidating British rule in India.
• He is known for his administrative reforms and efforts to bring about a more efficient and just governance system.
• Lord Cornwallis:
• He is known for the Cornwallis Code, which reformed the administration and judiciary in India.
• He also played a significant role in the expansion of British territories in India.
• Sir John Shore:
• He succeeded Lord Cornwallis and continued many of his policies.
• He is also known for his efforts to maintain peace and stability in the region.
• Lord Wellesley:
• He is known for his aggressive expansionist policies, which led to the significant expansion of British territories in India.
• He also established the system of subsidiary alliances.

Q115. Answer: (d) 1-c, 2-a, 3-d, 4-b

The correct answer is 1-c, 2-a, 3-d, 4-b.

Key Points

• Manas is a UNESCO World Heritage site located in Assam. It is renowned for its rich biodiversity and is a Project Tiger reserve. Hence, 1 matches with c.
• Pachmarhi is a biosphere reserve located in Madhya Pradesh, known for its rich flora and fauna. Hence, 2 matches with a.
• Similipal is a national park and tiger reserve in Odisha. It is also a biosphere reserve. Hence, 3 matches with d.
• Nokrek is a biosphere reserve located in Meghalaya. It is known for its unique and diverse flora and fauna. Hence, 4 matches with b.
• | States | Bio-reserve | | |

1.	**Assam**	**c.**	**Manas**
2.	Madhya Pradesh	a.	Pachmarhi
3.	Odisha	d.	Similipal
4.	Meghalaya	b.	Nokrek

Additional Information

• Manas National Park:
• It is located in the foothills of the Himalayas and is known for its rare and endangered endemic wildlife.
• Manas is also a UNESCO Natural World Heritage site, a Project Tiger reserve, an elephant reserve, and a biosphere reserve.
• Pachmarhi Biosphere Reserve:
• Located in the Satpura Range of Madhya Pradesh, it encompasses three wildlife conservation units: Bori Sanctuary, Pachmarhi Sanctuary, and Satpura National Park.
• This region is known for its rich biodiversity, including several endemic species of plants and animals.
• Similipal Biosphere Reserve:
• Located in the Mayurbhanj district of Odisha, it is part of the UNESCO World Network of Biosphere Reserves.
• Similipal is known for its tiger and elephant populations, as well as its rich variety of flora and fauna.
• Nokrek Biosphere Reserve:
• Situated in the West Garo Hills district of Meghalaya, it is home to a significant population of the red panda.
• The reserve is also known for its unique and diverse plant species, including rare orchids and medicinal plants.

Q116. Answer: (d) it burns with a crackling sound

The correct answer is it burns with a crackling sound

Key Points

• Adulteration in honey can be detected by performing a simple flame test.
• A cotton wick dipped in the honey sample is ignited with a matchstick.
• If the honey is adulterated with sugar solution, it burns with a crackling sound.
• This crackling sound is due to the presence of water in the adulterated sugar solution.
• Pure honey, on the other hand, will burn smoothly without any crackling noise.

Additional Information

• Honey adulteration is a common issue and can involve the addition of sugar syrups, glucose, dextrose, molasses, and other substances.

• The flame test is one of the many tests that can be used to check for adulteration in honey.

• Other methods include the water test, vinegar test, and laboratory analysis for more precise detection of adulterants.

• Ensuring the purity of honey is crucial for consumer health and maintaining the integrity of natural honey products.

Q117. Answer: (d) Some bacteria in the gut do not produce vitamins.

The correct answer is some bacteria in the gut do not produce vitamins.

Key Points

• Plants can synthesize almost all vitamins, making them a primary source of vitamins for many organisms.

• Most vitamins cannot be synthesized in sufficient amounts in our body, necessitating their intake through diet.

• Vitamins are organic compounds essential for normal growth and nutrition, usually required in small quantities in the diet.

• Some bacteria in the gut do produce vitamins, such as Vitamin K and certain B vitamins, contributing to the host's nutritional needs.

Additional Information

• Vitamins are classified into two categories: fat-soluble (A, D, E, K) and water-soluble (B-complex and C).

• Deficiency of vitamins can lead to various health issues, such as scurvy (Vitamin C deficiency), rickets (Vitamin D deficiency), and beriberi (Vitamin B1 deficiency).

• The human body requires vitamins for various biochemical and physiological functions, including immune function, energy production, and bone health.

