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

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

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ENGLISH LANGUAGE

Q1. If 21 May 2009 is Thursday, then what will be the day of the week on 15 July 2017?

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

Q2. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusion's logically follow's from the given statements.

Statements:

All tankers are ships.

Some ships are rockets.

Some tankers are guns.

Conclusion (I) : Some guns are ships.

Conclusion (II) : Some tankers are rockets.

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

Q3. Select the pair of letter-clusters which follows the same pattern as that followed by the two sets of pair of letter-clusters given below. Both pairs of letter-clusters follow the same pattern.

FJM : DHK

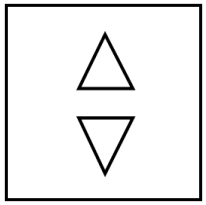
OQR : MOP

(a) JPT: TPJ
(b) SWY: UYA
(c) LMO: KPQ
(d) NTW: LRU

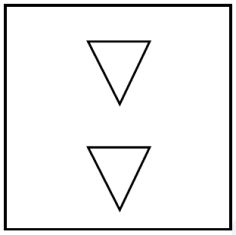
Q4. Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series.



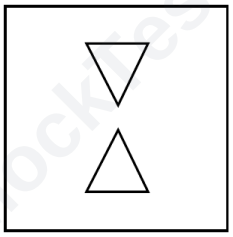
(a)



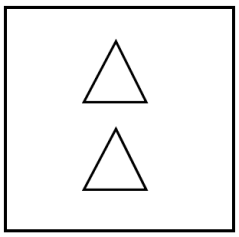
(b)



(c)



(d)



Q5. JPVZ is related to PVBF in a certain way based on a certain relationship between the given letters in the English alphabetical order. In the same way, HQRS is related to NWXY. To which of the following is EJUO related to following the same logic?

(a) ZSFO
(b) JPHN
(c) NWJF
(d) KPAU

Q6. 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.)

46 - 12 - 17 and 62 - 12 - 25

(a) 85 - 13 - 36
(b) 51 - 27 - 34
(c) 39 - 36 - 18
(d) 20 - 15 - 23

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Q7. In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the option in which the numbers are related in the same way as are the numbers of the following pairs.

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

4, 19

11, 124

(a) 13, 172
(b) 9, 75
(c) 16, 240
(d) 5, 33

Q8. What will come in place of the question mark (?) in the following equation if '+' and '×' are interchanged and '-' and '÷' are interchanged?

9 + 11 ÷ 2 × 36 - 12 = ?

(a) 103
(b) 98
(c) 109
(d) 100

Q9. Find the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.

_ _ Z V _ Z _ A _ V A _ _ A _

(a) ZAVAAZZV
(b) VAAVZZVZ
(c) AVZVVZVZ
(d) AVVAZZVV

Q10. Select the pair from the below options that has the same analogy as the following given pairs.

(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 I and 3 is not allowed)

5 : 26

9 : 82

(a) 4 : 24
(b) 3 : 12
(c) 2 : 5
(d) 6 : 55

Q11. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for, '-' what will come in place of the question mark (?) in the following equation?

83 C 7 B 539 A 49 D 29 = ?

(a) 131
(b) 171
(c) 121
(d) 180

Q12. B is the father of C. C is the brother of Q. Q is the son of M's son. M is married to T. B is the only son of T. T is the mother of U. How is T related to Q?

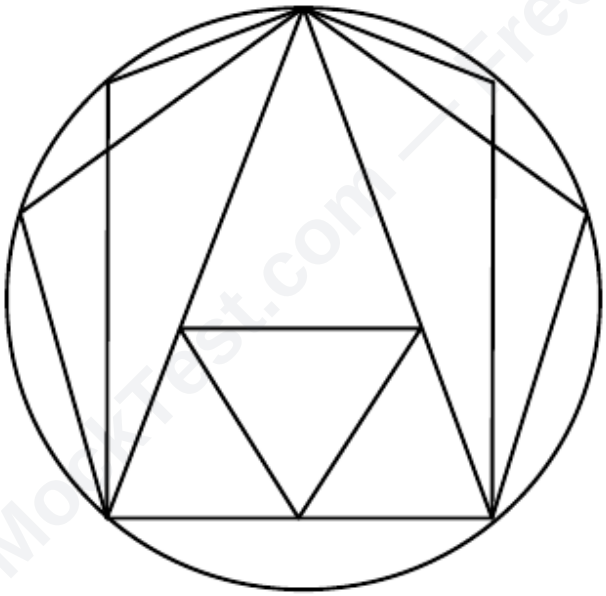
(a) Father
(b) Mother's brother
(c) Mother's mother
(d) Father's mother

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Q13. Q is married to L. L is the sister of T. T is the daughter of R. R is the brother of P. P is married to N. N is the father of Q. How is P related to L ?

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

Q14. How many triangles are there in the given figure?



(a) 16
(b) 10
(c) 12
(d) 15

Q15. 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.)

12 - 15 - 200 and 10 - 12 - 140

(a) 9 - 5 - 40
(b) 6 - 9 - 74
(c) 2 - 4 - 10
(d) 7 - 8 - 56

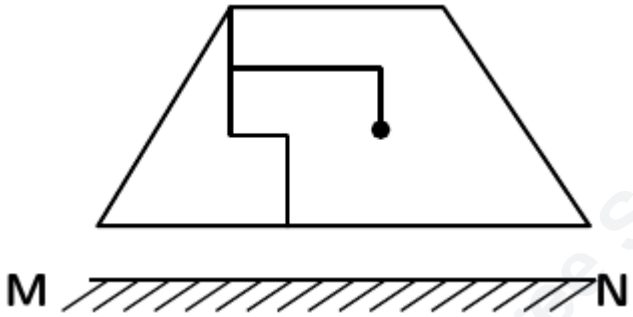
Q16. What should come in place of the question mark (?) in the given series?

242, 246, 255, ?, 296

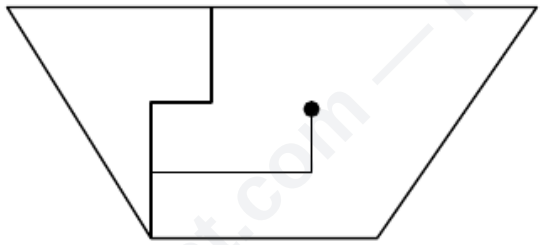
(a) 271
(b) 264
(c) 270
(d) 259

Q17. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.

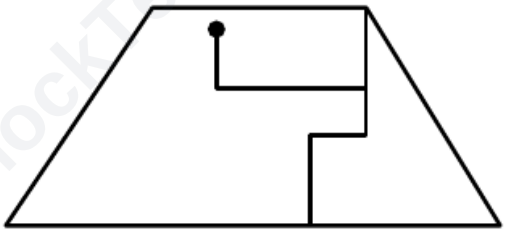
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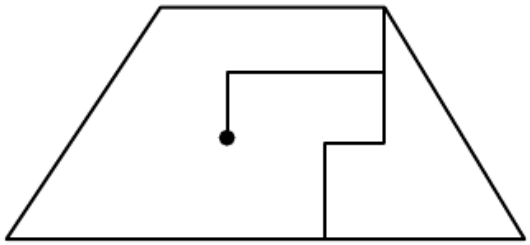
(a)



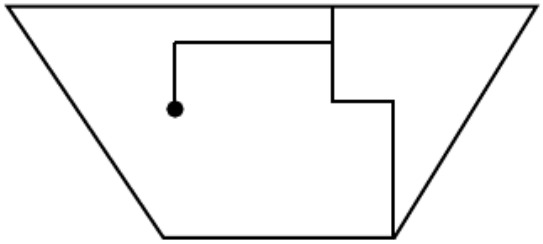
(b)



(c)



(d)



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

AB_N _DOP E_QR _HST IJU_

(a) MCGIV
(b) CMGIV
(c) CMGFV
(d) MCFGV

Q19. In a certain code language, 'ear eyes nose chin cheeks' is written as 'si ei ki ri ni', 'nose legs hands fingers' is written as 'gi fi di ei', 'eyes ear hands' is written as 'ri si di' and 'legs cheeks eyes' is written as 'ki gi si'. How is 'chin' coded in that language?

(a) ni

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(b) si
(c) ri
(d) ki

Q20. Select the number from among the given options that can replace the (?) in the following series.

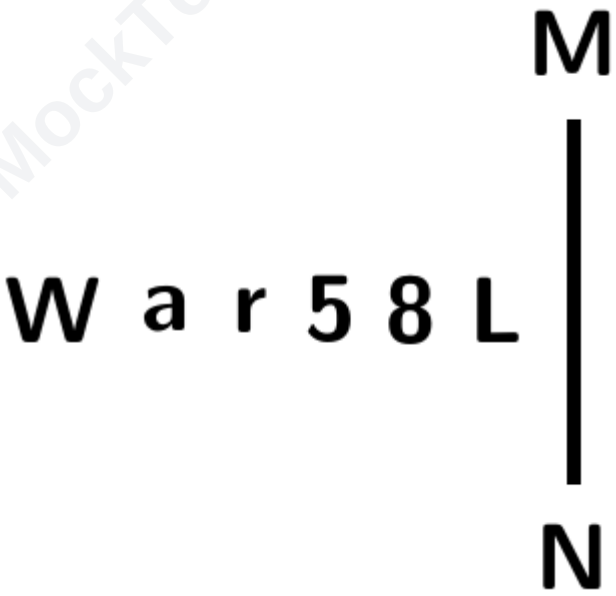
0, 5, 12, 21, ?, 45, 60

(a) 35
(b) 32
(c) 34
(d) 30

Q21. The position of how many letters will be changed if each of the letters in the word ACQUIRE is arranged in alphabetical order?

