SSC CHSL Tier-1 2022: Official Paper (Held On: 10 March, 2023 Shift 4) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2022 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Select the option in which the numbers share the same relationship in set as that shared by the numbers in the given 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)

(7, 559, 6)

(8, 637, 5)

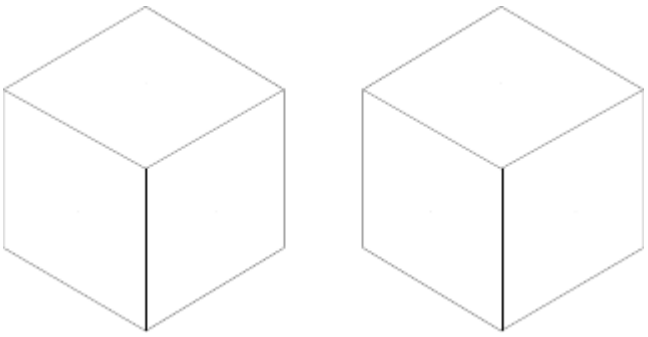
(a) (9, 1241, 8)
(b) (8, 755, 7)
(c) (10, 1729, 8)
(d) (11, 1115, 6)

Q2. Arrange the given words in the sequence in which they occur in the dictionary.

1. Heal
2. Head
3. Health
4. Heap
5. Heat

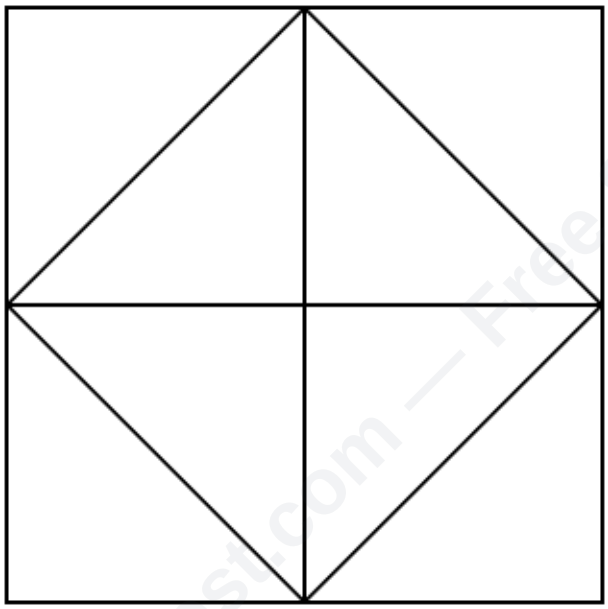
(a) 1,4,2,5,3
(b) 1,4,2,3,5
(c) 2,1,3,5,4
(d) 2,1,3,4,5

Q3. Two positions of a dice are given below. What will come on the face opposite to the face containing '5' on it?



(a) 2
(b) 1
(c) 6
(d) 3

Q4. Find the total number of triangles in the given figure.



(a) 9
(b) 13
(c) 11
(d) 12

Q5. In a certain code language, 'HAWK' is coded as '8256', 'INKS' is coded as '5497', 'GUNK' is coded as '1935', 'HSGA' is coded as '4326'. What can be the code for 'GKA' in that code language?

(a) 456
(b) 356
(c) 859
(d) 357

Q6. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(6, 121, 17)

(38, 576, 14)

(a) (9, 81, 18)
(b) (9, 77, 8)
(c) (4, 81, 7)
(d) (29, 4, 58)

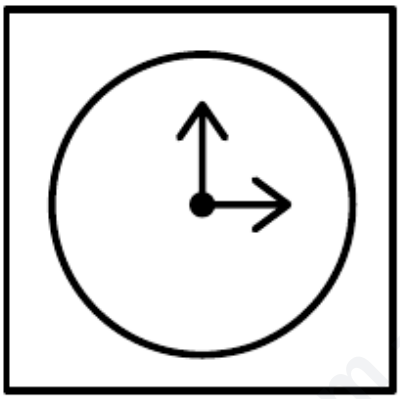
Q7. In the following question, select the missing number from the given series.

153, 202, 251, 300, ?, 398

(a) 351
(b) 350
(c) 348
(d) 349

Q8. Select the correct mirror image of the given figure when the mirror is placed to its right side.

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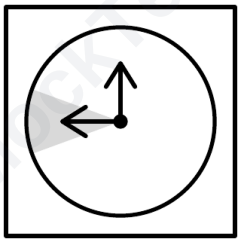


A

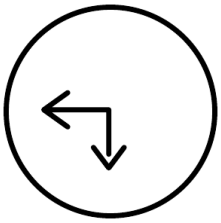


B

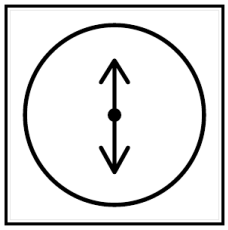
(a)



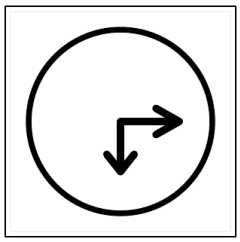
(b)



(c)



(d)



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Q9. If 7 F 6 F 1 = 176 and 8 F 2 F 4 = 482, then 3 F 1 F 8 = ?

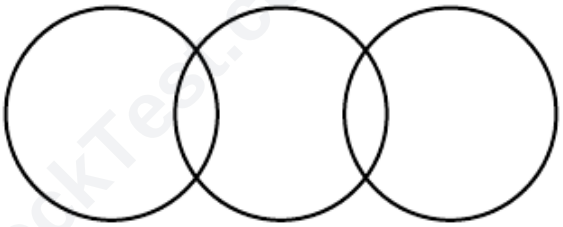
(a) 381
(b) 318
(c) 813
(d) 831

Q10. In the following question, select the odd word pair from the given alternatives.

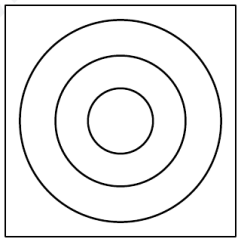
(a) Nest – Bird
(b) Palace – King
(c) Cottage – Peasant
(d) Lion – Den

Q11. Select the Venn diagram that best represents the relationship between the following classes.
Mothers, Husbands and Males

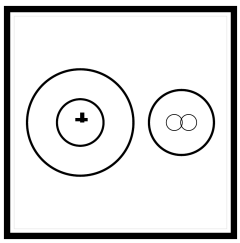
(a)



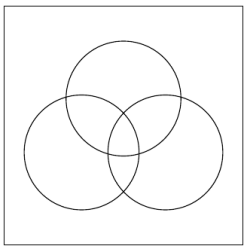
(b)



(c)



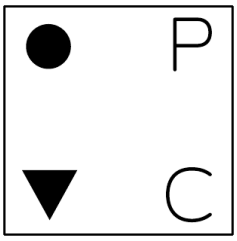
(d)



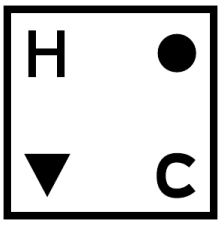
Q12. Select the figure from the given options that can replace the question mark (?) in the following series.



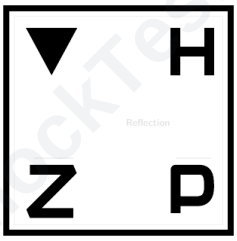
(a)



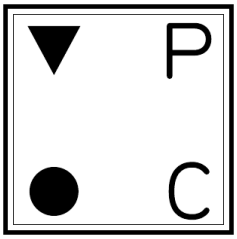
(b)



(c)



(d)



Q13. In the following question some statements are given, followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.

Statements:

I. No P is Q.

II. All Q are R.

Conclusion:

I. Some R are Q.

II. Some Q are P.

III. Some p are R.

(a) All conclusion follows

(b) Only conclusion I follows

(c) Only conclusion II follows

(d) Only conclusion III follows

Q14. In the following question, four number pairs are given. In each pair the number on left side of (–) is related to the number of the right side of (–) with some Logic/Rule /Relation. Three pairs are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits.

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E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(a) 81962457 – 75426918
(b) 321645281 – 812546123
(c) 715623 – 326517
(d) 65428 – 82456

Q15. Pointing towards a photo of a lady, Navneet said, “She is the sister of my sister’s mother”. How that lady is related to Navneet?

(a) Mother
(b) Grandmother
(c) Maternal aunt
(d) Mother-in-law

Q16. Select the option that is related to the third term on the same basis as the second term is related to the first term.

Law of Motion : Issac Newton :: Theory of Relativity : ?

(a) James Chadwick
(b) John Dalton
(c) J.J. Thomson
(d) Albert Einstein

Q17. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

RQMR, YVVC, FAEN, MFNY, ?

(a) TKWJ
(b) TKWO
(c) TMQM
(d) TMNO

Q18. Select the option in which the number-pair shares the same relationship as that is shared by the following number-pair.

38 : 76

(a) 41 : 81
(b) 35 : 68
(c) 23 : 45
(d) 42 : 84

Q19. In the following question, select the odd letter/letters from the given alternatives.

(a) XAEJ
(b) NQUZ
(c) DGKP
(d) GJNT

Q20. Words given on the left side of (::) are related with each other by some Logic/Rule /Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/Relation.

Ohm : Electric Resistance :: ?

(a) Power : Watt
(b) Volume : Litre
(c) Seconds : Time
(d) Pascal : Current

Q21. In the following question, select the related letters from the given alternatives.

AN: ER:: BO:?

(a) GT
(b) LM

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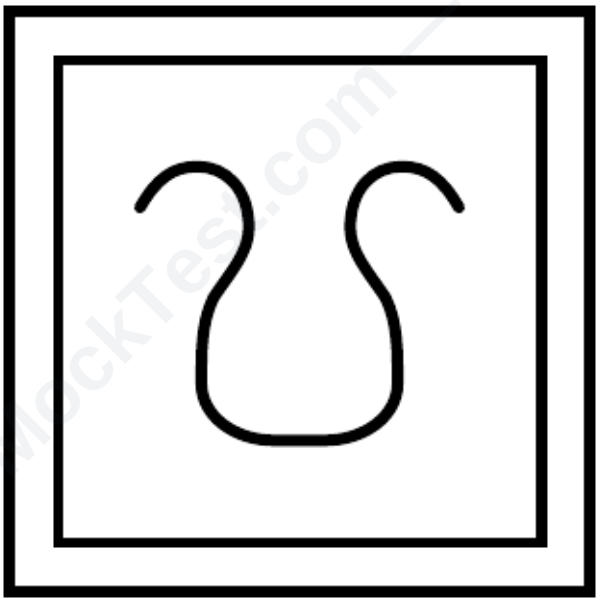
(c) XS
(d) FS

Q22. Which two numbers (not digits) should be interchanged to make the given equation correct?

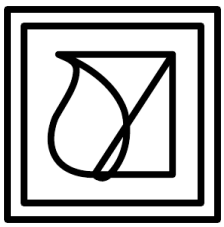
8 × 6 + 12 ÷ 2 - 4 = 14

(a) 8 and 6
(b) 2 and 4
(c) 2 and 6
(d) 12 and 14

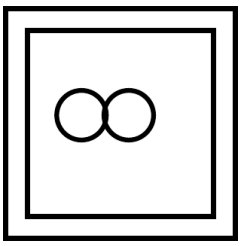
Q23. Select the option figure in which the given figure is embedded. (Rotation is NOT allowed).



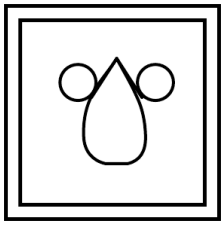
(a)



(b)

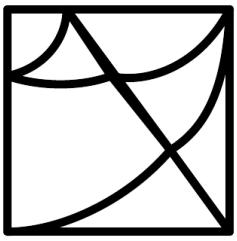


(c)



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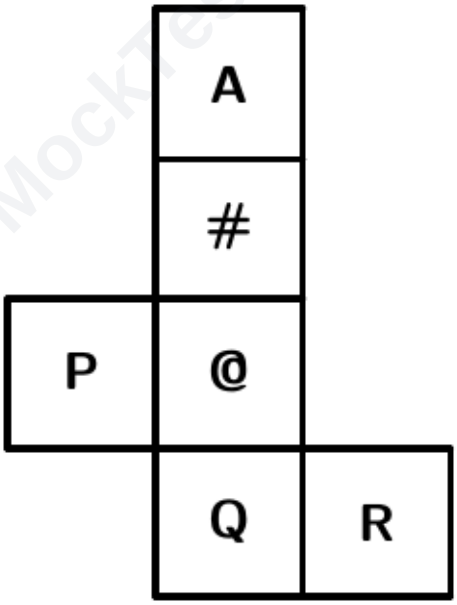
(d)



Q24. In a certain code language, ‘CHEWER’ is coded as ‘HAJPJK’. What is the code for ‘HANDER’ in that code language?

(a) MTSJWK
(b) MTSWJK
(c) MSTWJK
(d) MNSWJK

Q25. A cube is made by folding the given sheet. In the cube so formed, which letter/symbol will be on the face opposite to the face showing 'Q'?



(a) P
(b) #
(c) R
(d) A

GENERAL INTELLIGENCE

Q26. From which country's constitution no feature has been taken in the constitution of India?

(a) United States of America
(b) Britain
(c) China
(d) France

Q27. Anant's mother advised him to not sleep under the trees at night as trees release _____ at night.

(a) Methane
(b) Carbon Dioxide
(c) Nitrogen
(d) Oxygen

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Q28. In which year was the Pitt's India Act passed?

(a) 1819
(b) 1901
(c) 1857
(d) 1784

Q29. Which among the following issues are abolished by the Article 17 of the Indian constitution?