• While the body can store fat-soluble vitamins, water-soluble vitamins need to be consumed more regularly as they are not stored and are excreted in urine.

Q118. Answer: (a) Amit Shah

The correct answer is Amit Shah.

Key Points

• Amit Shah holds the portfolio of the Ministry of Home Affairs as of July 2023.

• The Ministry of Home Affairs is responsible for internal security, border management, Centre-State relations, administration of Union Territories, management of Central Armed Police Forces, disaster management, and other significant functions.

• Amit Shah, a senior leader of the Bharatiya Janata Party (BJP), has been serving as the Home Minister since May 2019.

• He has played a crucial role in various key decisions and policies related to internal security and governance.

Additional Information

• Amit Shah was born on 22nd October 1964 and has been a prominent figure in Indian politics.

• He has also served as the President of the Bharatiya Janata Party (BJP) from 2014 to 2020.

• Under his leadership, the BJP achieved significant electoral successes, including the 2019 general elections.

• As the Home Minister, he has been involved in critical decisions such as the abrogation of Article 370, which granted special status to Jammu and Kashmir.

• He has also focused on improving internal security and counter-terrorism measures in the country.

Q119. Answer: (b) a - ii, b - iv, c - i, d - iii

The correct answer is A-2, B-4, C-1, D-3*.*

Key Points

• Vinesh Phogat won the Gold medal in Wrestling Women's Freestyle, 53 kg. Hence, A matches with 2.

• Bajrang Punia won the Gold medal in Wrestling Men's Freestyle, 65 kg. Hence, B matches with 4.

• Sakshi Malik won the Gold medal in Wrestling Women's Freestyle, 62 kg. Hence, C matches with 1.

• Deepak Punia won the Gold medal in Wrestling Men's Freestyle, 86 kg. Hence, D matches with 3.

• | Sportspersons | Medals Won | | |

a.	**Vinesh Phogat**	**(ii)**	**Gold medal in Wrestling Women's Freestyle, 53 kg**
b.	Bajrang Punia	(iv)	Gold medal in Wrestling Men's Freestyle, 65 kg
c.	Sakshi Malik	(i)	Gold medal in Wrestling Women's Freestyle, 62 kg

d.	Deepak Punia	(iii)	Gold medal in Wrestling Men's Freestyle, 86 kg

Additional Information

• Commonwealth Games 2022:

• The 2022 Commonwealth Games, officially known as the XXII Commonwealth Games, took place in Birmingham, England from 28 July to 8 August 2022.

• India sent a strong contingent of athletes who competed in various sports, bringing home numerous medals.

• Wrestling at Commonwealth Games 2022:

• Wrestling is a traditional strength of India at the Commonwealth Games, and Indian wrestlers have consistently performed well in this sport.

• The competition included various weight categories for both men and women.

Q120. Answer: (c) Both the statements are correct

The correct answer is Both the statements are correct.

Key Points

Statement 1: Mizoram has the highest literacy rate among the Seven Sister States is true because,

• The Census of India 2011 recorded the literacy rate of Mizoram at 91.3%.

• This makes Mizoram not only the highest among the Seven Sister States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura but also one of the highest in India.

• Comparatively, these states have varying literacy rates, but Mizoram stands out with its impressive figure, due in part to the significant emphasis on education by the state government.

• Several initiatives and programs have been launched in Mizoram focusing on education at all levels, contributing to higher literacy rates.

Statement 2: Bihar has the lowest literacy rate among the Indian states is also true because,

• According to the Census of India 2011, Bihar has a literacy rate of 61.8%, the lowest among all states in India.

• Bihar faces multiple challenges impacting literacy, including poverty, lack of infrastructure, and social barriers.

• The state government has been aware of these challenges and has made efforts through various schemes and policies aimed at increasing literacy.

• Despite progress in recent years, Bihar's literacy rate remains the lowest, highlighting ongoing socio-economic challenges.

Additional Information

• Seven Sister States: These are the northeastern states of India, namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura. These states are known for their unique cultures and diverse ethnic communities.

• Importance of Literacy: Literacy is a crucial indicator of social and economic development. Higher literacy rates can lead to improved job prospects, better income, and overall improved quality of life.

• Government Initiatives: Various programs like the Sarva Shiksha Abhiyan and the National Literacy Mission have been aimed at improving literacy rates across India.