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

Q22. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



(a)



(b)



(c)



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(d)

J 8 2 1 6 W

Q23. Select the option in which the letter - clusters share the same relationship as that shared by the given pair of letter - clusters.

XFI : CKN

PFS : UKX

(a) JPW : OLD
(b) DOP : IJU
(c) HPS : MUX
(d) TOM : YLN

Q24. In a certain code language, 'PRIME'' is coded as '37862' and 'REMAP' is coded as '87423'. What is the code for 'A' in the given code language?

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

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

(a) PRT
(b) ACD
(c) UWY
(d) BDF

GENERAL INTELLIGENCE

Q26. Which radioactive isotope has a half - life of 5770 years, which is commonly used to estimate the age of organic materials such as paper and parchment?

(a) ^9C
(b) ^{12}C
(c) ^(14)C
(d) ^(17)C

Q27. Who said 'PURA is one of the mechanisms which will be utilised for transforming our villages into productive economic zones'?

(a) APJ Abdul Kalam
(b) Manmohan Singh
(c) Dadabhai Naoroji
(d) Atal Bihari Vajpayee

Q28. Which of the following is the right relationship between geometric length (L_g) and magnetic length (L_m)?

(a) Lm = 6/5 * Lg
(b) Lm = L_g
(c) Lm = 2RY
(d) L_m = 5/6 * Lg

Q29. Who was the first woman graduate of Calcutta University?

(a) Sarojini Naidu
(b) Annie Besant
(c) Kadambini Ganguly

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(d) Rajkumari Amritkaur

Q30. Which of these statements is true?

(a) At lower rates of interest, people will have a lower preference for liquidity.
(b) At higher rates of interest transactions demand for money will be higher.
(c) At lower rates of interest, speculative demand for money will be higher.
(d) At higher rates of interest liquidity preference of people will increase

Q31. Which of the following is an example of capital receipt?

(a) Disinvestment of Public Sector Banks by the Government
(b) Passport Fees
(c) Land Registration Fees
(d) General donation

Q32. A father was speaking about the rich cultural heritage of India to his young son and his teenager friends. The fundamental duty in which Article was the father promoting?

(a) Article 51A (f)
(b) Article 51A (e)
(c) Article 51A (d)
(d) Article 51A (c)

Q33. Which of the following options best describes the objective of Pradhan Mantri Rojgar Protsahan Yojana (PMRPY) Scheme, 2016?

(a) To provide financial assistance to entrepreneurs
(b) To provide free healthcare services to the unemployed
(c) To provide employment opportunities for rural women
(d) To encourage employers to create new jobs

Q34. Who among the following leaders received the 'Lifetime Achievement Award' during the 13th Sansad Ratna Awards?

(a) Chandrababu Naidu
(b) Kumar Mangalam
(c) Sumitra Mahajan
(d) TK Rangarajan

Q35. The name of Ustad Vilayat Khan is associated with which of the following Indian musical instruments?

(a) Santoor
(b) Sitar
(c) Bansuri
(d) Tabla

Q36. Which state government launched the crop insurance portal 'Mukhya Mantri Bagwani Bima Yojana' in 2022?

(a) Uttar Pradesh
(b) Punjab
(c) Rajasthan
(d) Haryana

Q37. When did British Empire Games start?

(a) 1936
(b) 1938
(c) 1930
(d) 1934

Q38. _____ is the income of the Government, Which arises out of the property left by the people without a legal heir.

(a) Escheat
(b) Moot
(c) Felony

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(d) Lien

Q39. Which of the following Indian states is NOT covered by the Deccan Plateau?

(a) Telangana
(b) Maharashtra
(c) Andhra Pradesh
(d) Madhya Pradesh

Q40. Which hypothesis was proposed by Paul Ehrlich to suggest the importance of species richness in the maintenance of ecosystems?

(a) Portfolio hypothesis
(b) Redundancy hypothesis
(c) Predation hypothesis
(d) Rivet popper hypothesis

Q41. Paika dance is performed in which of the following states?

(a) Goa
(b) Kerala
(c) Assam
(d) Jharkhand

Q42. Maharshi Dayanand Saraswati founded the Arya Samaj organisation in 1875 at which of the following places?

(a) Lahore
(b) Delhi
(c) Amritsar
(d) Bombay

Q43. Which of the following is a feature of the Indian Constitution?

(a) Lengthiest written constitution
(b) Rigid constitution
(c) Presidential form of government
(d) Dual citizenship

Q44. Modhera dance festival is performed in which of the following states?

(a) Maharashtra
(b) Gujarat
(c) Karnataka
(d) Manipur

Q45. On which planet has a rotating oval of clouds, twice as wide as Earth, called the 'Great Red Spot' been observed for more than 300 years?

(a) Neptune
(b) Mercury
(c) Jupiter
(d) Venus

Q46. Padma Shri awardee of 2019 and classical dancer, Narthaki Nataraj belongs to which of the following dance genres?

(a) Odissi
(b) Bharatanatyam
(c) Kuchipudi
(d) Sattriya

Q47. Ibn Battuta, a traveller, hailed from which of the following countries?

(a) Iran
(b) Afghanistan
(c) Morocco

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(d) Mongolia

Q48. Who among the following Indian wrestlers won the Gold Medal in the 57 kg category at the Asian Wrestling Championship 2023?

(a) Anirudh Galia
(b) Deepak Mirka
(c) Neeraj Chhikra
(d) Aman Sherawat

Q49. _____ became the first Indian footballer to play in the UEFA Women's Champions League in 2022.

(a) Pyari Xaxa
(b) Ashalata Devi
(c) Manisha Kalyan
(d) Jyoti Chouhan

Q50. The committee headed by Radhakrishna recommended _____.

(a) The initiation of Regulatory Policy for Microfinance Institutions
(b) The creation of Project EShakti
(c) the initiation of the National Rural Livelihood Mission
(d) the creation of RRBS

QUANTITATIVE APTITUDE

Q51. A cuboidal water tank is 12 m long, 9 m wide and 7.5 m deep. How many litres of water can it hold?

(a) 840000
(b) 805000
(c) 780000
(d) 810000

Q52. If A = 1/7 and B = 1/8 and the average of A, B and C is 1/13, then the value of C is:

(a) • 31/728
(b) • 27/728
(c) • 89/728
(d) • 49/728

Q53. In triangle Δ MNO, AB is parallel NO and MA = 2.5, AN = 7.5, MB = 2.2, find the value of BO.

(a) 6.6
(b) 8.2
(c) 5.4
(d) 4.8

Q54. If sec θ = 24/23, find the value of $\tan^2\theta$.

(a) 216/529
(b) 1200/529
(c) 3384/529
(d) 2177/529

Q55. The following table gives the marks obtained by six students in five different subjects in an examination. The numbers in the bracket give the maximum marks in each subject.

Students	**Subject (Maximum Marks)**				
English (100)	Hindi (100)	Mathematics (150)	Chemistry (60)	Physics (60)	
A	82	54	101	43	60

B	75	48	126	35	52
C	66	68	150	22	48
D	68	73	135	40	55
E	92	69	140	52	32
F	73	54	98	48	41

What are the average marks obtained by all six students in chemistry?

(a) 35
(b) 45
(c) 50
(d) 40

Q56. Pawan purchases 70 articles for Rs. 16,875 and sells them at a loss equal to the selling price of 5 articles. What will be the selling price of one article?

(a) Rs. 220
(b) Rs .230
(c) Rs. 235
(d) Rs. 225

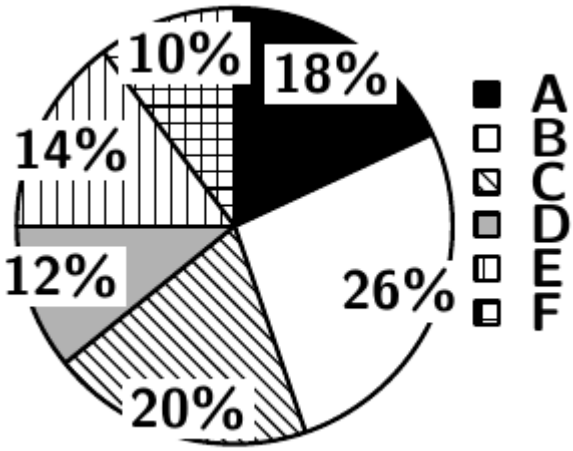
Q57. Find the compound interest on Rs. 10,000 for 1 1/2 years at 20% per annum, interest is payable half - yearly.

(a) Rs. 3,315
(b) Rs. 3,310
(c) Rs. 3,305
(d) Rs. 3,320

Q58. The Pie chart shows the percentage distributions of total number of laptops (both Dell and HP) sold by six stores in March.

Refer to the pie chart and table carefully and answer the given questions

Total number = 11200



Ratio of the numbers of Dell and HP sold	
Stores	Ratio
A	5 : 4
B	7 : 6
C	1 : 4
D	11 : 10

E	4 : 3
F	3 : 1

What is the ratio of the number of Dell laptops sold by A to that of the HP laptops sold by stores C and D together?