(a) Untouchability
(b) Racism
(c) Slavery
(d) Colourism

Q30. By which of the following process does a solid substance is directly converted into gas?

(a) Deposition
(b) Sublimation
(c) Vaporisation
(d) Fusion

Q31. Sam wants to share his presentation with larger audience via emails. Which feature of MS PowerPoint 365 can he use for it?

(a) Save As
(b) Print
(c) Share
(d) Info

Q32. Which of the following is not an important river of Malwa plateau?

(a) Chambal river
(b) Mahanadi river
(c) Ken river
(d) Betwa river

Q33. In India, trees of which forest type shed their leaves for about six to eight weeks in dry summer?

(a) Tropical Deciduous Forests
(b) Tropical Evergreen Forests
(c) Montane Forests
(d) Tropical Thorn Forests and Scrubs

Q34. Sanchi stupa is located in which states?

(a) Maharashtra
(b) Bihar
(c) Madhya Pradesh
(d) Gujarat

Q35. Which among the following has written the book 'The Pregnancy Bible'?

(a) Vidhya Balan
(b) Shilpa Shetty
(c) Rani Mukherjee
(d) Kareena Kapoor

Q36. Who won the women's singles title at Wimbledon 2022?

(a) Danielle Collins
(b) Elena Rybakina
(c) Ons Jabeur
(d) Ashleigh Barty

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Q37. Who founded Trinamool Congress in 1998 and became its Chairperson, after separating from the Indian National Congress?

(a) Jayaram Jayalalithaa
(b) Kanimozhi
(c) Supriya Sule
(d) Mamata Banerjee

Q38. Which of the following pairs of "tournament – format" is correct?

I. Syed Mushtaq Ali Trophy – T20
II. Vijay Hazare Trophy – 50 overs

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

Q39. The National Payments Corporation of India was set up under the provisions of which Act?

(a) The SARFAESI Act, 2002
(b) Payment and Settlement Systems Act, 2007
(c) Government Securities Act, 2006
(d) Companies Act, 2013

Q40. Which of the following statements is correct regarding the socialist society in the economy?

I. The government decides what goods are to be produced.
II. Distribution of goods under socialism is supposed to be based on what people need.

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

Q41. Natural language processing (NLP) is a branch of artificial intelligence that helps computers _____ human language.

I. understand
II. Interpret
III. manipulate

(a) I, II and III
(b) only I and III
(c) only I and II
(d) only II and III

Q42. Which among the following teams was defeated in the Asia Cup Finals 2022?

(a) Pakistan
(b) Sri Lanka
(c) Afghanistan
(d) India

Q43. Harnaaz Kaur Sandhu is an Indian model and beauty pageant titleholder who was crowned _____ 2021.

(a) Miss Asia
(b) Miss World
(c) Miss Universe
(d) Miss Teen Worldwide

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Q44. Which of the following statement is NOT correct? (As of March 2023)

(a) Mahendragiri is the highest peak in the Eastern Ghats.
(b) The height of the Western Ghats progressively decreases from north to south.
(c) The Western Ghats cause orographic rain.
(d) The Eastern Ghats stretch from the Mahanadi Valley to the Nilgiris in the south.

Q45. India is the ____ producer of pulses and the ____ consumer of pulses

(a) second largest, second largest
(b) largest, second largest
(c) Second largest, largest
(d) largest, largest

Q46. Which of the following is not a subgroup of plant kingdom?

(a) Thallophyta
(b) Angiosperms
(c) Pteridophyta
(d) Hemichordata

Q47. In India, National Statistics Day is celebrated on _____.

(a) 22^(nd) June
(b) 15^(th) June
(c) 28^(th) June
(d) 29^(th) June

Q48. The Bureau of Indian Standard is a statutory body working under the aegis of which union ministry?

(a) Ministry of Commerce and Industry
(b) Ministry of Micro, Small & Medium Enterprises
(c) Ministry of Corporate Affairs
(d) Ministry of Consumer Affairs, Food and Public Distribution

Q49. Ruler of which dynasty built the famous Iron pillar in Delhi?

(a) Gupta
(b) Pallava
(c) Maurya
(d) Pushyabhuti

Q50. Which among the following festivals marks the birthday of a great Buddhist saint Je Tsongkhapa?

(a) Sarhul
(b) Losar
(c) Tusu
(d) Galdan Namchot

QUANTITATIVE APTITUDE

Q51. If sin x = cos 40°.sin 50° + sin 40°.cos 50°, then what is the value of x?

(a) 45 degree
(b) 90 degree
(c) 30 degree
(d) 0 degree

Q52. If tan 2A = cot (46° - A), then what is the value of A?

(a) 2 degree
(b) 16 degree
(c) 8 degree
(d) 44 degree

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Q53. Two places B1 and B2 are 500 km apart from each other. Sonit and Robin start moving from B1 towards B2 at the same time. After reaching B2, they return back to B1. Speed of Sonit is 80 km/hr more than the Robin. If they meet after 6 hours, then which of the following statement(s) is/are correct?

I. Distance covered by Sonit is 600 km.

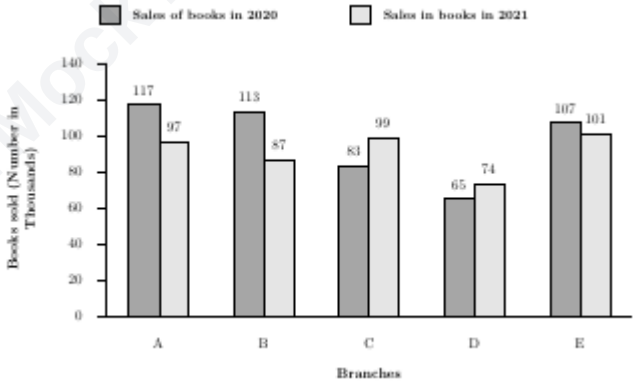
II. Speed of Robin is 120/3 km/hr.

(a) Only I
(b) Both I and II
(c) Neither I and II
(d) Only II

Q54. The radius of a circle is 50 cm. The distance of a chord AB from the centre of this circle is 14 cm. What is the sum of chord AB and the diameter of this circle?

(a) 186 cm
(b) 192 cm
(c) 188 cm
(d) 196 cm

Q55. The following bar graph shows the sales of books (in thousand) from 5 different branches of a company in the years 2020 and 2021. Average sales of branches A, B and C in 2020 is what percent of average sales of branches C, D and E in 2021?



(a) 97.5 %
(b) 122.4 %
(c) 114.23 %
(d) 110.6 %

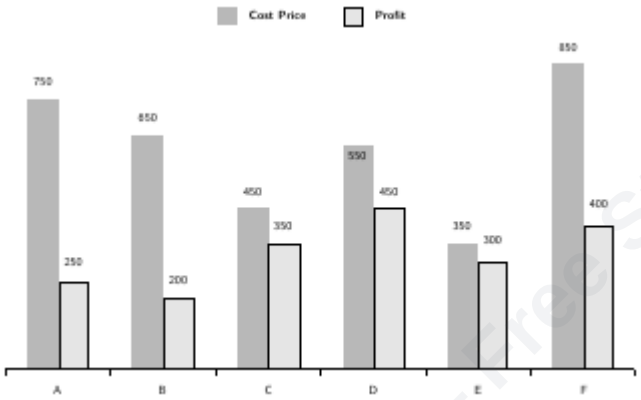
Q56. If $x^2+1/(x^2)=51$, then what is the value of $(x^2-1)/x$?

(a) 8
(b) 7
(c) 6
(d) 9

Q57. ΔPQR is a right-angled triangle. Angle PQR = 90° and QS ⊥ PR. If PQ = 6 cm and PS = 4 cm, then find the length of QS.

(a) 2√5 cm
(b) 3 cm
(c) 6 cm
(d) 5 cm

Q58. The bar graph given below shows the cost price and value of profit of 6 articles A, B, C, D, E and F.



Selling price = Cost price + Profit

P1 = The difference between the total cost price and total profit.

P2 = The difference between the total cost price of A and B and the total selling price of E and F

What is the value of (P1 - P2)?

(a) 1650
(b) 1360
(c) 1150
(d) 1050

Q59. In triangle PQR, angle P is the largest angle and angle P = 80 degree. If the ratio of the angle is 4 : 3 : 2, then what will be the smallest angle?

(a) 40 degree
(b) 30 degree
(c) 50 degree
(d) 45 degree

Q60. A company sells Rs. 85,000 T.V. set for Rs. 68,000 as a world cup offer. What is the percentage discount offered by the company?

(a) 35%
(b) 20%
(c) 30%
(d) 40%

Q61. If a number 2x64y is completely divisible by 88, then what is the value of 6x - 5y?

(a) -34
(b) -40
(c) 18
(d) 38

Q62. Simple interest on a sum for 5 years is equal to 20 percent of the principal. In how many years interest will be equal to the principal?

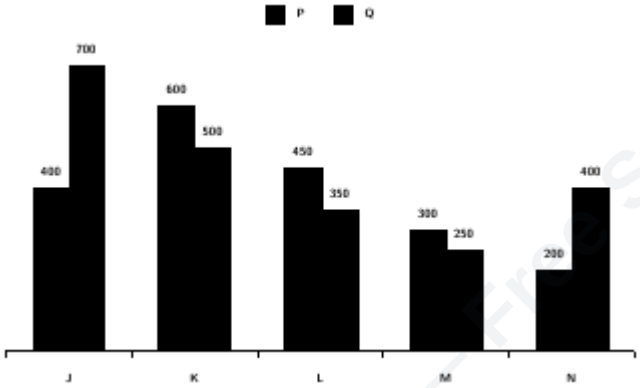
(a) 12 years
(b) 20 years
(c) 25 years
(d) 24 years

Q63. The ratio of the number of boys and girls in a college is 3 : 2. If 40 boys leave the college and 40 girls join the college, then their ratio will become 2 : 3. What is the initial number of boys in the college?

(a) 120
(b) 150
(c) 225
(d) 75

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Q64. The bar graph given below shows the population of two states P and Q in 5 years.



The population of P in year M and N together is how much percent less than the population of Q in year K and L together?

(a) 70 percent
(b) 31.56 percent
(c) 90 percent
(d) 41.17 percent

Q65. What is the value of $(103^2-101^2)/102$?

(a) 8
(b) 2
(c) 4
(d) 16

Q66. Average of 17 consecutive natural numbers is 41. What is the smallest number among these numbers?

(a) 27
(b) 29
(c) 35
(d) 33

Q67. If A can complete 2/3 of a work in 60 days, then A will complete 1/5 of the same work in how many days?

(a) 18 days
(b) 15 days
(c) 20 days
(d) 12 days

Q68. There is a rectangular garden of 240 metres × 80 metres. A path of width 4 metres is build outside the garden along its four sides. What is the area of the path?

(a) 2826 metre²
(b) 2542 metre²
(c) 2916 metre²
(d) 2624 metre²

Q69. Two of the angles of a scalene triangle are 40° and 62°. What is the measure of the third angle?

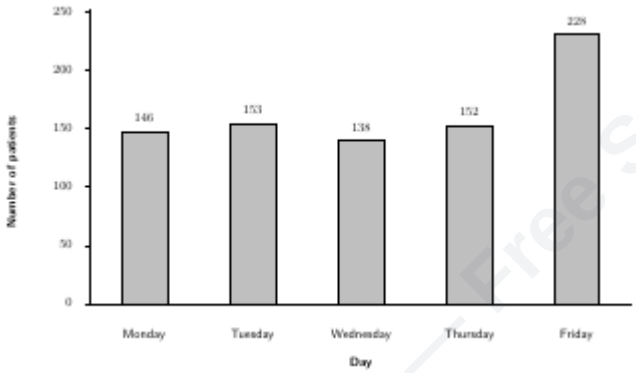
(a) 102°
(b) 78°
(c) 90°
(d) 88°

Q70. If $\tan 8x = \cot 2x$, where $0°<8x<90°$, then what is the value of $\tan 5x$?

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

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Q71. The bar graph shows the number of patients visiting the hospital on different days of the week. Calculate the ratio of total number of patients on Monday and Wednesday to Thursday.



(a) 28 : 17
(b) 82 : 79
(c) 71 : 38
(d) 81 : 52

Q72. Find the value of $p^3 - r^3$, if $p + r = 21$, and $pr = 38$.

(a) 6538
(b) 6113
(c) 6102
(d) 6851

Q73. Raj spends 10 percent of his money. He deposits 70 percent of the remaining money in the bank. If Rs. 2646 remains with him, how much money did he initially have?

(a) Rs. 9500
(b) Rs. 8500
(c) Rs. 8800
(d) Rs. 9800

Q74. An article was sold for Rs. 4,270 at a loss of 50% of the cost price. Find the selling price of the article if it is sold for a profit of 40%.

(a) Rs. 12,857
(b) Rs. 13,699
(c) Rs. 11,788
(d) Rs. 11,956

Q75. What is the total number of factors of the number 720 except 1 and the number itself?

(a) 29
(b) 27
(c) 32
(d) 28

GENERAL AWARENESS

Q76. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

For old time's sake

(a) To consider the options
(b) Deliberately stop someone
(c) To be friends with an old person
(d) Because of sentimental memories of the past

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Q77. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.

A cloth merchant has been stabbed in broader daylight over a rupee.

(a) stab in broad
(b) No improvement
(c) stabs in broadly
(d) stabbed in broad

Q78. Choose the sentence with no spelling error.

(a) Marinate your proteins ahead of time.
(b) Marinate your proteins aheade of time.
(c) Marinatte your proteins ahead of time.
(d) Marinate your protiens ahead of time.