• Current Trends: Recent years have seen improvements in literacy rates due to consistent efforts by state and central governments, though disparities still exist.

Q121. Answer: (a) address

The correct answer is address

Key Points

• Address bus is used to transfer addresses between the CPU and the main memory in a computer system.

• It is a unidirectional bus, meaning that it only carries signals in one direction: from the CPU to the main memory or other devices.

• The address bus determines the location in the memory where data is to be read from or written to.

• The width of the address bus determines the maximum addressing capacity of the system, i.e., how much memory can be addressed.

Additional Information

• The data bus is used to transfer actual data between the CPU, memory, and other peripherals.

• The control bus carries control signals from the CPU to other components of the computer.

• The status bus is used to carry status signals that indicate the state of various components in the system.

• A typical computer system may have a 32-bit or 64-bit address bus, which allows it to address 4 GB or more memory, respectively.

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Q122. Answer: (b) References

The correct answer is option 2

Key Points

• The 'Table of Authorities' group can be found under the References tab in MS Office 365.

• This group is used primarily in legal documents to list the references to legal cases, statutes, and other authorities cited in the document.

• It helps in organizing and managing citations efficiently, making it easier for users to create comprehensive legal documents.

• Other tabs in MS Office 365 include View, Mailings, and Review, but they do not contain the 'Table of Authorities' group.

Additional Information

• MS Office 365 is a subscription-based service that offers access to various Microsoft Office applications and other productivity services over the internet.

• The References tab also includes other useful features such as Table of Contents, Footnotes, Citations & Bibliography, Captions, and Index.

• These features are designed to help users create well-structured and professionally formatted documents.

• The correct usage of these tools can significantly enhance the quality and clarity of the documents.

Q123. Answer: (b) address

The correct answer is address

Key Points

• The width of the address bus determines the maximum possible memory that a computer system can address.

• An address bus is a part of the computer architecture that transfers data between the CPU and memory.

• The number of lines in the address bus determines the maximum memory capacity that the system can handle. For example, a 32-bit address bus can address 2^{32} memory locations.

• Other buses like the I/O bus, control bus, and data bus have different functions and do not directly determine the maximum possible memory supported by the system.

Additional Information

• The data bus is responsible for transferring actual data between the CPU, memory, and other peripherals.

• The control bus carries control signals from the CPU to other components to manage and coordinate the operations of the computer.

• The I/O bus connects the CPU to external devices and handles communication between them.

• Modern computer systems may have address buses with varying widths, such as 32-bit or 64-bit, based on the architecture and design of the system.

• Increasing the width of the address bus allows for a larger addressable memory space, which can be crucial for applications requiring large amounts of memory.

Q124. Answer: (d) Both I and II

The correct answer is Both I and II

Key Points

• Both I and II statements are correct for email functionalities.

• Email header can be checked by the user prior to downloading the full email. This allows users to view details like the sender, subject, and date.

• Partial download of an email is possible, which means a user can download only a portion of the email content, such as the header or a specific part of the message body, without downloading attachments or the entire message.

Additional Information

• Emails are a critical part of modern communication, providing a reliable and efficient way to exchange messages and information.

• Understanding email functionalities, such as viewing headers and partial downloads, can enhance user experience and security.

• Checking the email header can help identify potential spam or phishing attempts by verifying the sender's information before opening the email.

• Partial downloads can save bandwidth and time, especially when dealing with large emails or limited internet connectivity.

Q125. Answer: (b) primary

The correct answer is primary

Key Points

• The CPU interacts directly with the primary memory to perform read or write operations.

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• Primary memory, also known as main memory or RAM (Random Access Memory), is crucial for the CPU's operation as it stores data and instructions that are currently in use or being processed.

• It provides fast access to the CPU, allowing for quick retrieval and execution of instructions and data.

• Unlike secondary memory, primary memory is volatile, meaning it loses its content when the power is turned off.

Additional Information

• Secondary memory refers to storage devices like hard drives and SSDs, which store data permanently.

• Register memory is a small and fast type of memory located within the CPU itself, used for temporary storage of data and instructions during processing.

• Cache memory is a smaller, faster type of volatile memory that provides high-speed data access to the CPU and is used to store frequently accessed data and instructions.

• Effective use of primary memory is crucial for the overall performance and speed of a computer system.

Q126. Answer: (c) double line

The correct answer is double line

Key Points

• A double line between two columns is an indicator that a column has been hidden in MS-Excel 365.