(a) 49 : 72
(b) 35 : 76
(c) 49 : 76
(d) 43 : 76

Q59. A boat can move upstream at 25 km/h and downstream at 35 km/h. What is the speed of the current?

(a) 10 km/h
(b) 15 km/h
(c) 5 km/h
(d) 22.5 km/h

Q60. Which of the following sets is such that all its elements are divisors of the number 2520?

(a) 12, 49, 18
(b) 8, 9, 7
(c) 16, 15, 14
(d) 21, 10, 25

Q61. In an isosceles triangle, if the unequal angle is five times the sum of the equal angles, then each equal angle is:

(a) 45°
(b) 60°
(c) 15°
(d) 30°

Q62. Arun sold his goods at a loss of 10%. If the selling price of the goods had been increased by Rs. 270, there would have been a gain of 8%. What was the cost price (in Rs.) of the goods for Arun?

(a) 1,800
(b) 1,150
(c) 1,650
(d) 1,500

Q63. The value of (cos 65°)/(sin 25°) + (cos 55°)/(sin 35°) - tan 50°cot 50° is equal to:

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

Q64. An inlet pipe can fill an empty tank in 51 hours while an outlet pipe drains a completely-filled tank in 76.5 hours. If both the pipes are opened simultaneously when the tank is empty, in how many hours will the tank get completely filled?

(a) 178.5
(b) 127.5
(c) 102
(d) 153

Q65. At how much per cent above the cost price should a trader mark his goods so that after allowing a discount of 25%, he still gains 5%?

(a) 35
(b) 32
(c) 50
(d) 40

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Q66. Find the value of $(\cos^2 25°-\sin^2 65°)/(\cos^2 25°+\sin^2 65°)$:

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

Q67. Half of the length of the chord of a circle is 12 cm and the perpendicular distance between the centre and the chord is 5 cm. The radius of the circle is:

(a) 12 cm
(b) 13 cm
(c) 10 cm
(d) 24 cm

Q68. What is the amount (in Rs.) of debt that will be discharged in 6 equal instalments of Rs. 800 each, if the debt is due in 6 years at 5% per annum?

(a) 6,600
(b) 7,500
(c) 8,000
(d) 5,400

Q69. If $x^2 - 11x + 1 = 0$, what is the value of x^8 - 14159x^4 + 11?

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

Q70. If $a + b + c = 16$, $ab + bc + ac = 81$, what is the value of $a^2 + b^2 + c^2$?

(a) 94
(b) 98
(c) 89
(d) 87

Q71. What is the mean proportional between 3 and 27?

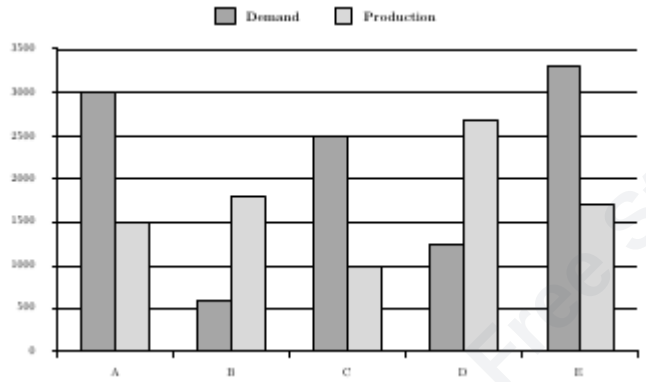
(a) 30
(b) 81
(c) 15
(d) 9

Q72. Two circles of radii 9 cm and 4 cm, respectively, touch each other externally at point A. PQ is the direct common tangent of those two circles of centres O1 and O2, respectively. The length of PQ is equal to:

(a) 13 cm
(b) 11 cm
(c) 10 cm
(d) 12 cm

Q73. Study the following graph carefully and answer the questions given below it.

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What is the ratio of companies having more demand than production to those having more production than demand?

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

Q74. Simplify the following expression.

$(a + b + c)^2 - (a - b + c)^2 + 4ac$

(a) 4(bc + ac)
(b) 2(ab + bc + ac)
(c) 4(ab + bc + ac)
(d) 4(bc + ab)

Q75. The company offers the following four types of successive discounts on a computer which is listed at Rs. 6,000.

i) 25% and 15%
ii) 30% and 10%
iii) 35% and 5%
iv) 20% and 20%

Which of these offers is best for a customer?

(a) Fourth offer
(b) First offer
(c) Third offer
(d) Second offer

GENERAL AWARENESS

Q76. Direction: Select the most appropriate meaning of the given idiom.

Head in the clouds

(a) Being extremely tall
(b) Being absent minded
(c) Being extremely happy
(d) Being extremely sad

Q77. Direction: Select the most appropriate synonym of the bracketed word in the following sentence to fill in the blank.

I _____ (itemize) the work that will have to be done.

(a) impart
(b) enumerate
(c) conceal
(d) assess

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Q78. Direction: Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.

A. have seen a major blow

B. the last two years

C. people, and lower-income countries

D. to the world's economy and

E. were hit particularly hard

(a) BCADE
(b) EBCAD
(c) BADCE
(d) ADBEC

Q79. Direction: Select the most appropriate ANTONYM of the given word.

Extract

(a) Insert
(b) Fry
(c) Cut
(d) Pull

Q80. Direction: Select the most appropriate option that can substitute the underlined segment in the following sentence.

Although he was exhausted from working all day, John continues to study for his upcoming exam.

(a) will continue to study for his upcoming exam
(b) has been studying for his upcoming exam
(c) continued to study for his upcoming exam
(d) continues studying for his upcoming exam

Q81. Direction: Select the most appropriate synonym of the given word.

Assuagement

(a) Consignment
(b) Stratification
(c) Ruthlessness
(d) Mollification

Q82. Direction: Select the most appropriate ANTONYM of the underlined word in the given sentence.

One needs to be free of prejudices while dealing with judicial cases.

(a) Favours
(b) Discriminations
(c) Bigotries
(d) Equalities

Q83. Direction: Select the meaningful and correctly spelt word from the options to fill in the blank.

The song composed by the choir for the special programme was an _____ one.

(a) imiteitted
(b) emittated
(c) eradicated
(d) imitated

Q84. Direction: Select the INCORRECTLY spelt word.

(a) Philosophy
(b) Philanthropy
(c) Philolegy
(d) Philately

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Q85. Direction: Select the most appropriate synonym of the underlined word.

Access to safe water, sanitation and hygiene is a human right - fundamental to everyone's health, dignity and prosperity.

(a) enthusiasm
(b) immorality
(c) grace
(d) wealth

Q86. Direction: The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

Were this boy / washing his clothes / yesterday when the matron / came for a regular round?

(a) washing his clothes
(b) yesterday when the matron
(c) Were this boy
(d) came for a regular round

Q87. Direction: Select the most appropriate option that can substitute the underlined words in the following sentence.

My parents had not call me yesterday.

(a) does not calling
(b) did not call
(c) do not call
(d) have not call

Q88. Direction: Select the grammatically correct version of the following sentence.

This phone is inferior of that one

(a) This phone is inferior than that one.
(b) This phone is more inferior than that one.
(c) This phone is more inferior of that one.
(d) This phone is inferior to that one.

Q89. Direction: Select the most appropriate option that can substitute the underlined word in the given sentence.

One cannot exactly predict the way she behaves in public gatherings.

(a) deliberate
(b) precipitate
(c) prefigure
(d) proliferate

Q90. Direction: Select the word that means the same as the group of words underlined in the given sentence.

Vatsal is a lover and collector of books.

(a) anglophile
(b) recluse
(c) bibliophile
(d) polyglot

Q91. Direction: Select the most appropriate idiom for the underlined segment in the following sentence.

We should protect ourselves from jealous people.

(a) High-spirited
(b) Any Tom, Dick or Harry
(c) One trick pony
(d) Green-eyed

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Q92. Direction: Select the most appropriate option that can substitute the underlined segment in the given sentence.

The most important fruit in Kinnaur is apricot. It is possible to get it at everyplace in huge amount.

(a) found for a huge amount everywhere
(b) found everywhere in a huge amount
(c) found everywhere with a huge amount
(d) find everywhere in a huge amount

Q93. Direction: Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct order to form a meaningful sentence.

A) fourth floor of
B) nasty man named Mr. Douglas
C) an apartment building
D) there is a very mean,
E) who lives on the

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

Q94. Direction: Select the option that expresses the following sentence in passive voice.

Does she still love you?

(a) Are you still loved by her?
(b) Do you still love her?
(c) Is she still loved by you?
(d) Are you still loving by her?

Q95. Direction: Select the option that expresses the given sentence in passive voice.

It is time to take tea.

(a) It is time for the tea to be taken
(b) It is time tea must have been taken.
(c) It is time we should take the tea.
(d) It is time the tea has to be taken by us.

Directions

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

I know these authors to ____ 1 __ outstanding individuals and remarkable teachers and consultants and have even __ 2 __ them work their magic in training seminars, but I didn't know if they __ 3 __ take this complex topic and fit into a book. They did. I __ 4 __ you to really dig into this material, to pause and think deeply about each part and how the parts are __ 5 ____.

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

(a) be
(b) been
(c) had
(d) is

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

(a) seen
(b) seeing
(c) see
(d) saw

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

(a) had
(b) are
(c) have
(d) could

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

(a) contradict
(b) deny
(c) encourage
(d) think

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

(a) recalled
(b) sequenced
(c) jumbled
(d) tinkered

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) Saturday

An ordinary year has 1 odd day and a leap year has 2 odd days.