Q79. Fill in the blank with an appropriate option.

Have you ever wondered how this machine _____?

(a) deeds
(b) clubs
(c) works
(d) brings

Q80. Rearrange the parts of the sentence in correct order.

Flick through the

P. image gallery on your phone, or fast forward

Q. with little or no effort on your part

R. how the briefly presented images trigger memories

S. through a previously watched movie, and notice

(a) RSQP
(b) PSRQ
(c) PQRS
(d) PRSQ

Q81. Choose the word that means the same as the given word.

Eccentric

(a) Familiar
(b) Garden
(c) Wonted
(d) Idiosyncratic

Q82. Select the word that is opposite in meaning (ANTONYM) to the word given below.

Wane

(a) Intensify
(b) Evanesce
(c) Diminish
(d) Contract

Q83. Choose the word that is opposite in meaning to the given word.

Delinquency

(a) Neglect
(b) Fulfilment
(c) Tardiness
(d) Default

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Q84. Choose the incorrectly spelt word.

(a) Wropes
(b) Delible
(c) Convince
(d) Rubber

Q85. Rearrange the parts of the sentence in correct order.

P. relatively warm temperatures and retreating glaciers
Q. after the initial development of glacial conditions, the Earth
R. system alternated between two modes, one of cold
S. temperatures and growing glaciers and the other of

(a) QPRS
(b) SQRP
(c) PSQR
(d) QRSP

Q86. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.

The young learners were divided on groups, according to their abilities.

(a) No error
(b) divided on groups
(c) The young learners were
(d) according to their abilities.

Q87. Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. In case no improvement is needed, select 'No improvement'.

The councillor (said that, "We plan to make the state a safer place for) everyone."

(a) said, "We plan to make the state a safest place for
(b) said, "We plan to make the state a safer place for
(c) No improvement
(d) said that, "We are planning to make the state a safe place for

Q88. Select the correct passive form of the given sentence.

Megha sends letters.

(a) Letters is sent by Megha.
(b) Letters are being sent by Megha.
(c) Letters were sent by Megha.
(d) Letters are sent by Megha.

Q89. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

Dead ringer

(a) Game of race
(b) In writing
(c) Detailed information
(d) An exact duplicate

Q90. Fill in the blank with an appropriate option.

In some places, roads were still unfinished, as were several areas where football fans are expected to _____.

(a) congregate
(b) unravel
(c) dissolve
(d) clump

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Q91. Some parts of a paragraph have been jumbled up, and labelled A, B, C and D. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct paragraph.

I clenched my jaw in glee.

A. I shook my companions awake.

B. But it was not a time for calmness.

C. When they saw my face, they feared I'd gone mad.

D. I knew what I must do.

I told them my plan.

(a) CBDA
(b) BADC
(c) DACB
(d) BCDA

Q92. Select the correct indirect form of the given sentence.

The surgeon says, “You should get anaesthesia for the surgery.”

(a) The surgeon says you should get anaesthesia for the surgery.
(b) The surgeon said that I shall get anaesthesia for the surgery.
(c) The surgeon says that I should have got anaesthesia for the surgery.
(d) The surgeon says that I should get anaesthesia for the surgery.

Q93. Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'no correction required' if the sentence is correct as given.

I waited with (some exciting) to view my sudden-found sister.

(a) more excited
(b) some excitement
(c) No correction required
(d) some what excited

Q94. Select the word that is opposite in meaning (ANTONYM) to the word given below.

Relentless

(a) Constant
(b) Persistent
(c) Intermittent
(d) Unabating

Q95. Find the part of the given sentence that has an error in it. If there is no error, choose ‘No error’.

When she feels low, she writes very careful.

(a) When she feels
(b) No error
(c) low, she writes
(d) very careful.

Directions

In the following passage some of the words have been deleted. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

Tons of fruits and vegetables are produced, processed, and (1)_____ on a daily basis so that we can buy them fresh. Many of these pieces of produce, however, never make it into stores. This is because many fruits and vegetables such as apricots, mushrooms, lettuce, and pears (2)___brown or spoil over time. This reaction is also (3) ___ enzymatic browning and is one of the largest causes of (4) _ in fruits and vegetables - even though it does not make the food harmful to eat. The name enzymatic browning comes from the (5) _____ that an enzyme within the fruit turns the fruit brown.

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

(a) dusted
(b) Slipped
(c) clipped
(d) shipped

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

(a) serve
(b) abide
(c) bend
(d) turn

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

(a) passed
(b) called
(c) become
(d) saying

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

(a) corruption
(b) spoilage
(c) ablaze
(d) kindle

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

(a) craze
(b) shape
(c) facade
(d) fact

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) (9, 1241, 8)

The logic followed here is:

Logic: (1st number)^3 + (3rd number)^3 = 2nd number.

Now,

For, (7, 559, 6)

→ (7)^3 + (6)3

=> 343 + 216 = 559.

For, (8, 637, 5)

→ (8)3 + (5)3

=> 512 + 125 = 637.

Similarly, for (9, 1241, 8)

→ (9)3 + (8)3

=> 729 + 512 = 1241.

Hence, the correct answer is "Option 1".

Q2. Answer: (d) 2,1,3,4,5

The correct order according to the English dictionary is:

To arrange the given words in the sequence in which they occur in the dictionary, we need to compare the first letters of each word.

The first letter of each word is in alphabetical order from H to H, so we move on to the second letter.

The second letter of "Head" is "e", which comes before "a" (the second letter of "Heal").

Therefore, "Head" comes before "Heal" in the dictionary order.

Next, we have "Health", which comes after "Head" and "Heal" since "a" comes before "l" and "t".

Then, we have "Heap", which comes after "Head", "Heal", and "Health" since "p" comes after "d" and "l".

Finally, we have "Heat", which comes after "Head", "Heal", "Health", and "Heap" since "t" comes after "p".

Therefore, the correct sequence of the given words in the dictionary order is:

1. Head
2. Heal
3. Health
4. Heap
5. Heat

The correct arrangement will be: '2,1,3,4,5.

Hence, the correct answer is "Option 4".

Q3. Answer: (a) 2

For find the opposite surface of '5', we need to compare the common surface in the given dices,

Now,

From the given Dice,

→ 1 is the common surface in both Dice, '6' is the opposite surface of '3' and '5' is the opposite surface of '2'.

Here, '2' is opposite to the face containing '5'.

Hence, the correct answer is "2".

Q4. Answer: (d) 12

The triangles are:

Here, there are '12' triangles in the given image.

Hence, the correct answer is "12".

Q5. Answer: (b) 356

The logic followed here is:

‘HAWK’ is coded as ‘8256’,

‘INKS’ is coded as ‘5497’,

‘GUNK’ is coded as ‘1935’,

‘HSGA’ is coded as ‘4326’

Here,

Code for 'G' is '3'.

Code for 'K' is '5'.

Code for 'N' is '9'.

Code for 'S' is '4'.

Code for 'H' and 'A' is either '2' or '6'.

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So, Code for 'GK' is '35'

Here, According to the option '356' will be the code for 'GKA'.

Hence, the correct answer is "356".

Q6. Answer: (a) (9, 81, 18)

The logic followed here is:

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

Now,

For, (6, 121, 17)

→ (6 - 17)²

=> -11² = 121.

For, (38, 576, 14)

→ (38 - 14)2

=> 242 = 576.

Similarly, for (9, 81, 18)

→ (9 - 18)2

=> -92 = 81.

Hence, the correct answer is "Option 1".

Q7. Answer: (d) 349

The logic followed here is:

Here, '349' will complete the given series.

Hence, the correct answer is "349".

Q8. Answer: (a) [figure]

The mirror image of the question figure is shown below:

Hence, the correct answer is "Option 1".

Q9. Answer: (d) 831

The logic followed here is:

Logic: Last number is place on the 1st place.

For, 7 F 6 F 1

→ 761 after interchange 176.

For, 8 F 2 F 4 = 482

→ 824 after interchange 482.

Similarly, 3 F 1 F 8 = ?

→ 318 after interchange 831.

Hence, the correct answer is "831".

Q10. Answer: (d) Lion – Den

The logic followed here is:

1. Nest – Bird - A bird typically builds or finds a nest to live in and raise its young.

2. Palace – King - A king is a monarch who typically resides in a palace, which is a grand, impressive building.

3. Cottage – Peasant - A peasant is a member of a low social class who typically lives in a simple, rural dwelling like a cottage.

4. Lion – Den - Lions do live in dens, this word pair is different from the others because it doesn't involve a living being and their dwelling place, but rather a living being and their dwelling place. Here, the sequence of analogy is not followed.

So, 'Lion–Den' is odd among the given options.

Hence, the correct answer is "Option 4".

Q11. Answer: (c) [figure]

Venn diagram according to the given information is:

Mothers, Husbands and Males

All the husband are males so they will come inside the males circle.

But

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Mothers is a different entity from them so it will come as a separate circle.

Hence, the correct answer is "Option 3".

Q12. Answer: (a) [figure]

The logic followed here is:

Step I: Letter 'H' has shifting a place in clockwise direction in next images, and lastly changed with Dotted Circle.

Step II: Letter 'O' has shifting a place in clockwise direction in next images, and changed with letter 'P'.

Step III: Symbol 'Rectangle' has shifting a place in clockwise direction in next images, and changed with letter 'C'.

Step IV: Symbol '=' has shifting a place in clockwise direction in next images, and changed with Shaded Triangle.

So, the complete series will be:

So, 'Option 1' will replace the question mark.

Hence, the correct answer is "Option 1".

Q13. Answer: (b) Only conclusion I follows

Statement:

I. No P is Q.

II. All Q are R.

The least possible diagram for the given statements is as follows:

Conclusions:

I. Some R are Q - True (All Q are R, so Some R are also Q).

II. Some Q are P - False (Because No P is Q).

III. Some P are R - False (No definite relation given between P and R, so it can be possible only).

Here, Only conclusion I follows.

Hence, the correct answer is "Option 2".

Q14. Answer: (b) 321645281 – 812546123

The logic followed here is:

Logic: The numbers given in the first sequence is written in reverse order in second sequence.

Option 1) 81962457 – 75426918

Given Numbers	**8**	**1**	**9**	**6**	**2**	**4**	**5**	**7**
Reverse order	7	5	4	2	6	9	1	8

Option 2) 321645281 – 812546123

Given Numbers	**3**	**2**	**1**	**6**	**4**	**5**	**2**	**8**	**1**
Reverse order	8	1	2	5	4	6	1	2	3

Option 3) 715623 – 326517

Given Numbers	**7**	**1**	**5**	**6**	**2**	**3**
Reverse order	3	2	6	5	1	7

Option 4) 65428 – 82456

Given Numbers	**6**	**5**	**4**	**2**	**8**
Reverse order	8	2	4	5	6

Hence, the correct answer is "Option 2".

Q15. Answer: (c) Maternal aunt

Family Chart:

Given: Pointing towards a photo of a lady, Navneet said, “She is the sister of my sister’s mother”.

So, the Lady is the Maternal Aunt of the Navneet.

Hence, the correct answer is "Option 3".

Q16. Answer: (d) Albert Einstein

The logic followed here is:

Law of Motion : Issac Newton → Issac Newton is the person who is known for his work on the Law of Motion.

Similarly,

Theory of Relativity : Albert Einstein → Albert Einstein is the person who is known for his work on the Theory of Relativity.

Therefore, the correct answer is "Option 4".

Additional InformationJames Chadwick is known for his discovery of the neutron, which helped to explain the structure of the atomic nucleus.

John Dalton is known for his work on atomic theory and the development of modern atomic theory.

J.J. Thomson is known for his discovery of the electron and his work on atomic structure.

Q17. Answer: (a) TKWJ

The logic followed here is:

So, 'TKWJ' will replace the question mark in the given series.

Hence, the correct answer is "TKWJ".

Q18. Answer: (d) 42 : 84

The logic followed here is:

Logic: 1st number × 2 = 2nd number.

Now,

38 : 76

→ 38 × 2 = 76.

Similarly, for 42 : 84

→ 42 × 2 = 84.

Hence, the correct answer is "Option 4".

Q19. Answer: (d) GJNT

The logic followed here is:

Option 1) XAEJ

Option 2) NQUZ

Option 3) DGKP

Option 4) GJNT

Here, 'GJNT' is odd among the given options.

Hence, the correct answer is "Option 4".

Q20. Answer: (c) Seconds : Time

The logic followed here is:

Ohm : Electric Resistance → Ohm is the unit of measurement for electric resistance.

Similarly,

Seconds : Time → Second is the unit of measurement for Time.

Hence, the correct answer is "Option 3".

Additional Information

Option 1) Power : Watt → Watt is the unit of measurement for power.

Option 2) Volume : Litre → Litre is the unit of measurement for Volume.

Option 4) Pascal : Current → Pascal is the unit of measurement for Pressure not Current.

Q21. Answer: (d) FS

The logic followed here is:

Here,

AN : ER

Similarly, for BO : ?

Hence, the correct answer is "Option 4".

Q22. Answer: (c) 2 and 6

Given equation: 8 × 6 + 12 ÷ 2 - 4 = 14.

BODMAS Table:

Let's check each option one by one.