• When a column is hidden, the border between the adjacent columns appears as a double line, which helps users identify hidden columns quickly.

• This feature is useful for managing large datasets and maintaining a clean, organized view of the worksheet.

• To unhide a hidden column, you can simply drag the double line or use the "Unhide" option from the context menu.

Additional Information

• MS-Excel 365 offers various ways to hide and unhide columns, which can be accessed through the "Home" tab under the "Format" menu in the "Cells" group.

• Hidden columns can also be detected by the missing column letters in the column header row, such as when columns B and D are visible but column C is hidden.

• Maintaining hidden columns can be beneficial for data analysis, allowing users to focus on specific parts of the dataset without deleting any data.

• Excel's features for managing hidden columns are part of its broader suite of tools for data organization and manipulation, making it a powerful tool for data management tasks.

Q127. Answer: (d) INDIRECT

The correct answer is INDIRECT

Key Points

• INDIRECT function in MS-Excel 365 is used to change a cell reference within a formula without changing the formula itself.

• It allows you to create a reference from a text string, which can be particularly useful when you need to refer to different cells dynamically.

• The syntax for the INDIRECT function is INDIRECT(ref_text, [a1]), where ref_text is the text string containing the reference.

• For example, if you have a cell reference as a text string in cell A1, using INDIRECT(A1) will refer to the cell reference contained in A1.

• This function is handy for creating more flexible and dynamic formulas, especially in cases where the cell references need to be adjusted based on certain conditions or inputs.

Additional Information

• The TRANSPOSE function is used to change the orientation of a range of cells from vertical to horizontal or vice versa.

• The VLOOKUP function is used to search for a value in the first column of a table and return a value in the same row from a specified column.

• The MATCH function searches for a specified item in a range of cells and returns the relative position of that item within the range.

• Using the INDIRECT function with other Excel functions can enhance the flexibility and power of your formulas.

Q128. Answer: (b) worm

The correct answer is worm

Key Points

• A worm is a type of malicious software program whose primary function is to infect other computers while remaining active on infected systems.

• Unlike a virus, a worm does not need to attach itself to an existing program. Instead, it can self-replicate and spread

independently over a network.

• Worms are designed to exploit vulnerabilities in operating systems and can cause significant damage by consuming bandwidth, overloading web servers, and spreading other types of malware.

• Examples of famous worms include the Morris Worm, ILOVEYOU, and WannaCry.

Additional Information

• Macro virus is a type of virus written in a macro language and embedded within a document or spreadsheet.

• Boot sector virus infects the master boot record of a storage device, making it difficult to remove.

• Trojan horse is a type of malware that disguises itself as a legitimate file or software to trick users into installing it.

• Unlike worms and viruses, a trojan horse does not self-replicate.

Q129. Answer: (c) Packet filtering

The correct answer is Packet filtering

Key Points

• Packet filtering firewalls operate at the Network layer (Layer 3) of the OSI model.

• These firewalls examine incoming and outgoing packets and make decisions to allow or block traffic based on predefined rules.

• They are used to control access to a network by analyzing the headers of packets, including source and destination IP addresses, ports, and protocols.

• Packet filtering firewalls are one of the oldest and simplest forms of firewalls, providing a basic level of security.

Additional Information

• Circuit-level gateways operate at the Session layer (Layer 5) and monitor TCP handshakes and sessions to determine whether a requested connection is legitimate.

• Application-level gateways, also known as proxy firewalls, operate at the Application layer (Layer 7) and filter traffic based on specific applications, such as HTTP or FTP.

• Network filtering is a general term and does not specifically refer to a type of firewall; it can encompass various methods of filtering traffic at different layers of the OSI model.

• Packet filtering firewalls are typically used in conjunction with other types of firewalls to provide a layered security approach.

Q130. Answer: (b) Compact

The correct answer is Compact

Key Points

• To reduce the space between files in File Explorer of Windows 11, you should select the Compact view.

• This option is available under the View menu in File Explorer.

• The Compact view minimizes the space between file items, allowing more files to be visible on the screen.

• This feature can be particularly useful for users who need to manage a large number of files efficiently.

Additional Information

• Windows 11 offers various view options in File Explorer, including Extra large icons, Large icons, Medium icons, Small icons, List, Details, Tiles, and Content.

• Users can switch between these views to customize their file browsing experience according to their preferences.