So, the day on the same date for an ordinary year will be 1 day ahead and the day on the same date for a leap year will be 2 days ahead for the next year.

If 21 May 2009 is Thursday, then the day on these dates will be:

21 May 2010 → Friday

21 May 2011 → Saturday

21 May 2012 → Monday

21 May 2013 → Tuesday

21 May 2014 → Wednesday

21 May 2015 → Thursday

21 May 2016 → Saturday

21 May 2017 → Sunday

Number of days between 21 May 2017 to 15 July 2017 = (10 + 30 + 15) = 55

55 when divided by 7, leaves 6 as remainder.

Sunday + 6 = Saturday

Therefore, it will be Saturday on 15 July 2017.

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Hence, ‘Saturday’ is the correct answer.

Q2. Answer: (d) Only conclusion (I) is true.

The least possible Venn diagram is:

Conclusion (I) : Some guns are ships. → Follows (As, All tankers are ships and Some tankers are guns → Some guns are ships)

Conclusion (II) : Some tankers are rockets. → Does not follow (As, there is no definite relation between tankers and rockets. Hence, false)

Hence, ‘Only conclusion (I) is true’ is the correct answer.

Q3. Answer: (d) NTW: LRU

The logic followed here is:

• • Similarly,

• Hence, 'NTW: LRU' is the correct answer.

Q4. Answer: (c) [figure]

The logic followed in the given figure series is:

From Figure (1) to (2):

The lower triangle rotates 180º.

From Figure (2) to (3):

The upper triangle rotates 180º.

From Figure (3) to (4):

The lower triangle rotates 180º.

From Figure (4) to Answer Figure:

The upper triangle rotates 180º.

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

Q5. Answer: (d) KPAU

The logic followed here is:

• • Similarly,

• Hence, 'KPAU' is the correct answer.

Q6. Answer: (a) 85 - 13 - 36

The logic followed here is:

Logic: (Third number × 2) + Second number = First number

• 46 - 12 - 17 → 17 × 2 + 12 = 34 + 12 = 46

• 62 - 12 - 25 → 25 × 2 + 12 = 50 + 12 = 62

Similarly,

• 85 - 13 - 36 → 36 × 2 + 13 = 72 + 13 = 85

Hence, '85 - 13 - 36' is the correct answer.

Q7. Answer: (a) 13, 172

The logic followed here is:

Logic: (First number)2 + 3 = Second number

• 4, 19 → 4^2 + 3 = 16 + 3 = 19

• 11, 124 → 112 + 3 = 121 + 3 = 124

Similarly,

• 13, 172 → 132 + 3 = 169 + 3 = 172

Hence, '13, 172' is the correct answer.

Q8. Answer: (d) 100

Given equation: 9 + 11 ÷ 2 × 36 - 12 = ?

If '+' and '×' are interchanged and '-' and '÷' are interchanged, then the equation becomes:

9 × 11 - 2 + 36 ÷ 12 = ?

=> 9 × 11 - 2 + 3 = ?

=> 99 - 2 + 3 = ?

=> 102 - 2 = ?

=> 100 = ?

Hence, '100' is the correct answer.

Q9. Answer: (b) VAAVZZVZ

The logic followed here is:

1. ZAVAAZZV → Z A Z / V V Z / A A A / V A Z / Z A V
2. VAAVZZVZ → V A Z / V A Z / V A Z / V A Z / V A Z
3. AVZVVZVZ → A V Z / V Z Z / V A V / V A Z / V A Z
4. AVVAZZVV → A V Z / V V Z / A A Z / V A Z / V A V

• In option 2, VAZ is repeated.

Hence, 'VAAVZZVZ' is the correct answer.

Q10. Answer: (c) 2 : 5

The logic followed here is:

Logic: (First number)² + 1 = Second number

• 5 : 26 → 5^2 + 1 = 25 + 1 = 26

• 9 : 82 → 92 + 1 = 81 + 1 = 82

Similarly,

• 2 : 5 → 22 + 1 = 4 + 1 = 5

Hence, '2 : 5' is the correct answer.

Q11. Answer: (a) 131

Letter	A	B	C	D
Meaning	÷	×	•	•

83 + 7 × 539 ÷ 49 - 29 = ?

=> 83 + 7 × 11 - 29 = ?

=> 83 + 77 - 29 = ?

=> 160 - 29 = ?

=> 131 = ?

Hence, '131' is the correct answer.

Q12. Answer: (d) Father's mother

By using the symbols in the table given below, we can draw the following family tree:

T is grandmother of Q i.e., Q's father's mother.

Hence, 'Father's mother' is the correct answer.

Q13. Answer: (d) Father's sister

By using the symbols in the table given below, we can draw the following family tree:

Clearly, P is L's father sister.

Hence, 'Father's sister' is the correct answer.

Mistake PointsPlease note that here since L is married to Q and Q is the Son of P and N. There is a possibility that P is the mother - in - law of L. But as per the options given here and the answer key provide in the official paper, Option 4: Father's sister is the correct answer.

Q14. Answer: (d) 15

The number of triangles in the figure is shown below:

Hence, '15' is the correct answer.

Q15. Answer: (b) 6 - 9 - 74

The logic followed here is:

Logic: (First number × Second number) + 20 = Third number

• 12 - 15 - 200 → (12 × 15) + 20 = 180 + 20 = 200

• 10 - 12 - 140 → (10 × 12) + 20 = 120 + 20 = 140

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Similarly,

• 6 - 9 - 74 → (6 × 9) + 20 = 54 + 20 = 74

Hence, '6 - 9 - 74' is the correct answer.

Q16. Answer: (a) 271

The logic followed here is:

Hence, '271' is the correct answer.

Q17. Answer: (a) [figure]

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

Hence, 'option 1' is the correct answer.

Q18. Answer: (d) MCFGV

The logic followed here is:

1. MCGIV → ABMN / CDOP / EGQR / IHST / IJUV
2. CMGIV → ABCN / MDOP / EGQR / IHST / IJUV
3. CMGFV → ABCN / MDOP / EGQR / FHST / IJUV
4. MCFGV → ABMN / CDOP / EFQR / GHST / IJUV

When the sequence is divided into five equal parts, in option 4, we see that the first two letters and last two letters forms the alphabet series ABCDEFGHIJ - MNOPQRSTUV.

Hence, 'MCFGV' is the correct answer.

Q19. Answer: (a) ni

The code for each word is shown below:

Clearly, 'ni' is coded as 'chin' in that language.

Hence, 'ni' is the correct answer.

Q20. Answer: (b) 32

The logic followed here is:

Hence, '32' is the correct answer.

Q21. Answer: (a) Four

The position of the letters that will change if each of the letters in the word ACQUIRE is arranged in alphabetical order is shown below:

The position of four letters change when each of the letters in the word ACQUIRE is arranged in alphabetical order.

Hence, 'Four' is the correct answer.

Q22. Answer: (d) [figure]

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

Hence, 'option 4' is the correct answer.

Q23. Answer: (c) HPS : MUX

The logic followed here is:

• • Similarly,

• Hence, 'HPS : MUX' is the correct answer.

Q24. Answer: (d) 4

The code for each letter is shown below:

Clearly, '4' is the code for 'A' in the given code language.

Hence, ‘4’ is the correct answer.

Q25. Answer: (b) ACD

The logic followed here is:

Logic: First letter + 2 = Second letter; Second letter + 2 = Third letter

1. PRT → P + 2 = R; R + 2 = T
2. ACD → A + 2 = C; C + 2 = E ≠ D

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3. UWY → U + 2 = W; W + 2 = Y

4. BDF → B + 2 = D; D + 2 = F

Hence, 'ACD' is the correct answer.

Q26. Answer: (c) ^(14)C

The correct answer is 14C.

Key Points

• Carbon-14 (14C):-

• It is the radioactive isotope with a half-life of 5770 years that is commonly used to estimate the age of organic materials such as paper and parchment.

• This is because when plants and animals are alive, they take in carbon-14 from the atmosphere.

• Once they die, the carbon-14 starts to decay at a known rate, allowing scientists to determine how long ago the organism died.

• Carbon-14 dating is a widely used method in archaeology, paleontology, and other fields to determine the age of artifacts and fossils.

Q27. Answer: (a) APJ Abdul Kalam

The correct answer is APJ Abdul Kalam.

Key Points

• PURA:-

• It stands for Providing Urban Amenities in Rural Areas.

• It is a scheme launched by the Government of India to provide basic infrastructure and amenities in rural areas to improve the standard of living of the rural population.

• The scheme aims to create productive economic zones in rural areas by providing basic infrastructure and amenities like electricity, water supply, roads, sanitation, healthcare, education, and skill development.

• APJ Abdul Kalam said 'PURA is one of the mechanisms which will be utilised for transforming our villages into productive economic zones'.

Q28. Answer: (d) L_m = 5/6 * Lg

The correct answer is Lm = (5/6) * Lg.

Key Points

• Geometric length (Lg):-

• It refers to the physical length of a conductor, while magnetic length (Lm) takes into account the end effects caused by the magnetic field around the conductor.

• End effects refer to the distortion of the magnetic field near the ends of a conductor, which causes the effective length of the conductor to be shorter than its physical length.

• The correct relationship between Lg and Lm is important in the design and analysis of electrical machines and devices such as transformers and motors.

• This relationship is derived from the fact that the magnetic length is shorter than the geometric length due to the presence of end effects.