Option 1) 8 and 6

Given: 8 × 6 + 12 ÷ 2 - 4 = 14

After interchanging the numbers we get;

=> 6 × 8 + 12 ÷ 2 - 4 = 14

=> 6 × 8 + 6 - 4 = 14

=> 48 + 6 - 4 = 14

=> 54 - 4 = 14

=> 50 ≠ 14

=> LHS ≠ RHS

Option 2) 2 and 4

Given: 8 × 6 + 12 ÷ 2 - 4 = 14

After interchanging the numbers we get;

=> 8 × 6 + 12 ÷ 4 - 2 = 14

=> 8 × 6 + 3 - 2 = 14

=> 48 + 3 - 2 = 14

=> 51 - 2 = 14

=> 49 ≠ 14

=> LHS ≠ RHS

Option 3) 2 and 6

Given: 8 × 6 + 12 ÷ 2 - 4 = 14

After interchanging the numbers we get;

=> 8 × 2 + 12 ÷ 6 - 4 = 14

=> 8 × 2 + 2 - 4 = 14

=> 16 + 2 - 4 = 14

=> 18 - 4 = 14

=> 14 = 14

=> LHS = RHS

Option 4) 12 and 14

Given: 8 × 6 + 12 ÷ 2 - 4 = 14

After interchanging the numbers we get;

=> 8 × 6 + 14 ÷ 2 - 4 = 12

=> 8 × 6 + 7 - 4 = 12

=> 48 + 7 - 4 = 12

=> 55 - 4 = 12

=> 51 ≠ 12

=> LHS ≠ RHS

Hence, the correct answer is "Option 3".

Q23. Answer: (c) [figure]

The image embedded in given figure is as shown below:

Hence, "Option 3" is the correct answer.

Q24. Answer: (b) MTSWJK

The logic followed here is:

‘CHEWER’ is coded as ‘HAJPJK’,

Similarly, for 'HANDER'

So, 'HANDER' is coded as 'MTSWJK'.

Hence, the correct answer is "Option 2".

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Q25. Answer: (b) #

From the given open Dice:

A and @ is the opposite sides.

and Q is the opposite sides.

P and R is the opposite sides.

So, the face of '#' is opposite to the face showing 'Q'

Hence, the correct answer is "Option 2".

Q26. Answer: (c) China

The correct answer is China.

Key Points

• The USSR (now Russia) Constitution served as a model for the Preamble's fundamental duties and the Ideals of justice (social, economic, and political).

• Federation with a strong Center, the vesting of residuary powers in the Center, the appointment of state governors by the Center, and advisory jurisdiction of the Supreme Court are characteristics of the Indian Constitution that are modelled after those of the Constitution of Canada.

• The South African Constitution served as a model for the Indian Constitution's amendment procedure and the election of Rajya Sabha members.

• These elements—parliamentary government, the rule of law, legislative process, single citizenship, the cabinet system, prerogative writs, parliamentary privileges, and bicameralism—are all taken directly from the UK Constitution.

• France:

• Ideals of Liberty, Equality, and Fraternity (from the French Revolution – included in the Preamble.

• Republic form of government

• No provision has been taken from China.

Q27. Answer: (b) Carbon Dioxide

The correct answer is release of carbon dioxide.

• The carbon dioxide that is produced during human respiration reaches the empty spaces within the leaves and simultaneously photosynthesis is going on.

Key Points

• Due to this, carbon dioxide present in the air is used and consumed by the plants.

• Thus during the day, plants produce oxygen while consuming carbon dioxide but at the night the process of photosynthesis stops but respiration continues for plants.

• Meaning that oxygen is not produced by the plants at night.

• Because of this natural phenomenon, it is advised that at night if you sleep under the tree, you will not get oxygen, which can cause breathing problems, suffocation, etc.

Q28. Answer: (d) 1784

The Correct Answer is 1784.

Key Points

• Pitts India Act 1784:

• It was named after the British prime minister William Pitt the Younger.

• The Pitt's India Act, of 1784 also called the East India Company Act, 1784.

• Pitt's India Act, of 1784 was passed to rectify the defects of the Regulating Act of 1773.

• It distinguished between the commercial and political functions of the company.

• It allowed the Court of Directors to manage commercial affairs but created a new body called the Board of Control to manage political affairs.

• It empowered the Board of Control to supervise and direct all operations of the civil and military government or revenues of the British possessions in India.

• The company's territories in India were for the first time called the 'British possessions in India'.

• The British Government was given supreme control over Company's affairs and its administration in India.

Q29. Answer: (a) Untouchability

The correct answer is Untouchability.

Key Points

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• Article 17- Abolition of Untouchability:

• Untouchability is abolished and its practice in any form is forbidden.

• In fact, the enforcement of any disability arising out of untouchability shall be an offence punishable in accordance with the law.

• Abolition of untouchability has been included among the fundamental rights under article17.

• In fact, this is one of the few fundamental rights which is available against individuals.

• To make an untouchability law further strong, parliament passed an Untouchability (offences) Act in 1955.

• However, this act was further amended and also renamed in the year of 1976 as Protection of the Civil Rights Act, 1955.

Additional Information

• Other important articles:

Article 18	**Abolition of title.**
Article 19	Freedom of speech and expression
Article 20	Protection in respect of conviction for offences.

Q30. Answer: (b) Sublimation

The correct answer is Sublimation.

Key Points

• Sublimation: It is the conversion of a solid directly into vapors.

• Sublimation takes place when the boiling point is less than the melting point.

• The heat required to change a unit mass of solid directly into vapors at a given temperature is called the heat of sublimation at that temperature.

Additional Information

• Condensation: The process by which water vapor in the air is changed into liquid water is called condensation. This caused the water vapor to condense, or turn into its liquid form.

• Condensation is crucial to the water cycle because it is responsible for the formation of clouds.

• Evaporation: The vaporization occurring from the free surface of a liquid is called evaporation.

• Evaporation is the escape of molecules from the surface of a liquid.

• This process takes place at all temperatures and increases with the increase of temperature.

• Evaporation leads to cooling because the faster molecules escape and, therefore, the average kinetic energy of the molecules of the liquid (and hence the temperature) decreases.

• Diffusion: It is the movement of a substance from an area of high concentration to an area of low concentration.

• Diffusion happens in liquids and gases because their particles move randomly from place to place.

Q31. Answer: (c) Share

The correct answer is Share.

Key Points

• Collaboration and Accessibility: The "Share" feature in MS PowerPoint 365 allows Sam to collaborate with others and make the presentation accessible to a wider audience. He can easily share the presentation with multiple people, enabling them to view and collaborate on the same document simultaneously.

• Email Sharing: Within the "Share" feature, Sam can select the option to share the presentation via email. This allows him to send the presentation directly to the intended recipients' email addresses.

• Recipient Permissions: MS PowerPoint 365 provides options for specifying the level of permissions for recipients. Sam can choose whether recipients can simply view the presentation or have editing capabilities, depending on his requirements.

• Real-Time Updates: When Sam shares the presentation via email using MS PowerPoint 365, recipients can access and view the latest version of the presentation in real-time. Any changes made by Sam or other collaborators will be reflected immediately for all recipients.

• Collaboration Tools: The "Share" feature also includes collaboration tools that enable recipients to add comments, suggest edits, or make revisions directly within the presentation. This facilitates effective collaboration and feedback exchange among the larger audience.

• OneDrive Integration: MS PowerPoint 365 integrates with OneDrive, Microsoft's cloud storage service. When Sam shares the presentation via email, he can choose to store the file on OneDrive and provide recipients with a link to access it. This ensures that everyone has access to the most up-to-date version of the presentation.

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• Version History: MS PowerPoint 365 keeps a version history of the shared presentation. This means that Sam can easily revert to previous versions if needed or track the changes made by collaborators.

• Outlook Integration: If Sam uses Microsoft Outlook as his email client, the "Share" feature seamlessly integrates with it. He can share the presentation directly from within PowerPoint 365, leveraging the familiar email interface of Outlook.

Additional Information

Feature	Description
Design Ideas	Automatically generates design suggestions for slide layouts based on content.
Morph Transition	Smoothly animates objects between slides for seamless transitions.
Presenter Coach	Provides real-time feedback on your presentation delivery, including pacing, tone, and more.
Collaboration	Allows multiple users to work on the same presentation simultaneously.
Cloud Integration	Integrates with cloud storage services like OneDrive for easy access and sharing.
SmartArt	Provides pre-designed graphics and diagrams to enhance visual representation.
Animation and Transitions	Offers a wide range of animations and transitions to bring slides to life.
Presenter View	Displays presenter-specific information on one screen while presenting on another.
Slide Master	Allows consistent formatting and layout across multiple slides.
Multimedia Integration	Supports embedding and playing multimedia elements like audio and video.
Slide Notes	Provides a dedicated space for adding speaker notes or additional information.
AutoSave	Automatically saves changes made to the presentation in real time.
Templates	Offers a variety of pre-designed templates for creating professional-looking slides.
Charts and Graphs	Enables the creation of

Q32. Answer: (b) Mahanadi river

The correct answer is Mahanadi river.

Key Points

• River Mahanadi originates from Sihawa Mountain near a village in Raipur, Chhattisgarh.

• The Mahanadi River system is the third largest in peninsular India after Godavari and Krishna, and the largest river in Odisha state.

• The Mahanadi (“Great River”) follows a total course of 560 miles (900 km) and has an estimated drainage area of 51,000 square miles (132,100 square km).

• The catchment area of the river extends to Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand, and Maharashtra.

• Tributaries

• Seonath, Hasdeo, Mand, and Ib join Mahanadi from the left whereas,

• Ong, Tel, and Jonk join it from the right.

• At Sambalpur, the Hirakud Dam on the river (the longest dam in India) has formed a man-made lake 35 miles (55 km) long; the dam has several hydroelectric generators.

• It enters the Odisha plains near Cuttack and enters the Bay of Bengal at False Point by several channels.

Additional Information

• Malwa plateau

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• Indian plateau region known as the Malwa Plateau. It is bordered to the north by the Madhya Bharat Plateau and Bundelkhand Upland, to the east and south by the Vindhya Range, and to the west by the Gujarat Plains. The plateau, which is of volcanic origin, spans southeast Rajasthan state and central Madhya Pradesh state. The Sanskrit word malav is where the name Malwa comes from (part of the abode of Laksmi [goddess of wealth]). The Maurya, Gupta, and Paramara empires alternately dominated the plateau; during this time, numerous Buddhist temples and monuments (such as the stupas at Sanchi), known for their architecture and sculpture, were also constructed. In 1390 CE, the Muslims took control of the plateau, which then belonged to the Maratha empire. It was given to the British in 1817.

• The Malwa Plateau has an elevation range of 500 to 600 metres (about 1,650 to 2,000 feet). Sandstone hills and solitary mesas, as well as remnants of old lava flows, may be seen scattered throughout the plateau. The Mahi River drains the western portion of the area, the Chambal River the middle, and the Betwa River and the headwaters of the Dhasan and Ken rivers the eastern portion. Additionally, there are the Parbati, Sipra, Gambhir, and Choti Kali Sindh rivers, all of whose valleys are bordered by terraced hills. Savanna-style vegetation is present, with sporadic teak and sal (Shorea robusta) woods.

Q33. Answer: (a) Tropical Deciduous Forests

The correct answer is Tropical Deciduous Forests.

Key Points

Tropical Deciduous Forests:

• These are the most widespread forests out of all the types of forests in India

• Also, called Monsoon Forests.

• They are found in the regions having rainfall between 70-200cm.

• They shed their leaves for about six to eight weeks in dry summer.

• Tropical Deciduous Forests are further classified into two types of forests on the basis of rainfall- Tropical Moist Deciduous Forests and Tropical Dry Deciduous Forests.

• TROPICAL MOIST DECIDUOUS FORESTS:

• Present in the areas having rainfall between 100-200cm.

• Found in eastern slopes of Western Ghats, foothills of the Himalayas in the North-eastern States and Odisha.

• Main Species of Tropical Moist Deciduous Forests: Teak, Sal, Sheshum, amla, Kusum, mahua, Sandalwood, etc.

• TROPICAL DRY DECIDUOUS FORESTS.

• Found in the areas having rainfall between 70-100cm.

• Present in rainier areas of the peninsula and the plains of Uttar Pradesh and Bihar.

• During Dry seasons, Trees shed their leaves completely and the forest appears like a Grassland.

• Main species of Tropical Dry Deciduous Forests: Khair, Tendu, Palas, axlewood, bel, etc.

Additional Information

Tropical Evergreen Forests:

• These forests are restricted to heavy rainfall areas of the Western Ghats and the island groups of Lakshadweep, Andaman, and Nicobar, upper parts of Assam, and Tamil Nadu coast.

• They are at their best in areas having more than 200 cm of rainfall with a short dry season.

• The trees reach great heights up to 60 meters or even above.

• Since the region is warm and wet throughout the year, it has luxuriant vegetation of all kinds.

• The trees, shrubs, and creepers give it a multilayered structure.

• There is no definite time for trees to shed their leaves.

• As such, these forests appear green all the year-round

Vegetation	Location
Tropical Evergreen Forests	The Western Ghats, the island groups of Lakshadweep, Andaman, and Nicobar island.
Tropical Deciduous Forests	The northeastern states, along the foothills of the Himalayas, Jharkhand, West Odisha, and Chhattisgarh, and on the eastern slopes of the Western Ghats.
Tropical Thorn Forests and Scrubs	Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, and Haryana.
Montane Forests	The southern slopes of the Himalayas

Mangrove Forests	The deltas of the Ganga, the Mahanadi, the Krishna, the Godavari, and the Kaveri are covered by such vegetation. Ganga-Brahmaputra delta is famous for Sundari trees.

Q34. Answer: (c) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• Sanchi Stupa:

• Sanchi is about 50 km from Bhopal, the capital of Madhya Pradesh.

• Stupa at Sanchi is a world heritage site.

• It was built by Ashoka in the 3rd century BCE.

• It is the most prominent and the oldest and is believed to have the Buddha's relics.