• The Compact view is designed to maximize the number of items displayed without compromising readability.

• This view is especially helpful on smaller screens or when working with directories containing numerous files.

Q131. Answer: (a) parity

The correct answer is parity

Key Points

• A parity bit is an extra bit included with a binary message to make the total number of 1s either odd or even.

• Parity bits are used in error detection schemes to ensure data integrity during transmission.

• There are two types of parity: even parity and odd parity.

• In even parity, the parity bit is set so that the total number of 1s in the message is even.

• In odd parity, the parity bit is set so that the total number of 1s in the message is odd.

• Parity bits are a simple and commonly used method for detecting errors in data transmission.

Additional Information

• Parity bits are not used for error correction, only for error detection.

• If an error is detected using a parity bit, other methods must be employed to correct the error.

• More advanced error detection and correction techniques include checksums, cyclic redundancy checks (CRC), and Hamming

codes.

• Parity bits are often used in conjunction with other error detection and correction methods to provide robust data integrity.

Q132. Answer: (a) Ctrl + Insert

The correct answer is Ctrl + Insert

Key Points

• Ctrl + Insert is the keyboard shortcut used to copy the selected item in Windows 11.

• This shortcut is an alternative to the commonly used Ctrl + C for copying items.

• Using keyboard shortcuts can significantly improve efficiency and productivity while navigating and managing tasks in the operating system.

• Other related shortcuts include Ctrl + X for cutting and Ctrl + V for pasting items.

Additional Information

• Windows 11 is the latest major release of Microsoft's Windows NT operating system, released in October 2021.

• It features a redesigned interface, improved performance, and new functionalities aimed at enhancing user experience.

• Keyboard shortcuts are vital tools for users who aim to streamline their workflow and increase productivity.

• Windows 11 continues to support a wide range of keyboard shortcuts inherited from previous versions of the operating system.

Q133. Answer: (a) www.india.in

The correct answer is 1) www.india.in

Key Points

• www.india.in is the domain name in the given URL.

• The domain name is a part of the URL that identifies a specific website or location on the internet.

• In this case, www.india.in is the unique address that directs to a specific website.

• The other parts of the URL, such as http:, tallybook, and tallybook.xyz, serve different purposes like protocol and paths within the website.

Additional Information

• A domain name is crucial for navigating the internet, as it provides a human-readable address for accessing websites.

• Domain names are managed and regulated by organizations such as ICANN (Internet Corporation for Assigned Names and Numbers).

• They are usually composed of a second-level domain (e.g., "india") and a top-level domain (e.g., ".in").

• Proper understanding of domain names is essential for web development, SEO, and digital marketing.

Q134. Answer: (a) Windows logo key + E

The correct answer is Windows logo key + E

Key Points

• To open File Explorer in Windows 11, you press the Windows logo key + E on the keyboard.

• This shortcut is a quick and efficient way to access your files and directories without navigating through the Start menu or desktop icons.

• File Explorer allows you to manage files, folders, and drives, providing a graphical interface for navigating your computer's storage.

• Using keyboard shortcuts like Windows logo key + E can enhance productivity and streamline your workflow.

Additional Information

• Windows 11 is the latest operating system from Microsoft, released on October 5, 2021.

• It introduces a new, more streamlined design, with an updated Start menu and taskbar centered on the screen for easier access.

• Windows 11 includes several new features such as improved virtual desktops, better support for gaming, and enhanced security measures.

• The operating system is designed to be compatible with a wide range of devices, from traditional desktops and laptops to tablets and 2-in-1 devices.

• Regular updates and support from Microsoft ensure that Windows 11 remains secure and up-to-date with the latest features and improvements.

Q135. Answer: (d) Both I and II

The correct answer is option 4

Key Points

• The Post Office Protocol (POP) includes both Delete Mode and Keep Mode.

• Delete Mode allows the email to be deleted from the server once it has been downloaded.
• Keep Mode allows the email to remain on the server even after it has been downloaded.
• These modes provide flexibility in how users manage their emails on the server.

Additional Information

• POP is a protocol used by local email clients to retrieve emails from a remote server over a TCP/IP connection.
• It was designed to support offline/local email processing.
• POP3 is the latest version of the Post Office Protocol and is widely supported by email clients and servers.
• While POP allows for easy access to emails, it is generally recommended to use IMAP for a more synchronized email experience across multiple devices.

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