• The relationship between geometric length (Lg) and magnetic length (Lm) is Lm = 5/6 * Lg.

Q29. Answer: (c) Kadambini Ganguly

The correct answer is Kadambini Ganguly.

Key Points

• Kadambini Ganguly:-

• She was born in 1861 in British India and was one of the first female graduates in India.

• She was also the first Indian woman to study and practice medicine in the country.

• She completed her graduation from Calcutta University in 1883, and later went on to study medicine at the Women's Medical College in Philadelphia, USA.

• Kadambini Ganguly was a pioneering figure in the Indian women's rights movement, and was actively involved in social and political reforms for women.

• She was also the first woman to be admitted to the British Indian Medical Service, and the first female physician in South Asia to practice allopathic medicine.

Additional Information

• Sarojini Naidu:-

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• She was a prominent Indian poet, and a leading figure in the Indian independence movement.

• Annie Besant:-

• She was a British socialist, theosophist, and women's rights activist who played a key role in India's struggle for independence.

• Rajkumari Amrit Kaur:-

• She was an Indian freedom fighter and social reformer who played a key role in the Indian independence movement.

Q30. Answer: (c) At lower rates of interest, speculative demand for money will be higher.

The correct answer is At lower rates of interest, speculative demand for money will be higher.

Key Points

• Speculative demand for money:-

• It refers to the demand for money to be held as an asset for future profitable investment opportunities.

• At lower rates of interest, the opportunity cost of holding money is lower, making it more attractive to invest in speculative assets.

• At higher rates of interest, the opportunity cost of holding money is higher, making it less attractive to invest in speculative assets.

• Therefore, speculative demand for money will be higher at lower rates of interest.

Q31. Answer: (a) Disinvestment of Public Sector Banks by the Government

The correct answer is Disinvestment of Public Sector Banks by the Government.

Key Points

• Disinvestment of Public Sector Banks:-

• It is an example of capital receipt because it involves selling a government asset (shares in public sector banks) to raise funds for the government.

• Capital receipts are those receipts that either create a liability for the government or reduce its assets. They include disinvestment proceeds, loans raised by the government, and recovery of loans granted by the government.

• Disinvestment of public sector banks is a way for the government to reduce its ownership in these banks and raise funds for other purposes. It also helps in improving the efficiency and competitiveness of these banks.

Additional Information

• Passport fees:-

• These are charged by the government for issuing passports to citizens.

• Land registration:-

• This fee is collected for registering land transactions.

• General donation:-

• It is a voluntary contribution made by an individual or organization to a cause or charity.

Q32. Answer: (a) Article 51A (f)

The correct answer is Article 51A (f).

Key Points

• Article 51A (f):-

• The father was promoting the fundamental duty mentioned in Article 51A (f), to value and preserve the rich heritage of our composite culture.

• This duty emphasizes the importance of unity in diversity and the need to respect and celebrate the different cultural traditions of India.

Additional Information

• Article 51A (e):-

• It mentions the duty to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic, and regional or sectional diversities and to renounce practices derogatory to the dignity of women,

• Article 51A (d):-

• It mentions the duty to defend the country and render national service when called upon to do so,

• Article 51A (c):-

• It mentions the duty to uphold and protect the sovereignty, unity, and integrity of India,

Q33. Answer: (d) To encourage employers to create new jobs

The correct answer is To encourage employers to create new jobs.

Key Points

• Pradhan Mantri Rojgar Protsahan Yojana:-

• The PMRPY Scheme of 2016 is a government initiative aimed at incentivizing employers to create new jobs by reimbursing the employer's contribution to the Employee Provident Fund (EPF) and Employee Pension Scheme (EPS) for new employees.

• The scheme is applicable to all sectors and is aimed at reducing unemployment and promoting job creation in the country.

• The scheme covers all new employees earning less than Rs. 15,000 per month and the employer's contribution to EPF and EPS is reimbursed for the first three years of their employment.

• The scheme also aims to promote formalization of the workforce and bring more employees under the ambit of social security benefits.

Q34. Answer: (d) TK Rangarajan

The correct answer is TK Rangarajan.

Key Points

• TK Rangarajan:-

• He received the Lifetime Achievement Award during the 13th Sansad Ratna Awards.

• TK Rangarajan is a former Member of Parliament (MP) who served in the Rajya Sabha from 2004 to 2010 and in the Lok Sabha from 2014 to 2019. He is a member of the Communist Party of India (Marxist) and has been actively involved in politics since the 1970s.

Additional Information

• Chandrababu Naidu:-

• He is a prominent politician from Andhra Pradesh who served as the Chief Minister of the state for several terms.

• He is the founder of the Telugu Desam Party and has been active in politics since the 1980s.

• Kumar Mangalam:-

• He is a business tycoon and the Chairman of Aditya Birla Group, one of India's largest conglomerates.

• Sumitra Mahajan:-

• He is a veteran politician from the Bharatiya Janata Party (BJP) who served as the Speaker of the Lok Sabha from 2014 to 2019.

Q35. Answer: (b) Sitar

The correct answer is Sitar.

Key Points

• Ustad Vilayat Khan:-

• He is a renowned Indian classical musician who was a sitar player.

• He was born in Gauripur, West Bengal, and belonged to the Imdadkhani gharana of music.

• He was considered a master of the sitar and was known for his unique style and improvisations.

• He was awarded the Padma Bhushan and Padma Vibhushan for his contributions to Indian classical music.

Additional Information

• Santoor:-

• It is a hammered dulcimer instrument that originated in Kashmir and is played with mallets.

• Bansuri:-

• It is a bamboo flute that is commonly used in Indian classical music and is played by blowing across the mouthpiece.

• Tabla:-

• It is a pair of drums that are used in Indian classical music and are played by striking them with the hands.

Q36. Answer: (d) Haryana

The correct answer is Haryana.

Key Points

• Mukhya Mantri Bagwani Bima Yojana:-

• The state government of Haryana launched the crop insurance portal 'Mukhya Mantri Bagwani Bima Yojana' in 2022.

• This scheme aims to provide insurance coverage to farmers against any losses incurred due to natural calamities or other unforeseen events.

• The portal will also enable farmers to register themselves and apply for insurance policies online, making the process more accessible and hassle-free.

• The scheme will benefit around 22 lakh farmers in the state who will be able to avail of insurance coverage for various crops such as wheat, paddy, and vegetables.

• The Haryana government has allocated Rs. 1,000 crore for the implementation of this scheme.

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Additional Information

• Uttar Pradesh has launched various schemes for farmers such as:-

• 'Kisan Kalyan Mission'

• 'Kisan Rin Mochan Yojana'

• Punjab has launched:-

• 'Kisan Vikas Schemes' to provide financial assistance to farmers for the purchase of seeds, fertilizers, and other agricultural inputs.

• Rajasthan:-

• It has launched the 'Kisan Mitra Yojana' to provide financial assistance to farmers for the purchase of agricultural equipment and machinery.

• The state government has also launched the 'Mukhya Mantri Kisan Mitra Urja Yojana' to provide solar-powered water pumps to farmers.

Q37. Answer: (c) 1930

The correct answer is 1930.

Key Points

• British Empire Games:-

• These were started in 1930 and were held every four years until 1950.

• The games were designed to bring together athletes from the British Empire and promote goodwill and understanding among them.

• The first games were held in Hamilton, Canada, and featured 400 athletes from 11 countries competing in six sports.

• The games were renamed the Commonwealth Games in 1978 and have since been held every four years, with the exception of 2020 when they were cancelled due to the COVID-19 pandemic.

Q38. Answer: (a) Escheat

The correct answer is Escheat.

Key Points

• Escheat:-

• It is a legal concept that refers to the transfer of property ownership to the state when the owner dies without leaving a will or any legal heirs.

• This process ensures that the property does not remain unclaimed or become abandoned, and the state can use the proceeds for public welfare or other purposes.

• Escheat is a common law principle that dates back to medieval times and is still recognized in many jurisdictions worldwide.

Additional Information

• Moot:-

• It refers to a point that is no longer relevant or debatable.

• Felony:-

• It is a serious crime.

• Lien:-

• It is a legal claim over someone's property as security for a debt or obligation.

Q39. Answer: (d) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• Deccan Plateau:-

• It is a large plateau located in southern India, covering most of the Indian states of Karnataka, Maharashtra, Andhra Pradesh and Telangana.

• The Deccan Plateau is known for its rich biodiversity, with a variety of flora and fauna, including several endemic species.

• The region is also home to several important cultural and historical sites, including the Ajanta and Ellora caves, the city of Hyderabad, and the ruins of the Vijayanagara Empire.

Additional Information

• Telangana:-

• It is a state located in southern India, formed in 2014 after the bifurcation of Andhra Pradesh.

• It is known for its rich history and culture, as well as its IT industry and agricultural production.

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• Maharashtra:-

• It is a state located in western India, known for its capital city Mumbai, as well as its rich history, diverse culture, and vibrant economy.

• Andhra Pradesh:-

• It is a state located in southern India, known for its beautiful beaches, rich history and culture, and thriving IT industry.

• It is also home to several important pilgrimage sites, including the Tirumala Venkateswara Temple.

• Madhya Pradesh:-

• It is a state located in central India, known for its rich cultural heritage, wildlife reserves, and historical sites, including the Khajuraho Group of Monuments and the Sanchi Stupa.

• It is also one of the largest states in India, both in terms of area and population.

Q40. Answer: (d) Rivet popper hypothesis

The correct answer is Rivet popper hypothesis.