• Along with other relatively small stupas, there are three main stupas at Sanchi.

Additional Information

• - It is a religious place with historical and archaeological significance.

• Sanchi is famous in the world for stupas, monolithic Asokan pillar, temples, monasteries and sculptural wealth dating from 3rd century B.C. to 12th century A.D.

• During Sunga times, several edifices were raised at Sanchi and its surrounding hills.

Q35. Answer: (d) Kareena Kapoor

The correct answer is Kareena Kapoor.

Key Points

• "The Pregnancy Bible" by Kareena Kapoor:

• It is a comprehensive guide to pregnancy, covering everything from conception to birth.

• It is written in a warm and engaging style and is full of personal anecdotes from Kareena's own pregnancies.

• It features contributions from experts in a variety of fields, including doctors, nutritionists, and fitness trainers.

• It is packed with information on everything from diet and exercise to labor and delivery.

• It is an essential resource for any woman who is pregnant or planning to become pregnant.

Additional Information

Here are some of the topics covered in the book:

• Pregnancy basics: This section covers everything from how to get pregnant to the first trimester.

• Diet and nutrition: This section provides guidance on how to eat a healthy diet during pregnancy.

• Exercise: This section provides advice on how to stay active during pregnancy.

• Labor and delivery: This section covers everything from the signs of labor to the different stages of delivery.

• Postpartum care: This section provides information on how to care for yourself and your baby after delivery.

Q36. Answer: (b) Elena Rybakina

The correct answer is Elena Rybakina.

Key Points

• Elena Rybakina won the women's title at Wimbledon 2022 by beating Ons Jabeur of Tunisia. Rybakina is the first player representing Kazakhstan to win a Grand Slam singles title.

• She was born in Russia but switched nationalities to Kazakhstan in 2018 and she acquired Kazakh citizenship.

• The 23-year-old also became the youngest female player to win the title in Wimbledon since Petra Kvitova of Czech in 2011.

• The All England Lawn Tennis and Croquet Club is a private club founded on 23 July 1868, originally "The All England Croquet Club".

• In the spring of 1877, the club was renamed "The All England Croquet and Lawn Tennis Club".

• It is held every year at All England Lawn Tennis and Croquet Club in Wimbledon, London, the United Kingdom.

• Wimbledon is played on outdoor grass courts, with retractable roofs over the two main courts since 2019.

• During The Championships the height of the grass will be 8mm.

• There are four Grand Slam tennis tournaments:

• Wimbledon Open- 1877

• Us Open- 1881

• French Open- 1891

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• Australian Open- 1905

Important Points

• 135th Wimbledon Championship 2022 has 14 sponsors, a few are Slazenger (being the oldest sponsor), IBM, HSBC, OPPO, Rolex, etc. The new sponsor added this year to the event is Vodafone.

• Soft drinks company Robinsons has ended its 86 years-long partnership with Wimbledon. Now it will not sponsor Wimbledon.

• Wimbledon consists of five main events, four junior events, and seven invitation events.

• Wimbledon 2022 Winners:

	Category	Winner	Runner up
1	Men's Singles	Novak Djokovic	Nick Kyrgios
2	Women's Singles	Elena Rybakina	Ons Jabeur
3	Men's Doubles	Matthew Ebden & Max Purcell	Nikola Mektić & Mate Pavić
4	Women's Doubles	Katerina Siniaková & Barbora Krejčíková	Zhang Shuai & Elise Mertens
5	Mixed Doubles	Desirae Krawczyk & Neal Skupski	Matthew Ebden & Samantha Stosur

Q37. Answer: (d) Mamata Banerjee

The correct answer is Mamata Banerjee.

Key Points

• Mamata Banerjee founded the All India Trinamool Congress (AITC) in 1998, after separating from the Indian National Congress.

• She became the party's chairperson and has played a pivotal role in its growth and success in West Bengal, India.

Additional Information

Party Name	Founder(s)	Year of Foundation
Indian National Congress (INC)	A.O. Hume, Dadabhai Naoroji, Dinshaw Wacha, and Womesh Chunder Bonnerjee	1885
Bharatiya Janata Party (BJP)	Atal Bihari Vajpayee, L.K. Advani, and others	1980
All India Trinamool Congress (AITC)	Mamata Banerjee	1998
Communist Party of India (CPI)	Various communist leaders including M.N. Roy, Abani Mukherjee, and others	1925
Communist Party of India-Marxist (CPI-M)	Split from CPI; leaders include Jyoti Basu, Harkishan Singh Surjeet, and others	1964
Bahujan Samaj Party (BSP)	Kanshi Ram	1984
Samajwadi Party (SP)	Mulayam Singh Yadav	1992
Aam Aadmi Party (AAP)	Arvind Kejriwal, Prashant Bhushan, Yogendra Yadav, and others	2012
Janata Dal (United) [JD(U)]	The merger of Samata Party and Janata Dal factions	2003
Rashtriya Janata Dal (RJD)	Lalu Prasad Yadav	1997
Shiv Sena	Bal Thackeray	1966
Dravida Munnetra Kazhagam (DMK)	C.N. Annadurai	1949

Q38. Answer: (d) Both I and II

The correct answer is Both I and II.

Key Points

• Syed Mushtaq Ali Trophy – T20:

• The Syed Mushtaq Ali Trophy is a domestic T20 cricket tournament in India organized by the Board of Control for Cricket in India (BCCI).

• Vijay Hazare Trophy – 50 overs:

• The Vijay Hazare Trophy is a domestic one-day (50 overs) cricket tournament in India, also organized by the BCCI.

Additional Information

• Syed Mushtaq Ali Trophy:

• Domestic T20 cricket tournament in India.

• Organized by the Board of Control for Cricket in India (BCCI).

• Inaugurated in the 2006-2007 season.

• Named after Syed Mushtaq Ali, an Indian cricketer known for his aggressive batting style.

• Features teams representing Indian states and cricket associations.

• Serves as a platform for budding cricketers to showcase their talent and earn opportunities in the Indian Premier League (IPL) and the Indian national team.

• Vijay Hazare Trophy:

• Domestic one-day (50 overs) cricket tournament in India.

• Organized by the Board of Control for Cricket in India (BCCI).

• Inaugurated in the 2002-2003 season.

• Named after Vijay Hazare, a legendary Indian cricketer and former Test captain.

• Features teams representing Indian states and cricket associations.

• Considered a prestigious competition for players to showcase their skills in the limited-overs format and gain selection for the Indian national team or the IPL.

Q39. Answer: (b) Payment and Settlement Systems Act, 2007

The correct answer is Payment and Settlement Systems Act, 2007.

Key Points

• The National Payments Corporation of India (NPCI) was set up under the provisions of the Payment and Settlement Systems Act, of 2007.

• Payment and Settlement Systems Act, 2007:

• Regulates and supervises payment and settlement systems in India.

• Provides the Reserve Bank of India (RBI) with the authority to issue guidelines, set standards, and take action against payment system operators if needed.

• Ensures the safety, security, and efficiency of payment and settlement systems in the country.

Additional Information

• The SARFAESI Act, 2002:

• Stands for Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act.

• Aims to address non-performing assets (NPAs) in the Indian banking system.

• Allows banks and financial institutions to recover loans by auctioning or selling borrowers' assets without intervention from the court.

• Government Securities Act, 2006:

• Governs the issuance, management, and trading of government securities in India.

• Streamlines procedures for the issuance of government securities and dematerialization of existing securities.

• Aims to protect the interests of investors and promote the development of a stable and efficient market for government securities.

• Companies Act, 2013:

• Governs the formation, regulation, and dissolution of companies in India.

• Replaces the Companies Act, of 1956, and introduces several new provisions to improve corporate governance and transparency.

• Provides guidelines for the functioning of companies, including rules for incorporation, management, fundraising, auditing, and the responsibilities of directors and other key personnel.

Q40. Answer: (c) Both I and II

The correct answer is Both I and II.

Key Points

• In a socialist society or economy:

• The government decides what goods are to be produced.

• Central planning and public ownership of the means of production play a significant role in determining what goods and services

are produced and in what quantities.

• The distribution of goods under socialism is supposed to be based on what people need.

• The aim is to ensure that everyone's basic needs are met, promoting a more equitable distribution of wealth and reducing income inequality.

Additional Information

Aspect	Socialist Economy	Capitalist Economy
Ownership of Means of Production	Owned and controlled by the state or workers' cooperatives	Owned and controlled by private individuals or corporations
Price Mechanism	Absent or limited use of market pricing mechanisms	The central role of market pricing mechanisms in determining prices
Distribution of Resources	Decided by the state or a central planning authority	Decided by the market forces of supply and demand
Economic Inequality	Strives for economic equality and a more even distribution of resources	Tolerates economic inequality and rewards individual effort and success
Role of Government	Plays a large role in the economy, regulating and managing the means of production	Limited role in the economy, primarily enforcing laws and contracts
Social Services	Universal access to healthcare, education, and social services	Access to healthcare, education, and social services is determined by an individual's ability to pay
Innovation and Creativity	Emphasis on collective innovation and public goods	Emphasis on individual innovation and private property rights
Competition	Limited competition or controlled competition between state-owned enterprises	Emphasis on free market competition between private businesses
Motivation	Motivated by the collective good and contributing to society	Motivated by individual gain and profit
Efficiency	May suffer from inefficiencies due to central planning or lack of competition	Emphasis on efficiency through market competition and profit incentives

Q41. Answer: (a) I, II and III

The correct answer is I, II and III.

Key Points

• Natural Language Processing (NLP) is a subfield of artificial intelligence and computational linguistics.

• It focuses on the interaction between computers and humans through natural language.

• Understanding: NLP enables computers to comprehend human language as it is spoken or written.

• This involves understanding the semantics, syntax, and context of the language.

• Interpretation: NLP also involves the interpretation of human language by computers.

• This refers to the process of parsing the input, determining its meaning, and potentially transforming it into another format or language.

• Manipulation: Furthermore, NLP allows for the manipulation of human language.

• This could involve tasks like text generation, translation, summarization, and more.

• The combination of understanding, interpretation, and manipulation allows for a wide range of applications.

• These include chatbots, sentiment analysis, machine translation, voice recognition, and many more.

• Therefore, all three options (I, II, III) are correct. NLP involves the understanding, interpretation, and manipulation of human language by computers.

• The development and refinement of NLP technologies are continually evolving, making human-computer interactions more natural, intuitive, and effective.

• Overall, the goal of NLP is to make computers as proficient as possible at understanding and responding to human language, allowing for more natural and intuitive human-computer interaction.

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Q42. Answer: (a) Pakistan

The correct answer is Pakistan.

Key Points

• Sri Lanka defeated Pakistan by 23 runs to win the 6th Asia Cup.

• Sri Lanka, defending the target of 171 runs, bowled out Pakistan for 147 runs in 20 overs.

• Hasaranga won the Player of the Series award for his all-around performance in the entire Asia Cup 2022 in UAE.

• Haris Rauf bowled brilliantly against Sri Lanka in the final of the Asia Cup.

• He took three wickets for 29 runs in 4 overs.

• Pramod Madushan was a very unknown name on the Sri Lankan team before the tournament.

• But he performed brilliantly in the Asia Cup and caught everyone's attention, in the final match, he took 4 wickets for 34 runs in 4 overs.

Additional Information

• Asia Cup

• The 2022 Asia Cup was the 15th edition of the Asia Cup cricket tournament, with matches played as Twenty20 Internationals (T20Is) during August and September 2022 in the United Arab Emirates.

• Host(s) - UAE

• Champions - Sri Lanka (6th title)

• Runners-up - Pakistan

• Participants - 6

• Matches - 13

• Player of the series - Wanindu Hasaranga (Sri Lanka)

• Most runs - Pakistan Mohammad Rizwan (281)

• Most wickets - India Bhuvneshwar Kumar (11)

Q43. Answer: (c) Miss Universe

The correct answer is Miss Universe.

Key Points

• Harnaaz Kaur Sandhu has been crowned Miss Universe 2021 and is the third entrant from India to win Miss Universe.

• Sandhu became the first ever Sikh woman who won the title of Miss Universe.

• Sandhu has also crowned Femina Miss India Punjab in 2019.

• List of other Miss Universe from India:

• Sushmita Sen: 1994

• Lara Dutta: 2000

Important Points

• R'Bonney Gabriel from the US was named the winner of the 71st annual Miss Universe pageant on 15 January 2023.

• In second place was Miss Venezuela Amanda Dudamel, followed by Miss Dominican Republic Andreína Martínez.

• She is also the first Filipina American to win Miss USA.

• This year’s Miss Universe pageant allowed married women and mothers to compete for the first time in its 70-year history.

Q44. Answer: (b) The height of the Western Ghats progressively decreases from north to south.

The correct answer is Option 2.

Key Points

• The height of the Western Ghats progressively decreases from north to south.

• In reality, the Western Ghats increase in height from north to south.

• The southern portion of the Western Ghats is generally higher than its northern counterpart, with some of the highest peaks found in the states of Kerala and Tamil Nadu.

Hence statement 2 is incorrect.

Additional Information

• Mahendragiri is the highest peak in the Eastern Ghats.

• Mahendragiri, located in the Gajapati district of Odisha, is the highest peak in the Eastern Ghats mountain range in India.

• It has an elevation of approximately 1,501 meters (4,925 feet) above sea level.

• The Eastern Ghats run roughly parallel to the east coast of India and are not as high or continuous as the Western Ghats.

Hence statement 1 is correct

• The Western Ghats cause orographic rain.

• Orographic rain occurs when moist air is forced to rise over a mountain range, cooling and condensing into clouds and eventually precipitation.