Key Points

• Rivet popper hypothesis:-

• This hypothesis suggests that species in an ecosystem are like rivets in an airplane, and if too many are lost, the entire system can collapse.

• Paul Ehrlich proposed this hypothesis to highlight the importance of species richness in maintaining ecosystem function and stability.

Additional Information

• Portfolio hypothesis:-

• It suggests that a diverse portfolio of species can reduce risk in an ecosystem.

• Redundancy hypothesis:-

• It proposes that multiple species can perform the same function, making some species less important than others.

• Predation hypothesis:-

• It suggests that predators can regulate the abundance of prey species in an ecosystem.

Q41. Answer: (d) Jharkhand

The correct answer is Jharkhand.

Key Points

• Paika dance:-

• It is a traditional dance form performed in the state of Jharkhand.

• It is a warrior dance performed by the Paika community, who were once the protectors of the villages in the state.

• The dance form involves the use of weapons like swords, sticks, and shields, and is performed to the beats of drums and other traditional instruments.

• The dance is usually performed during festivals and other cultural events, and is a popular attraction among tourists visiting Jharkhand.

Additional Information

• Goa:-

• It is known for its popular folk dance forms like Fugdi and Dhalo.

• Kerala:-

• It is known for its classical dance form, Mohiniyattam, and Kathakali.

• Assam:-

• It is known for Bihu dance, a popular folk dance form.

Q42. Answer: (d) Bombay

The correct answer is Bombay.

Key Points

• Arya Samaj:-

• It is a Hindu reform movement that aims to promote monotheism and Vedic knowledge among Hindus and to eradicate social evils such as caste system, untouchability, child marriage, and dowry.

• Maharshi Dayanand Saraswati founded the Arya Samaj organisation in 1875.

Additional Information

• Delhi:-

• It was the place where the Indian National Army was founded in 1942, not Arya Samaj.

• Amritsar:-

• It is a holy city in Punjab that is known for the Golden Temple and the Jallianwala Bagh massacre.

Q43. Answer: (a) Lengthiest written constitution

The correct answer is lengthiest written constitution.

Key Points

• Indian Constitution:-

• It was adopted on 26th January 1950 and has undergone several amendments since then. It currently consists of a Preamble, 448 Articles, and 12 Schedules.

• The Constitution is considered the lengthiest written constitution in the world because of its comprehensive nature and detailed provisions covering various aspects of governance, rights, and duties of citizens, and the functioning of the government.

• The Constitution is also unique in its approach to federalism, where there is a division of powers between the central government and the state governments. This has been achieved through the distribution of powers in the Union List, State List, and Concurrent List.

• The Constitution also provides for a system of checks and balances, where the three branches of government (legislature, executive, and judiciary) have separate and distinct functions, and each branch acts as a check on the other two.

Additional Information

• Indian Constitution is not a rigid constitution.:-

• The Indian Constitution is a mix of both rigid and flexible features. While some provisions of the Constitution can only be amended by a special majority of the Parliament, other provisions can be amended by a simple majority.

• Indian Constitution provides for a presidential form of government:-

• The Indian Constitution provides for a parliamentary form of government where the President is a nominal head of state, and the Prime Minister is the real head of the government.

• Indian Constitution provides for dual citizenship:-

• The Indian Constitution does not provide for dual citizenship. Instead, it recognizes a single citizenship for all Indian citizens.

Q44. Answer: (b) Gujarat

The correct answer is Gujrat.

Key Points

• Modhera dance festival:-

• It is a three-day cultural event that takes place annually in Modhera, Gujarat.

• The festival is held in the Sun Temple, which is a UNESCO World Heritage Site.

• The festival features various classical dance forms of India, including Kathak, Bharatanatyam, and Manipuri.

• The festival also includes cultural programs, exhibitions, and food stalls.

Additional Information

• Maharashtra:-

• It is known for its rich heritage in classical music and dance, but Modhera dance festival is not performed in this state.

• Karnataka:-

• It is known for its classical dance form, Yakshagana, but Modhera dance festival is not performed in this state.

• Manipur:-

• It is known for its classical dance form, Manipuri, which is also performed at Modhera dance festival, but the festival is not held in Manipur.

Q45. Answer: (c) Jupiter

The correct answer is Jupiter.

Key Points

• Great Red Spot:-

• The planet on which the rotating oval of clouds, twice as wide as Earth, called the 'Great Red Spot' has been observed for more than 300 years is Jupiter.

• The Great Red Spot on Jupiter is a massive storm that has been raging for centuries, and it is so large that it could easily swallow the entire Earth.

• The Great Red Spot is a high-pressure region in Jupiter's atmosphere, and it is believed to be a giant hurricane-like storm.

• Jupiter:-

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• It is the largest planet in our solar system and is known for its many moons and its strong magnetic field.

Q46. Answer: (b) Bharatanatyam

The correct answer is Bharatanatyam.

Key Points

• Bharatanatyam:-

• It is a classical dance form that originated in Tamil Nadu, India.

• It is known for its grace, purity, and tenderness of expression.

• The dance form involves intricate footwork, hand gestures, facial expressions, and body movements.

• Narthaki Nataraj belongs to the Bharatanatyam dance genre.

Q47. Answer: (c) Morocco

The correct answer is Morocco.

Key Points

• Ibn Battuta:-

• He was a famous traveller who lived during the 14th century.

• He was born in Morocco and is known for his extensive travels throughout Africa, Asia, and Europe.

• Ibn Battuta is considered one of the greatest travellers of all time.

• He started his travels at the age of 21 and spent the next 29 years travelling over 73,000 miles.

• He wrote about his travels in a book called "Rihla" which is considered one of the greatest travelogues in history.

Q48. Answer: (d) Aman Sherawat

The correct answer is Aman Sherawat.

Key Points

• Aman Sherawat:-

• He won Gold Medal in the 57 kg category at the Asian Wrestling Championship 2023.

• Aman Sherawat is an Indian wrestler who hails from Haryana and has been a consistent performer in the national and international arena.

Additional Information

• Asian Wrestling Championship:-

• It is a major wrestling championship organized by the Asian Wrestling Federation.

• The championship features wrestlers from different countries in Asia competing in different weight categories.

Q49. Answer: (c) Manisha Kalyan

The correct answer is Manisha Kalyan.

Key Points

• Manisha Kalyan.:-

• She became the first Indian footballer to play in the UEFA Women's Champions League in 2022.

• Manisha Kalyan is a 20-year-old forward who plays for Rangers Women FC in Scotland.

• She had earlier played for Gokulam Kerala FC in the Indian Women's League.

Additional Information

• Pyari Xaxa:-

• She is an Indian footballer who plays as a midfielder for the national team and has represented India at the Asian Games and SAFF Championship.

• Ashalata Devi:-

• She is also an Indian footballer who plays as a defender and has won the AIFF Women's Player of the Year award twice.

• Jyoti Chouhan:-

• She is an Indian footballer who plays as a forward and has represented India at the SAFF Championship and AFC Women's Asian Cup Qualifiers.

Q50. Answer: (c) the initiation of the National Rural Livelihood Mission

The correct answer is the initiation of the National Rural Livelihood Mission.

Key Points

• National Rural Livelihood Mission:-

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• The committee headed by Radhakrishna recommended the initiation of the National Rural Livelihood Mission.

• The National Rural Livelihood Mission was launched in 2011 by the Ministry of Rural Development, Government of India, to reduce poverty among rural households.

• The mission aims to organize rural poor women into Self Help Groups (SHGs) and provide them with financial assistance, skill development training, and livelihood opportunities.

• The mission also seeks to strengthen the rural poor's access to institutional credit, insurance, and other financial services.

• Radhakrishna committee:-

• It was appointed by the Reserve Bank of India (RBI) in 2007 to review the state of microfinance in India and suggest measures for its growth and regulation.

• The committee submitted its report in 2008, which made several recommendations, including the initiation of the National Rural Livelihood Mission.

Q51. Answer: (d) 810000

Given:

Length (l) = 12 m

Width (w) = 9 m

Depth (h) = 7.5 m

Formula:

Volume (V) = l × w × h

Calculation:

Volume in cubic meters = 12 × 9 × 7.5 = 810 m^3

1 cubic meter = 1000 liters

Volume in liters = 810 × 1000 = 810,000 liters

Q52. Answer: (b) • 27/728

Given:

A = 1/7

B = 1/8

Formula used:

Average = (A + B + C)/3

Calculation:

=> 1/13 = (1/7 + 1/8 + C)/3

=> 1/13 × 3 = 1/7 + 1/8 + C

=> 3/13 = (8 + 7)/56 + c

=> 3/13 = 15/56 + c

=> C = 3/13 - 15/56

=> C = (-27)/728

Therefore, the value of C is (-27/728).

Q53. Answer: (a) 6.6

Given:

MA = 2.5, AN = 7.5, MB = 2.2

Calculation:

Let BO = x

=> MA/(AM +AN) = MB/(MB + BO)

=> 2.5/(2.5 + 7.5) = (2.2)/((2.2 + x)

=> 2.5/(10) = (2.2)/((2.2 + x)

=> 22 = 2.5 × 2.2 + 2.5x

=> 22 = 5.5 + 2.5x

=> 22 - 5.5 = 2.5x

=> 16.5 = 2.5x

=> x = 6.6

Thus, the solution for BO is 6.6.

Q54. Answer: (c) 3384/529

Given

sec θ = 24/23

Formula used

$sec^2 θ - tan2 θ = 1$

Calculation

Applying the above formula:

$tan2 θ = (50/23)^2 - 1$

tan2 θ = (2500 - 529)/529 = 1971/529

= 3384/529

The answer is 3384/529

Q55. Answer: (d) 40

Calculation

Total marks obtained in chemistry by all six students = 43 + 35 + 22 + 40 + 52 + 48 = 240

Average = 240/6 = 40

The answer is 40.

Q56. Answer: (d) Rs. 225

Given:

Cost price of 70 articles = Rs. 16875

Loss = 5 × Selling price of 1 article

Formula used:

Loss = Cost price - Selling price

Calculation:

Let the selling price of one article be Rs. x

So according to the question,

5x = 16875 - 70x

=> 75x = 16875

=> x = 225

Therefore Selling price of one article = Rs. 225

The answer is 225.

Q57. Answer: (b) Rs. 3,310

Given:

Principal p = Rs. 10,000

Rate R = 20%

Time period n = 1(1/2) years

Formula Used:

For compounded half yearly

$A = p × [1 + (R/2)/100]^{2n}$

Calculation:

=> A = 10,000 × [1 + (20/2)/100]^(2 × 3/2)

$=> 10000 × (1.1)^3$

=> 10000 × 1.331

=> Rs. 13310

CI = 13310 - 10000 = 3310

The answer is 3310

Q58. Answer: (b) 35 : 76

Calculation

The number of laptops sold by A = 18% of 11200 = 2016

The number of Dell laptops sold by A = 2016 × 5/9 = 1120

The number of laptops sold by C = 20% of 11200 = 2240
The number of HP laptops sold by C = 2240 × 4/5 = 1792
The number of laptops sold by D = 12% of 11200 = 1344
The number of HP laptops sold by D = 1344 × 10/21 = 640
The ratio = 1120 :(1792 + 640) = 1120: 2432
= 35: 76
The answer is 35:76

Q59. Answer: (c) 5 km/h

Formula used
The speed of the current = (downstream speed - upstream speed)/2
Calculation
Applying the above formula:
The speed of the current = (downstream speed - upstream speed)/2 = (35 - 25)/2
= 5 km/hr
The answer is 5 km/hr

Q60. Answer: (b) 8, 9, 7

Concept used
Divisors of the number will also be the factors of the number
Calculation
$2520 = 2^3 \times 3^2 \times 5 \times 7$
Hence 8, 9 and 7 will all be the divisors of the number.

Q61. Answer: (c) 15°

Given:
The unequal angle is five times the sum of the equal angles
Concept used:
The sum of the angles of the triangle is 180°.
Calculation:
Let the two equal angles be x.
The unequal angle = 5(x + x) = 10x
=> 10x + x + x = 180
=> 12x = 180
x = 15
Each equal angle is 15°

Q62. Answer: (d) 1,500

Given:
A man sold his goods at a loss of 10%.
Had he sold it for Rs 270 more, he would have gained 8%.
Formula used:
Selling price = cost price (100 + profit)/100
Selling price = cost price (100 – loss)/100
Calculation:
Let the cost price of the watch be x
At a loss of 10%
Selling price = x(100 – 10)/100
=> 90x/100
According to the question,
Had he sold it for Rs 270 more, he would have gained 8%.
=> (100 + 8)x/100 – 90x/100 = 270
=> (108 – 90)x/100 = 270

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=> 18x = 27000 = 1500

The answer is 1500

Q63. Answer: (d) 1

Formula used

Cos(90 - θ) = sinθ

Tan = 1/cotθ

Calculation

Cos(90 - 25) = sin 25º

cos65º = sin25º

Similarly, cos55º = sin35º

(cos 65°)/(sin 25°) + (cos 55°)/(sin 35°) - tan 50°cot 50°

=> sin25º/sin25º + cos55º/cos55º - tan 50° × 1/tan 50°

=> 1 + 1 - 1 = 1

The answer is 1

Q64. Answer: (d) 153

Given:

Inlet pipe fills tank in 51 hours.

Outlet pipe empties tank in 76.5 hours.

Concept Used:

Rate of filling/emptying tank by pipes when working together = Rate of inlet pipe - Rate of outlet pipe.

Calculation:

Rate of inlet pipe: 1/51 tank/hour

Rate of outlet pipe: 1/76.5 tank/hour

Net rate when both pipes are open:

=> 1/51 - 1/76.5

=> 1.5 - 1 / 76.5

=> 0.5 / 76.5 = 1/153 tank/hour

Hence, the tank will be completely filled in 153 hours when both pipes are open.

Alternate Method Formula used

Time taken = (Inlet duration × Outlet duration)/Time difference

Calculation

Applying the above formula:

Time taken = (76.5 × 51)/25.5 = 153 hours

The answer is 153 hours.

Q65. Answer: (d) 40

Given:

Profit = 5%

He offered a discount of 25%

Formula used:

MP/CP = (100 + P)/(100 - D)

Profit% = (selling price - cost price)/cost price × 100

Calculation:

MP/CP = (100 + P)/(100 - D)

MP/CP = 105/75 = 7/5

% over CP = (7 - 5)/5 × 100 = 40%

The answer is 40%

Q66. Answer: (d) 0

Formula used

Cos(90 - θ) = sinθ

Calculation

Cos(90 - 65) = sin 65º

cos²25º = sin² 65º

(Cos² 25°-Sin² 65°)/(Cos² 25°+Sin² 65°)

=> cos225º - sin2 65º = sin2 65º - sin2 65º = 0

The answer is 0.

Q67. Answer: (b) 13 cm

Given:

The length of the chord of a circle is 24 cm, and the perpendicular distance between the centre and the chord is 5 cm.

Concept used:

Chord Length Using Perpendicular Distance from the Center = 2 × √(R² - d²)

(Where r = radius of the circle, d = distance between the centre and the chord)

Calculation:

Let the radius of the circle be R.

Here,

AB = 24 cm long chord

OD = Perpendicular distance between the centre and chord

OB = Radius

According to the concept,

24 = 2 × √(R2 - d2)√√√

=> 12 = √(R2 - d2)√√√

=> 144 = R² - 5²

=> R² = 169

=> R = 13

Therefore The radius of the circle is 13 cm.

Q68. Answer: (d) 5,400

Given

Time = 6 years

Rate = 5%

Formula used

Instalment = [Due amount × 100] / [100t + rt(t – 1) /2]

Calculation

Instalment = [Due amount × 100] / [100t + rt(t – 1) /2]

=> 800 = [D × 100] / [600 + (5 × 6 × 5) /2]

=> 800 = 100D/675

=> D = 8 × 675 = 5400

Therefore Debt amount = Rs. 5400

The answer is 5400

Q69. Answer: (b) 10

Given:

x² - 11x + 1 = 0

Concept used:

If x + 1/x = p then x² + 1/x² = p² - 2

Calculation:

On dividing x² - 11x + 1 by x we get,

=> x - 11 + 1/x = 0

=> x + 1/x = 11

=> x² + 1/x² = (11)² - 2

=> x² + 1/x² = 121 - 2

x2 + 1/x2 = 119

Squaring both sides
=> x4 + 1/x4 = 14161 - 2 = 14159
x8 - 14159x4 + 11
=> x^4(x^4 - 14159) + 11
=> x4(x4 - x4 - 1/x4) + 11
=> x4(- 1/x4) + 11
=> -1 + 11 = 10
The answer is 10.

Q70. Answer: (a) 94

Given:
a + b + c = 16,
ab + bc + ac = 81
Concept used:
$(a + b + c)^2 = a2 + b2 + c2 + 2 \times (ab + bc + ac)$
Calculation:
a + b + c = 9
=> $(a + b + c)^2 = 16^2$
=> a2 + b2 + c2 + 2 × (ab + bc + ac) = 256
=> a2 + b2 + c2 + 2 × (81) = 81
=> a2 + b2 + c2 = 256 - 162 = 94
The answer is 94.

Q71. Answer: (d) 9

Given:
3 and 27
Concept used:
Mean Proportion = √(a × b)
Calculation:
Mean Proportion = √(3 × 27)
Mean Proportion = √(81) = 9
Therefore The mean proportion of 3 and 27 is 9.

Q72. Answer: (d) 12 cm

Given:
The radii of both circles are 9 cm and 4 cm
Both circles touch each other at point A externally
PQ is the common tangent of both circles.
Calculations:
Length of a direct common tangent, when 2 circles are touching externally,
=> $\sqrt{[d^2 - (R - r)^2]}$
where D is the distance between 2 centres
R and r are 2 radii of circles
Calculation:
Using the formula, we get
=> $\sqrt{[132 - (9 - 4)^2]}$
=> √144 = 12
Therefore The length of PQ = 12 cm.