• The Western Ghats, a mountain range running parallel to the western coast of India, acts as a barrier to the moisture-laden winds coming from the Arabian Sea.

• When these winds encounter the Western Ghats, they are forced to rise, causing orographic rainfall on the windward side of the mountains.

• This results in high annual rainfall in the region and contributes to the lush greenery and biodiversity found in the Western Ghats.

Hence statement 3 is correct

• The Eastern Ghats stretch from the Mahanadi Valley to the Nilgiris in the south.

• The Eastern Ghats are a discontinuous mountain range that stretches along the eastern coast of India.

• They begin near the Mahanadi Valley in Odisha and extend through Andhra Pradesh and Tamil Nadu, eventually meeting the Western Ghats in the Nilgiri Hills.

• The Eastern Ghats are characterized by lower elevations, less precipitation, and more fragmented compared to the Western Ghats, which are more continuous and higher.

Hence statement 4 is correct

Q45. Answer: (d) largest, largest

The correct answer is largest, largest.

Key Points

• India is the largest producer, importer and consumer of pulses in the world accounting for nearly 25% of global production, 15% of International trade and 27% of world consumption.

• Various types of pulses imported are Tur Whole (Pigeon Peas), Black Matpe (Urad), Green Moong, Chick Peas and Yellow Peas.

• India is the largest producer of Jute.

• India is the largest producer of Sugar (As of 2023).

• Gujarat is the largest producer of salt in the country.

Additional Information

State	Main Pulses Produced
Madhya Pradesh	Chickpeas, Lentils
Uttar Pradesh	Pigeon Peas, Chickpeas
Maharashtra	Pigeon Peas, Chickpeas, Mung Beans
Rajasthan	Chickpeas, Mung Beans
Karnataka	Pigeon Peas, Chickpeas
Andhra Pradesh	Pigeon Peas, Chickpeas, Mung Beans
Telangana	Pigeon Peas, Chickpeas
Gujarat	Pigeon Peas, Chickpeas
Tamil Nadu	Pigeon Peas, Mung Beans
Bihar	Lentils, Chickpeas

Q46. Answer: (d) Hemichordata

The correct answer is Hemichordata.

Key Points

• Hemichordata is not a subgroup of the plant kingdom.

• Hemichordata is a phylum within the animal kingdom, which includes species like acorn worms and graptolites.

• Hemichordates are a group of marine invertebrates that are distantly related to echinoderms (such as starfish and sea urchins) and chordates (which include vertebrates like fish, birds, and mammals).

• Hemichordates are divided into two main groups: the acorn worms (Enteropneusta) and the colonial filter feeders (Pterobranchia).

• Acorn worms are typically solitary and burrow in sediment, while pterobranchs live in colonies attached to hard substrates.

• Hemichordates exhibit a range of body plans, from worm-like to more complex, colony-forming structures.
• They have a number of unique features, including a proboscis that can be used for feeding and respiration, and a structure called the stomochord that is thought to be homologous to the notochord in chordates.
• Hemichordates have been studied for their potential as model organisms in evolutionary and developmental biology, as well as for their ecological roles in marine ecosystems.
• Example:
• Acorn worms (Enteropneusta)
• Pterobranchs (Pterobranchia)
• Graptolites (Graptolithina)
• Cephalodiscus
• Xenoturbella

Additional Information

• Thallophyta:
• This group includes algae, which are simple, typically unicellular organisms that photosynthesize as plants do.
• Angiosperms:
• These are flowering plants, which produce seeds that are enclosed within a fruit. They are the most diverse group of land plants.
• Pteridophyta:
• This group includes ferns and their allies. They don't produce seeds or flowers; instead, they reproduce and disperse via spores.

Q47. Answer: (d) 29^(th) June

The correct answer is 29th June.

Key Points

• Every year 29 June is celebrated as National Statistics Day in India.
• The day is celebrated in honour of the remarkable contribution of the famous Indian scientist and statistician PC Mahalanobis in the field of economic planning and statistical development.
• Professor Prasanta Chandra Mahalanobis is considered the father of Indian statistics.
• The National Statistics Day was first celebrated on 29th June 2007.
• The key contribution of PC Mahalanobis is known as "Mahalanobis distance'.
• The formula is used to find the distance between a point and a distribution, based on measurements in multiple dimensions.
• It is widely used in the field of cluster analysis and classification.

Additional Information

Days	Events
22nd June	World Rainforest Day
15th June	Magna Carta Day, Nature Photography Day
28th June	National Insurance Awareness Day, National Logistics Day

Q48. Answer: (d) Ministry of Consumer Affairs, Food and Public Distribution

The correct answer is Ministry of Consumer Affairs, Food and Public Distribution.

Key Points

• The Bureau of Indian Standards is responsible for bringing services and products as a mandatory standard.
• It provides safe, reliable and quality goods and minimises the health hazard to the consumer.
• It Appoints the authority besides BIS to verify the reliability of the products and service
• The Bureau of Indian Standards is under the Ministry of Consumer Affairs, and it is a National Standard body.
• It was established under the Bureau of Indian Standard Act 1986.
• It was established on 23 December 1986.
• Headquarters is in Manek Bhawan New Delhi.

Important Points

• BIS is the national standards body of India.
• It develops & publishes Indian Standards, Implement Conformity Assessment Schemes,
• It Recognises & runs laboratories for Conformity Assessment and Implements Hallmarking.
• It Works for Consumer empowerment, Conducts capacity-building programs on quality assurance and represents the country in

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Q49. Answer: (a) Gupta

The correct answer is Gupta.

Key Points

• The Iron Pillar at Mehrauli in Delhi is believed to record the achievements of Chandragupta II.

• The iron pillar at Mehrauli, Delhi, is a remarkable example of the skill of Indian crafts persons.

• It is made of iron, 7.2. m high, and weighs over 3 tonnes.

• It was made about 1500 years ago.

• We know the date because there is an inscription on the pillar mentioning a ruler named Chandra, who probably belonged to the Gupta dynasty.

Additional Information

• Guptas established a small kingdom in Magadh at the beginning of the 4th century.

• Samudragupta was succeeded by his son Chandragupta II Vikramaditya during this period of time

• Pataliputra, an ancient city presently known as Patna, was the capital of the Gupta dynasty.

• The city was favored due to its central location which enabled easy trade and expansion of the empire.

• The Pallavas emerged as a formidable power in the South around the 4th century AD and were at the height of their power in the seventh century AD.

• They built great cities, centres of learning, temples, and sculptures and influenced a large part of Southeast Asia in culture.

• Narasimhavarman I was considered the greatest Pallava king who defeated and killed Pulakesin II the ruler of Badami Chalukya and captured Badami and was titled “Vatapikonda”.

• He was also known as Mamallan (great wrestler) and Mamallapuram was named after him where he built the famous rath temples (Sapt Pagoda).

• Aparajita Varman was the last ruler of the Pallava dynasty.

• The Pushyabhuti Dynasty (c. 500 CE - 647 CE) rose after the downfall of the Gupta Empire (3rd century CE - 6th century CE) in the 6th century CE in northern India.

• The core area of their kingdom was situated in what is now the state of Haryana in India with the capital at Sthanishvara or Thaneshvara.

• The most notable ruler of this dynasty was its last ruler, Emperor Harshavardhana, or Harsha (r. 606-647 CE).

• The capital of Harshavardhana's Empire was Kannuaj. He ruled from 606 AD to 647 AD.

• His Empire extended from Punjab to northern Orissa and from the Himalayas to the bank of the Narmada River.

• Nagabhata I was an Indian king who founded the imperial Gurjara Pratihara dynasty.

• He ruled the Avanti region in present-day Madhya Pradesh, from his capital at Ujjain.

Q50. Answer: (d) Galdan Namchot

The correct answer is Galdan Namchot.

Key Points

• The festival that marks the birthday of the great Tibetan Buddhist saint Je Tsongkhapa is Galdan Namchot.

• This festival also marks the start of the New Year celebrations in Ladakh, India.

• Je Tsongkhapa was a famous teacher of Tibetan Buddhism whose activities led to the formation of the Gelug school of Tibetan Buddhism.

Additional Information

• Sarhul:

• Sarhul is a tribal festival celebrated by the ethnic groups in the Indian states of Jharkhand, Odisha, and Chhattisgarh.

• This festival is celebrated to mark the beginning of the new year and the arrival of spring.

• Sarhul is celebrated with traditional music and dance, the worship of village deities, and the sharing of a local drink made from fermented rice or salap.

• Losar:

• Losar is the Tibetan word for "New Year," and it is the most important holiday in Tibet and Tibetan border Indian states.

• It is celebrated for 15 days, with the main celebrations on the first three days.

• Losar involves ceremonies, rituals, prayers, and cultural performances, and it is a time to spend with family and friends, to exchange gifts, and to eat special foods.

• Tusu:

• Tusu is a harvest festival celebrated in the Indian states of Jharkhand, West Bengal, and Odisha.

• The festival is observed on Makar Sankranti, which usually falls on January 14th or 15th, marking the end of the winter season and the arrival of longer days.

• Tusu involves singing traditional songs, dancing, and offering prayers to Tusu, a folk deity, for a good harvest and prosperity in the coming year.

Q51. Answer: (b) 90 degree

Calculation:

We know that sin(a + b) = sin a cos b + cos a sin b. Using this identity, we can rewrite the right-hand side of the given equation as:

sin x = cos 40°.sin 50° + sin 40°.cos 50°

= sin (40° + 50°) (since sin(a + b) = sin a cos b + cos a sin b)

= sin 90°

= 1

Therefore, we have:

sin x = 1

The only angle whose sine is 1 is 90°. Therefore, we have:

x = 90°

So the value of x is 90°.

Q52. Answer: (d) 44 degree

Shortcut Trick

For any two acute angles, if tan X = cot Y, then X + Y = 90°.

Identify the angles from the given equation: X = 2A and Y = 46° − A.

Apply the sum property: 2A + (46° − A) = 90°.

=> A + 46° = 90° => A = 90° − 46° = 44°.

Therefore The correct answer is 44 degree.

Alternate Method

Given: tan 2A = cot (46° − A)

Formula Used: cot θ = tan (90° − θ)

Calculations:

=> tan 2A = tan [90° − (46° − A)]

=> 2A = 90° − 46° + A

=> 2A − A = 44°

=> A = 44°

Therefore The correct answer is 44 degree.

Additional Information

Complementary Trigonometric Ratios

Pairs such as sin/cos, tan/cot, and sec/cosec satisfy the identity ratio(θ) = co-ratio(90° − θ).

General Property of Tan and Cot

If tan α = cot β, then α + β = 90° (or π/2 radians) for acute angles.

Standard Values

At 45°, tan θ = cot θ = 1, which is a specific case of the complementary angle rule where 45° + 45° = 90°.

Q53. Answer: (c) Neither I and II

Given:

Two places B1 and B2 are 500 km.

The speed of Sonit is 80 km/hr more than the Robin.

They meet after 6 hours.

Concept Used:

Distance = Time × Speed

Calculation:

Let the speed of Robin is x km/hr.

And the distance travelled by Robin in 6 hrs y km.

Speed of Sonit = (x + 80) km/hr

The distance travelled by Sonit in 6 hrs = 500 + 500 - y = (1000 - y) km

Distance travelled by Robin in 6hrs = 6x km = y km .....(i)

Distance travelled by Sonit in 6hrs = 6(x + 80) km

According to the question,

(1000 - y) = 6(x + 80)

Put the value of y from eq (i)

1000 - 6x = 6x + 480

12x = 520

x = 130/3 km/hr

Speed of Robin = 130/3 km/hr

Distance travelled by Robin = (130/3) × 6 = 260 km

Distance travelled by Sonit = 1000 - 6x = 1000 - 6 × 130/3 = 740 km.

Statement I is wrong.

Speed of Robin = 130/3 km/hr

Statement II is wrong.

Therefore Option 3 is the correct answer.

Q54. Answer: (d) 196 cm

Given:

The radius of a circle = 50 cm

Distance of chord AB from the center of the circle = 14 cm

Formula used:

In a circle, the perpendicular bisector of a chord passes through the center of the circle.

If a perpendicular is drawn from the center of a circle to a chord, it bisects the chord.

In a right triangle, the square of the hypotenuse (longest side) is equal to the sum of the squares of the other two sides.

Calculation:

Let's solve the question:

First, let's draw a rough diagram of the circle and chord AB:

Let O be the center of the circle, and let M be the midpoint of the chord AB. Draw OM, which is the perpendicular bisector of AB.

By the property of perpendicular bisectors, OM passes through the center O of the circle.

Since OM is perpendicular to AB, we can use the Pythagorean theorem to find the length of AM (or BM), which is half of the chord AB:

$AM^2 + OM^2 = OA^2$; $AM^2 + 14^2 = 50^2$; $AM^2 = 50^2 - 14^2$; AM = BM = $\sqrt{(50^2 - 14^2)}$; AM = BM = $\sqrt{(2500 - 196)}$; AM = BM = $\sqrt{2304}$; AM = BM = 48\

Therefore, the length of the chord AB is:

AB = 2 × AM

= 2 × 48

= 96 cm

The diameter of the circle is twice the radius, so it is:

diameter = 2 × radius

= 2 × 50

= 100 cm

Therefore, the sum of the chord AB and the diameter of the circle is:

AB + diameter = 96 + 100

= 196 cm

Hence, the sum of chord AB and the diameter of this circle is 196 cm.