Q73. Answer: (b) 3 : 2

Calculation
The companies having more demand than production are A, C and E.
The companies having more production than demand are B and D

The ratio = 3: 2

The answer is 3: 2

Q74. Answer: (c) 4(ab + bc + ac)

Formula used

$(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$

Calculation

(a + b + c)2 - (a - b + c)2 + 4 ac

=> a2 + b2 + c2 + 2(ab + bc + ca) - [a2 + b2 + c2 - 2ab - 2bc + 2ca)] + 4ac

=> a2 + b2 + c2 + 2(ab + bc + ca) - a2 - b2 - c2 + 2ab + 2bc - 2ca + 4ac

=> 2ab + 2bc + 2ab + 2bc + 4ac

=> 4(ab + bc + ca)

The answer is 4(ab + bc + ca)

Q75. Answer: (c) Third offer

Given:

A company offers four types of successive discounts:

I. 25% and 15%

II. 30% and 10%

III. 35% and 5%

IV. Both 20% each

Formula used:

Overall discount formula = (a + b - ab/100×?100×?100)%

Calculation:

I. Offer for 25% and 15%

Overall discount = (25 + 15 - (25 × 15)/100×15100×15100)% = 36.25%

II. Offer for 30% and 10%

Overall discount = (30 + 10 - (30 × 10)/100)% = 37%

III. Offer for 35% and 5%

Overall discount = (35 + 5 - (35 × 5)/100×15100×15100)% = 38.25%

IV. Offer for 20% and 20%

Overall discount = (20 + 20 - (20 × 20)/100×15100×15100)% = 36%

On comparing the above result, It can be inferred that,

Therefore The third offer is best for customers.

Q76. Answer: (b) Being absent minded

The solution is in Hindi. Read it online.

Q77. Answer: (b) enumerate

The solution is in Hindi. Read it online.

Q78. Answer: (c) BADCE

The correct answer is "BADCE".

Key Points

- B. the last two years -
- This is establishing a timeframe within which something happened.
- This makes sense to start the sentence, so we know when the events occurred.
- A. have seen a major blow -
- This is stating the experience of whoever or whatever the sentence is about.
- "Have seen a major blow" means that they have been hit hard or badly affected by something.
- As it is phrased as an effect, it should follow a subject.
- D. to the world’s economy and -
- It seems to refer to the subjects that were negatively affected.
- This clause should precede A to establish what was affected.

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• C. people and lower-income countries -
• This clause specifies other entities that have been affected.
• Ideally, it should come after the things that were affected were mentioned.
• Since D already mentions the world's economy, this clause completes the subjects which have seen the major blow.
• E. were hit particularly hard -
• This finishes the sentence by specifically focusing on how badly "people and lower-income countries" were affected.
• Therefore, the sentence correctly structured appears as follows:
• The last two years have seen a major blow to the world's economy and people, and lower-income countries were hit particularly hard.

So, the correct sequence is "Option 3".

Q79. Answer: (a) Insert

The solution is in Hindi. Read it online.

Q80. Answer: (c) continued to study for his upcoming exam

The correct answer is "continued to study for his upcoming exam."

Key Points

• The sentence contains a tense inconsistency.
• The first part of the sentence is in the past tense ("Although he was exhausted from working all day"), but the second part shifts to the present tense ("John continues to study for his upcoming exam").
• The correction ensures that the verb "continued" agrees in tense with the past tense in the first part of the sentence ("he was exhausted").
• The correct answer is option 3.

Correct sentence: Although he was exhausted from working all day, John continued to study for his upcoming exam.

Q81. Answer: (d) Mollification

The solution is in Hindi. Read it online.

Q82. Answer: (d) Equalities

The solution is in Hindi. Read it online.

Q83. Answer: (d) imitated

The solution is in Hindi. Read it online.

Q84. Answer: (c) Philolegy

The solution is in Hindi. Read it online.

Q85. Answer: (c) grace

The solution is in Hindi. Read it online.

Q86. Answer: (c) Were this boy

Here, the erroneous part is "Were this boy."

Key Points

• The error lies in the part "Were this boy."
• The error is in the subject-verb agreement.
• According to the subject-verb agreement, a singular subject always takes a singular verb, and a plural subject takes a plural verb.
• The sentence should begin with "Was" instead of "Were" as the subject is singular (boy).
• The correct answer is Option 3.

Correct sentence: Was this boy washing his clothes yesterday when the matron came for a regular round?

Q87. Answer: (b) did not call

The correct answer is "did not call."

Key Points

• The error lies in the uniformity of the tenses.
• The sentence is in the past tense, so the correct verb form is the past simple.
• "Had not call" is the present perfect tense.

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• "Did not call" is the correct past simple form of "not call."
• The correct answer is Option 2.
Correct sentence: My parents did not call me yesterday.

Q88. Answer: (d) This phone is inferior to that one.

The correct answer is "This phone is inferior to that one."
Key Points
• "Inferior" is a comparative adjective, so it needs to be followed by "to" when comparing two things.
• "Than" is used to make comparisons with adjectives that are not comparative, such as "better" or "worse."
• "More inferior" is redundant because "inferior" already implies a lower quality.
• "Of" is not the correct preposition to use when making comparisons.
• We always use comparative adjectives (like inferior) with "than" or "to" to show comparison.
• Example: The performance of the new model is inferior to that of its predecessor in terms of speed and efficiency.
• The correct answer is Option 4.

Q89. Answer: (c) prefigure

The solution is in Hindi. Read it online.

Q90. Answer: (c) bibliophile

The solution is in Hindi. Read it online.

Q91. Answer: (d) Green-eyed

The solution is in Hindi. Read it online.

Q92. Answer: (b) found everywhere in a huge amount

The correct answer is "found everywhere in a huge amount."
Key Points
• The original sentence uses "at everyplace" which is not grammatically correct. "Everywhere" should be used instead.
• The phrase "in huge amount" should come after "everywhere" to indicate the quantity of apricots available.
• The correct verb form is "found" which is in the past tense and agrees with the subject "apricot".
• The correct preposition to use is "in" to indicate that apricots are available in Kinnaur.
• The correct answer is Option 2.
Correct sentence: The most important fruit in Kinnaur is apricot. It is found everywhere in a huge amount.

Q93. Answer: (a) D, B, E, A, C

The correct answer is "D, B, E, A, C."
Key Points
• The sentence talks about a mean man named Mr. Douglas. So, the first pair must be DB.
• Part E specifies the relative clause about the subject "Mr. Douglas", so the next part must be E.
• Part A specifies the details about the floor, so the next part must be A.
• The last part must be C as it provides an object to the sentence.
• The correct answer is Option 1.
• Correct sentence:
D) There is a very mean, B) nasty man named Mr. Douglas E) who lives on the A) fourth floor of C) an apartment building.

Q94. Answer: (a) Are you still loved by her?

The correct answer is "Are you still loved by her?"
Key Points
• The given sentence is in active voice, where the subject "Basus" is performing the action of visiting.
• To convert it into passive voice, we need to make the object "you" the subject and add a form of "be" before the past participle "loved."
• The resulting sentence will have the object "her" after "by", indicating who performed the action.
• Also, the verb is placed before the subject in the Passive Voice.
• Structure:
• Do/does + Subject + V1 + Object? (Active Voice)

• Is/am/are + Object + V2 + by + Subject? (Passive Voice)
• Example:
• Does Rahul love his parents? (Active)
• Are the parents loved by Rahul? (Passive)
• The correct answer is Option 1.

Therefore, the correct answer is: Are you still loved by her?

Q95. Answer: (a) It is time for the tea to be taken

The correct answer is "It is time for the tea to be taken."

Key Points

• The sentence is in active voice with the subject "it" and the verb "to take."
• To convert it into passive voice, we need to make the object (tea) the subject and use the passive form of the verb "to take" (be taken).
• Structure:
• It is time to + V1 + Object. (Active Voice)
• It is time for + Object + to be V3. (Passive Voice)
• Example:
• It is time to play cricket. (Active Voice)
• It is time for cricket to be played. (Passive Voice)
• The correct answer is Option 1.

Correct sentence: It is time for the tea to be taken.

Q96. Answer: (a) be

The correct answer is "be."

Key Points

• The sentence requires a present tense verb to fit grammatically.
• "Be" is the present tense form of the verb "to be."
• Example: "I will be going to the store later."
• The correct answer is option 1.
• Correct passage:

I know these authors to be outstanding individuals and remarkable teachers and consultants and have even ____ 2 __ them work their magic in training seminars, but I didn't know if they __ 3 __ take this complex topic and fit into a book. They did. I __ 4 __ you to really dig into this material, to pause and think deeply about each part and how the parts are __ 5 ____.

Q97. Answer: (a) seen

The correct answer is "seen."

Key Points

• In this sentence, the verb tense requires the past participle form of the verb "see."
• Structure: Subject + have + V3
• The past participle of "see" is "seen," which makes Option 1 the correct answer.
• Example: I have seen that movie before.
• The correct answer is Option 1.
• Correct passage:

I know these authors to be outstanding individuals and remarkable teachers and consultants and have even seen them work their magic in training seminars, but I didn't know if they ____ 3 __ take this complex topic and fit into a book. They did. I __ 4 __ you to really dig into this material, to pause and think deeply about each part and how the parts are __ 5 ____.

Q98. Answer: (d) could

The correct answer is "could."

Key Points

• The verb "could" is the most appropriate choice to fill in the blank in this sentence.
• "Could" is the past tense of "can" and is used to indicate ability or possibility in the past.
• Example: I could help you.
• The other options do not fit grammatically or contextually in the sentence.

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• The correct answer is Option 4.

• Correct passage:

I know these authors to be outstanding individuals and remarkable teachers and consultants and have even seen them work their magic in training seminars, but I didn't know if they could take this complex topic and fit into a book. They did. I ____ 4 __ you to really dig into this material, to pause and think deeply about each part and how the parts are __ 5 ____.

Q99. Answer: (c) encourage

The solution is in Hindi. Read it online.

Q100. Answer: (b) sequenced

The solution is in Hindi. Read it online.

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