Q55. Answer: (c) 114.23 %

Calculation:

Average sales of branches A, B, and C in 2020 = (117 + 113 + 83)/3

=> 313/3

Average sales of branches C, D, and E in 2021 = (99 + 74 + 101)

=> 274/3

Percent = {(313/3)/(274/3)} × 100 = (313/274) × 100
=> 114.23%
Therefore Option 3 is the correct answer.

Q56. Answer: (b) 7

Given:
x2 + 1/x2 = 51
Formula:
(x - 1/x)2 = x2 + 1/x2 - 2
| x | = x
| -x | = x
Calculation:
According to the formula
(x - 1/x)2 = x2 + 1/x2 - 2
=> (x - 1/x)2 = 51 - 2
=> (x - 1/x) = √49
=> (x - 1/x) = 7
=> (x² - 1)/x = 7
Therefore Option 2 is the correct answer.

Q57. Answer: (a) 2√5 cm

Given:
Angle PQR = 90° and QS perpendicular to PR.
PQ = 6 cm and PS = 4 cm
Concept Used:
In a right-angled triangle,
Hypotenuse² = Base² + Perpendicular²
Calculation:
In triangle PQR = 90° and QS perpendicular to PR.
Therefore QSP = 90°
Apply Pythagoras in QSP
QS² + SP² = QP²
=> x² + 4² = 6²
=> x² = 36 - 16
=> x = √ 20
=> x = 2√ 5
Therefore Option 1 is the correct answer.

Q58. Answer: (c) 1150

Calculation:
Total Cost Price = 750 + 650 + 450 + 550 + 350 + 850 = 3600
Total Profit = 250 + 200 + 350 + 450 + 300 + 400 = 1950
P1 = 3600 - 1950 = 1650
The total cost price of A and B = 750 + 650 = 1400
The total selling price of E and F = 350 + 300 + 850 + 400 = 1900
P2 = 1900 - 1400 = 500
P1 - P2 = 1650 - 500 = 1150
Therefore Option 3 is the correct answer.

Q59. Answer: (a) 40 degree

Given:
Triangle PQR
angle P is the largest angle and angle P = 80 degrees

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Ratio of the angles is 4:3:2

To find: The smallest angle of triangle PQR

Formula:

The sum of the angles of a triangle is 180 degrees.

Solution:

Let the measures of the angles of triangle PQR be 4x, 3x, and 2x, where 4x is the largest angle and 2x is the smallest angle.

According to the question:

4x = 80

x = 20

So 2x = 2 × 20 = 40

Therefore, the smallest angle of triangle PQR is 40 degree.

Q60. Answer: (b) 20%

Given:

Selling price of T.V. set = Rs. 68,000

Original price of T.V. set = Rs. 85,000

Formula used:

Percentage discount = [(List price - Sale price)/List price] × 100%

Calculation:

Let's solve the question:

The original price of the T.V. set is Rs. 85,000 and it is being sold for Rs. 68,000. We can use the formula for percentage discount to find out the discount percentage offered by the company:

Percentage discount = [(List price - Sale price) / List price] × 100%

In this case, the list price is Rs. 85,000 and the sale price is Rs. 68,000. Substituting these values in the formula, we get:

Percentage discount = [(85,000 - 68,000) / 85,000] × 100%

= (17,000 / 85,000) × 100%

= 20%

Therefore, the percentage discount offered by the company is 20%.

Q61. Answer: (a) -34

Given:

The nine-digit number = 2x64y

Divisible by = 88

Concept used:

Divisibility rule of 8 - The last three digits of a number are divisible of 8

Divisibility rule of 11 - If the difference between the sum of the digits at odd places and even places equals 0 or divisible by 11

Calculation:

We know that the last three digits of a number are divisible of 8

=> The number made from the last three digits without altering their position will be divisible by 8

=> Possible values of y = 8

Now, check the divisibility rule of 11

=> (2 + 6 + 8) - (x + 4) = 0 or 11

=> 12 - x = 0 or 11

Then, x = (12 – 11) = 1

Now,

=> (6x - 5y)

=> (6 × 1) - (5 × 8)

=> 6 - 40

=> - 34

Therefore The required value is -34

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Q62. Answer: (c) 25 years

Given:

S.I. for 5 years = 20% of Principal

Formula used:

S.I. = (P × R × T)/100

where P → Principal

R → Rate of interest

T → Time period

Calculation:

Let the principle be Rs. P

According to the question,

=> (P × 5 × rate)/100 = 20% of P

=> rate = 4%

Now, let in t years the simple interest will be equal to the principal

=> Simple interest = (P × 4 × t)/100

=> P = (P × t)/25

Therefore t = 25 years

Shortcut TrickRatio of Principal to S.I. in 5 years = 100 : 20

Let the Principal be 100, so we are required to make S.I. = 100

=> S.I. of 20 = 5 years

=> S.I. of 100 = 5/20 × 100 = 25 years

Q63. Answer: (a) 120

Given:

Ratio of number of boys to girls in a college = 3:2

40 boys leave the college

40 girls join the college

New ratio of boys to girls after the change = 2:3

Formula:

If two quantities are in ratio a:b, then we can write them as a = ka' and b = kb', where k is a constant of proportionality and a' and b' are co-prime numbers.

The ratio of two quantities can be written as a fraction or a colon. For example, the ratio of a to b can be written as a/b or a:b.

Solution:

Let the initial number of boys in the college be 3x and the initial number of girls be 2x.

Using the formula, we can write:

Initial number of boys = 3x

Initial number of girls = 2x

After 40 boys leave, the number of boys becomes 3x - 40, and after 40 girls join, the number of girls becomes 2x + 40.

Using the new ratio, we can write:

(3x - 40)/(2x + 40) = 2/3

Cross-multiplying, we get:

9x - 120 = 4x + 80

Simplifying, we get:

5x = 200

Therefore, the initial number of boys in the college was 3x = 3(40) = 120.

Q64. Answer: (d) 41.17 percent

Calculation:

The population of P in years M and N together:

M + N = 300 + 200 = 500

The population of Q in years K and L together

K + L = 500 + 350 = 850

According to the question:
(850 - 500)/850 × 100
(350)/850 × 100
41.17%
Therefore Option 4 is the correct answer.

Q65. Answer: (c) 4

Given:
(103²-101²)/102
We can simplify it as follows:
(103²-101²)/102
=> (103+101)(103-101)/102
=> ; frac204 × 2102
=> ; frac408102 = 4
So, the expression evaluates to 4.

Q66. Answer: (d) 33

Given:
Average of 17 consecutive natural numbers = 41
Let the smallest number among these 17 consecutive natural numbers be x.
Formula:
The average of a set of numbers is equal to the sum of the numbers divided by the total number of numbers.
Solution:
Since there are 17 consecutive natural numbers, the largest number will be x + 16.
Using the formula, we can write:
Sum of the 17 numbers = Average x Total number of numbers
Sum of the 17 numbers = 41 x 17
Sum of the 17 numbers = 697
Since the numbers are consecutive, we can find the sum of the 17 numbers as:
Sum of the 17 numbers = (x + (x + 1) + (x + 2) + ... + (x + 16))
Sum of the 17 numbers = (17x + 136)
Equating the two expressions for the sum of the 17 numbers, we get:
17x + 136 = 697
17x = 561
x = 33
Therefore, the smallest number among the 17 consecutive natural numbers is 33.

Q67. Answer: (a) 18 days

Shortcut Trick
A completes 2/3 of the work in 60 days.
Time to complete Full Work (1 unit) = 60 × 3/2 = 90 days.
Time to complete 1/5 of the work = 90 × 1/5 = 18 days.
Therefore The correct answer is 18 days.
Alternate Method
Given: A completes 2/3 work in 60 days.
Formula: (Work1 / Time1) = (Work2 / Time2)
=> (2/3) / 60 = (1/5) / T2
=> 2 / (3 × 60) = 1 / (5 × T2)
=> 2 / 180 = 1 / (5T2)
=> 1 / 90 = 1 / (5T2)
=> 5T2 = 90
=> T2 = 90 ÷ 5 = 18 days.
Therefore The correct answer is 18 days.

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Additional Information

Work-Time Relationship

Time taken to complete a certain fraction of work is directly proportional to the work fraction. Time prop. to Work (when efficiency is constant).

Total Work Formula

If 1/n part of a work is done in T days, then the whole work is done in n × T days.

Efficiency

Efficiency = Total Work ÷ Total Time. It represents the work done in a single unit of time (1 day, 1 hour, etc.).

Q68. Answer: (d) 2624 metre²

The garden EFGH is shown in the figure. Where EF = 240 meters & EH = 80 meters.

The width of the path is 4 meters.

Now the area of the path leaving the four colored corners

= [2 × (240 × 4)] + [2 × (80 × 4)]

{Because 2 is multiplied because, among the four parts of the path, two parts have dimension (100 × 10)& two parts have dimension (80 × 10)}

= (1920 + 640) square meter

= 2560 square meters

Now, the area of 4 square colored corners:

4 × (4 × 4)

{Because Side of each square = 4 meter}

= 64 square meter

The total area of the path = the area of the path leaving the four colored corners + square colored corners

=> Total area of the path = 2560 + 64 = 2624 square meter

Therefore Option 4 is the correct answer.

Q69. Answer: (b) 78°

Given:

Two angles of a scalene triangle: 40° and 62°

Formula:

The sum of the interior angles of a triangle = 180°

Calculation:

To find the measure of the third angle, we need to subtract the measures of the two given angles from 180°:

Sum of the two given angles = 40° + 62°

= 102°

Third angle = 180° - Sum of the two given angles

= 180° - 102°

= 78°

So, the measure of the third angle is 78°.

Q70. Answer: (d) 1

Concept:

cot (90° - θ) = tan θ

Calculation:

tan 8x = cot (2x)

tan 8x = tan (90° -2x)

10x = 90°

x= 9°

5x = 9 × 5 = 45°

tan x = tan 45° = 1

Therefore Option 4 is the correct answer.

Q71. Answer: (c) 71 : 38

Calculation:

Total number of patients on Monday and Wednesday = 146 + 138 = 284

Total number of patients on Thursday = 152

The ratio will be:

284: 152

71: 38

Therefore Option 3 is the correct answer.

Q72. Answer: (d) 6851

Given:

p + r = 21 and pr = 38

Concept used:

x3 + y3 = (x + y)3 - 3xy(x + y)

x + y = a, then x - y = √a² - 4xy

Calculation:

p + r = 21.....(1)

Using x - y = √a2 - 4xy,

=> p - r = √21² - 4 × 38

=> p - r = √289

=> p - r = 17.....(2)

Solving equations (1) and (2),

We get p =19 and r = 2

=> p3 - r3

=> 19³ - 2³

=> 6859 - 8

=> 6851

Therefore The required answer is 6851.

Q73. Answer: (d) Rs. 9800

Calculation:

Let Raj initially have Rs. 100x

Raj initially had Rs. 100x. After spending 10% of his money, he was left with 90x.

Out of this remaining amount, he spent 70%, which left him with 30% of the original 90x, which was equal to Rs. 2646.

30% of 90x = 2646

=> 27x = 2646

=> x = 98

So, 100x = 100 × 98 = 9800

Therefore Option 4 is the correct answer.

Alternate Method

Let the sum of money be x

According to the question,

x × 9/10 × 3/10 = 2646

=> 27x/100 = 2646

=> x = 9800

Q74. Answer: (d) Rs. 11,956

Shortcut Trick

At 50% loss, Selling Price (SP1) = 100% − 50% = 50% of CP.

At 40% profit, Selling Price (SP2) = 100% + 40% = 140% of CP.

Ratio of SP1 : SP2 = 50 : 140 = 5 : 14.

Unitary method: 5 units = Rs. 4,270 => 1 unit = 4,270 ÷ 5 = 854.

14 units = 14 × 854 = Rs. 11,956.

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Therefore The correct answer is Rs. 11,956.

Alternate Method

Given: First Selling Price (SP1) = Rs. 4,270, Loss% = 50%, New Profit% = 40%.

Formulas: CP = [SP × 100] ÷ [100 − Loss%], SP = [CP × (100 + Profit%)] ÷ 100.

=> Cost Price (CP) = (4,270 × 100) ÷ (100 − 50) = 4,27,000 ÷ 50 = Rs. 8,540.

=> New Selling Price (SP2) = [8,540 × (100 + 40)] ÷ 100 = (8,540 × 140) ÷ 100.

=> SP2 = 85.4 × 140 = Rs. 11,956.

Therefore The correct answer is Rs. 11,956.

Additional Information

Direct Formula for New SP

When CP is constant, SP2 = SP1 × [(100 + Profit2%) ÷ (100 − Loss1%)].

Relationship between CP and SP

If the Profit% is given, SP is always greater than CP. If Loss% is given, SP is always less than CP.

Q75. Answer: (d) 28

Shortcut Trick

Prime factorization of 720 = 2^4 × 3^2 × 5^1

Total factors = (4 + 1) × (2 + 1) × (1 + 1) = 5 × 3 × 2 = 30

Factors excluding 1 and 720 = 30 − 2 = 28

Therefore The correct answer is 28.

Alternate Method

Given:

The number is 720.

Formula Used:

If N = p^a × q^b × r^c ..., where p, q, and r are prime numbers.

Total number of factors = (a + 1) × (b + 1) × (c + 1)...

Calculations:

=> Prime factorization of 720 = 72 × 10 = 8 × 9 × 2 × 5

=> 720 = 2^3 × 3^2 × 2^1 × 5^1

=> 720 = 2^4 × 3^2 × 5^1

=> Total number of factors = (4 + 1) × (2 + 1) × (1 + 1)

=> Total number of factors = 5 × 3 × 2 = 30

=> We need to find the number of factors except 1 and the number itself (720).

=> Required factors = Total factors − 2

=> Required factors = 30 − 2 = 28

Therefore The correct answer is 28.

Additional Information

Sum of Factors

If N = p^a × q^b × r^c, the sum of its factors = [(p^(a+1) − 1) ÷ (p − 1)] × [(q^(b+1) − 1) ÷ (q − 1)] × [(r^(c+1) − 1) ÷ (r − 1)]

Number of Odd Factors

To find the number of odd factors, ignore the power of 2 in the prime factorization and calculate the total factors using only the powers of the odd prime bases.

Number of Even Factors

Even factors can be found by subtracting the number of odd factors from the total number of factors, or by not adding 1 to the power of 2: a × (b + 1) × (c + 1).

Total Prime Factors

The total number of prime factors is simply the sum of the powers of all prime bases: a + b + c.

Q76. Answer: (d) Because of sentimental memories of the past

The correct answer is "Because of sentimental memories of the past."

Key Points

• The idiom "for old time's sake" means to do something or be nostalgic about something because of sentimental memories of the past.

• It is often used when people want to revisit a place or activity that they used to enjoy in the past.
• Example: He and his old friends from college went back to the bar for old times' sake.
• Option 1, "to consider the options," does not relate to the meaning of the idiom.
• Option 2, "deliberately stop someone," is not related to the idiom either.
• Option 3, "to be friends with an old person," is not the correct meaning of the idiom.
• Therefore, the correct answer is option 4, "Because of sentimental memories of the past."
• Grammatically, the idiom is a prepositional phrase consisting of the preposition "for," the adjective "old," the noun "time," and the noun's possessive form "sake."
• The phrase functions as an adverbial phrase modifying the verb in the sentence.
• In conclusion, the correct answer is Option 4.

Q77. Answer: (d) stabbed in broad

The correct answer is "stabbed in broad."

Key Points

• The word "broad" is an adjective that modifies the noun "daylight," indicating that the stabbing occurred during the daytime.
• The correct phrase is "in broad daylight," which is an idiomatic expression meaning "in full view of the public."
• Example: Thieves had broken into the house in broad daylight.
• In conclusion, the correct answer is "stabbed in broad," which correctly uses the idiomatic expression "in broad daylight" to describe the time of the stabbing.
• Thus, the correct answer is Option 4.

Correct Sentence: A cloth merchant has been stabbed in broad daylight over a rupee.

Q78. Answer: (a) Marinate your proteins ahead of time.

The correct sentence with no spelling error is: Option 1: "Marinate your proteins ahead of time."

Key Points

• The grammatical rule involved in this sentence is the correct spelling of words.
• The word "marinate" is spelled correctly, as well as "proteins" and "ahead."
• Option 2, "Marinate your proteins aheade of time," has a spelling error in the word "ahead."
• Option 3, "Marinatte your proteins ahead of time," has a spelling error in the word "marinate."
• Option 4, "Marinate your protiens ahead of time," has a spelling error in the word "proteins."
• In conclusion, the correct sentence is option 1: "Marinate your proteins ahead of time."

Additional Information

• Marinate - (of food) undergo marination; soak (meat, fish, or other food) in a marinade.
• Protein - any of a class of nitrogenous organic compounds that have large molecules composed of one or more long chains of amino acids and are an essential part of all living organisms, especially as structural components of body tissues such as muscle, hair, etc., and as enzymes and antibodies.
• Ahead - further forward in space; in the line of one's forward motion.

Q79. Answer: (c) works

The correct answer is "works."

Key Points

• "Deeds" and "brings" do not make sense in the context of a machine.
• "Clubs" is a verb that means to hit with a heavy object, so it also does not fit in this sentence.
• Grammatically, "works" is the correct verb to use when asking about how a machine operates.
• It is a present tense verb that agrees with the subject "machine."
• Conclusive line: The appropriate option to fill in the blank is "works."
• Thus, the correct answer is Option 3.

Correct Sentence: Have you ever wondered how this machine works?

Q80. Answer: (b) PSRQ

The solution is in Hindi. Read it online.

Q81. Answer: (d) Idiosyncratic

Here the correct answer is Idiosyncratic.

Key Points

• The word that means the same as "eccentric" is "idiosyncratic".

• As an adjective, "eccentric" describes someone or something that is unconventional, peculiar, or deviates from the normal or expected behavior. It often implies that the person or thing is unique or different in a somewhat strange or unusual way.

• Example: "John is known for his eccentric fashion sense. He always wears mismatched clothes and colorful accessories."

• Idiosyncratic means having peculiar or unique characteristics, which is synonymous with eccentric.

• Example: "Sarah has an idiosyncratic way of organizing her bookshelf. She arranges the books by color rather than by author or genre."

• Conclusion: The correct answer is "Idiosyncratic".

Additional Information

• Familiar means well-known or common, which is the opposite of eccentric.

• Garden refers to a piece of land where plants are grown, which is unrelated to eccentricity.

• Wonted means customary or habitual, which is also the opposite of eccentric.

Q82. Answer: (a) Intensify

Here the correct answer is Intensify.

Key Points

• The word "wane" means to decrease or diminish in size, strength, or intensity. It often refers to something gradually becoming weaker or fading away.

• Example: "As the moon began to wane, the night grew darker."

• In this example, "wane" is used to describe the moon's decreasing visibility or illumination as it moves through its lunar cycle.

• "Intensify" means to increase or become stronger or more intense, contrasting with the idea of decrease or fading associated with "wane."

• Example: The storm began to intensify as dark clouds rolled in, and the wind picked up speed.

• Therefore, the correct answer is 1) Intensify because it represents the opposite meaning to "wane."

Additional Information

• Now let's analyze the other options:

• Evanesce: This word means to vanish or disappear gradually, similar to the concept of fading away. While it shares a similar idea of gradual disappearance with "wane," it is not an exact opposite. It is more synonymous with "diminish" or "fade."

• Example: "The morning mist began to evanesce as the sun rose higher in the sky."

• Diminish: This word means to make or become less or reduce in size, extent, or importance. It is somewhat synonymous with "wane" as both indicate a decrease or reduction, but it is not the exact opposite.

• Example: "The company's profits started to diminish after the economic downturn."

• Contract: This word means to become smaller or narrower or to decrease in size, extent, or quantity. While it shares the idea of decrease or reduction with "wane," it is not the opposite as it does not encompass the aspect of intensity or strength.

• Example: "The muscles contract during exercise."

Q83. Answer: (b) Fulfilment

The solution is in Hindi. Read it online.

Q84. Answer: (a) Wropes

The incorrectly spelt word is "Wropes".

Key Points

• The correct spelling is "Ropes".

• It refers to a thick cord made of twisted or braided strands.

• The other options are correctly spelled words.

• "Delible" means capable of being erased or removed.

• "Convince" means to persuade someone to believe or do something.

• "Rubber" is a material used for making various products, including tires and erasers.

• In conclusion, the incorrectly spelled word is "Wropes", and the correct spelling is "Ropes".

• Thus, the correct answer is Option 1.

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Q85. Answer: (d) QRSP

Here the correct answer is QRSP.

Key Points

• Q. "After the initial development of glacial conditions, the Earth" - This part sets the context by stating that after the initial formation of glacial conditions, the Earth went through changes.

• R. "system alternated between two modes, one of cold" - This part explains that the Earth's system had two modes that alternated. One of the modes was characterized by cold conditions.

• S. "temperatures and growing glaciers and the other of" - This part describes one of the modes in the alternating pattern.

• P. "relatively warm temperatures and retreating glaciers" - This part describes the other system. It mentions relatively warm temperatures and retreating glaciers occurring during one phase.

• The correct order, therefore, is QRSP, which forms a coherent sentence explaining the alternating modes of the Earth's system after the initial development of glacial conditions.

Q86. Answer: (b) divided on groups

Here the correct answer is divided on groups.

Key Points

• The error is in "divided on groups." It should be "divided into groups."

• The correct preposition to use with "divide" is "into," not "on."

• The word "into" is commonly used with the verb "divide" to indicate the separation or splitting of something into distinct parts or groups. Here are some examples:

• "The cake was divided into six equal slices."

• In this example, "into" is used to show how the cake was divided into specific portions or slices, with each slice being equal in size.

• "The team was divided into two groups for the competition."

• Here, "into" is used to indicate the division of the team into two distinct groups, possibly for different tasks or roles in the competition.

• Other options: - "The young learners were" is grammatically correct. - "According to their abilities" is also grammatically correct.

Correct Sentence: The young learners were divided into groups, according to their abilities.

Q87. Answer: (b) said, “We plan to make the state a safer place for

The correct answer is "said, 'We plan to make the state a safer place for'".

Key Points

• 'That' is not used in direct speech after the verb 'said'.

• Thus, option 3 and 4 can be eliminated.

• The councillor said that they were planning to make the city safer from what it was.

• Thus, it is making a comparison between the situations of two different phases.

• Thus, a comparative degree should be used.

• The comparative degree of 'safe' is 'safer'.

• Thus, the correct answer is Option 2.

Correct Sentence: The councillor (said, “We plan to make the state a safer place for) everyone.”

Q88. Answer: (d) Letters are sent by Megha.

The correct passive form of the given sentence is "Letters are sent by Megha."

Key Points

• In passive voice, the subject of the sentence becomes the receiver of the action, while the doer of the action is either omitted or introduced with the preposition "by."

• The position of the subject and the object is interchanged.

• The subject 'of the active voice is 'Megha' and the object is 'letters'.

• The given sentence is in simple present tense.

• 'sends' changes into 'are sent'.

• Option 1, "Letters is sent by Megha," is incorrect because "letters" is a plural noun and requires a plural verb form "are" instead of "is."

• Option 2, "Letters are being sent by Megha," is also grammatically correct, but it implies that the action is currently in progress, whereas the original sentence is in simple present tense.

• Option 3, "Letters were sent by Megha," is in the past tense and implies that the action has already been completed, but the given active voice is in present tense.

• Therefore, the correct answer is option 4, "Letters are sent by Megha," which is in the present tense and accurately conveys the passive voice of the original sentence.

Q89. Answer: (d) An exact duplicate

The correct answer is "An exact duplicate."

Key Points

• The idiom "dead ringer" means an exact duplicate or a person or thing that looks exactly like another.

• It is often used to describe someone who looks so similar to another person that they could be mistaken for them.

• Example: The sudden appearance of her identical twin was a dead ringer for her, causing everyone to do a double take.

• Therefore, the correct answer is option 4, "An exact duplicate."

Q90. Answer: (a) congregate

The solution is in Hindi. Read it online.

Q91. Answer: (c) DACB

The correct sequence is DACB.

Key Points

• We know that the paragraph begins with 'I clenched my jaw in glee' and ends with 'I told them my plan.'

• Naturally, following the initial statement 'I clenched my jaw in glee' is 'D. I knew what I must do.' This forms a logical cause-effect relationship with the speaker realizing what needs to be done after expressing excitement or determination.

• Next, the sequence should be 'A. I shook my companions awake.' This is understandable as the speaker would need to wake his companions to share the plan he has just formulated.

• This is followed by 'C. When they saw my face, they feared I'd gone mad.' This sentence fits here because it describes the companions' reaction after they have been awakened by the speaker.

• The paragraph then ends with 'I told them my plan,' bringing the narrative to a conclusion by revealing the speaker's actions following the reactions of his companions.

• So, the correct sequence: 'I clenched my jaw in glee. I knew what I must do. I shook my companions awake. When they saw my face, they feared I'd gone mad. I told them my plan.'

Q92. Answer: (d) The surgeon says that I should get anaesthesia for the surgery.

The correct indirect form of the given sentence is: The surgeon says that I should get anaesthesia for the surgery.

Key Points

• In indirect speech, the reporting verb (says) is followed by the conjunction 'that' and the sentence is changed from direct to indirect form.

• The pronoun 'you' is changed to 'I' as the sentence is being reported by someone else.

• The modal verb 'should' remains the same as it indicates a suggestion.

• There will no change in tense as the reported verb is in present tense 'says'.

• Thus, the correct answer is Option 4.

Correct Indirect form: The surgeon says that I should get anaesthesia for the surgery.

Q93. Answer: (b) some excitement

The correct answer is "some excitement."

Key Points

• The sentence is talking about the speaker's anticipation to see their newly found sister.

• The correct phrase to use here is "some excitement," which means a feeling of enthusiasm or eagerness.

• We need a noun after some to describe the speaker's anticipation to see his/her newly found sister.

• Thus, 'exciting' should be replaced by 'excitement'.

• Excitement is a noun and it refers to a state of being emotionally aroused or thrilled, often resulting from anticipation, enthusiasm, or an intense experience.

• 'Exciting' is a verb.

• Thus, the correct answer is Option 2.

Correct Sentence: I waited with (some excitement) to view my sudden-found sister.

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Q94. Answer: (c) Intermittent

The correct answer is 3) Intermittent.

Key Points

• The word "relentless" means to be persistent, unyielding, or unrelenting in one's actions or efforts. It implies a continuous and unwavering nature, often associated with determination or perseverance.

• Examples:

• Despite facing numerous obstacles, he showed relentless determination to achieve his goals.

• The relentless rain poured down for days without stopping.

• While all the options may share some similarities with "relentless" in terms of persistence or continuity, "intermittent" is the direct opposite.

• "Intermittent" refers to something that occurs at irregular intervals or stops and starts periodically. It implies a lack of consistency or continuity.

• Example: The intermittent rain showers made it challenging to plan outdoor activities.

• Therefore, the antonym for "relentless" is 3) Intermittent.

Additional Information

• Now let's examine the other options:

• Constant: This word refers to something that remains the same or unchanging over a period of time. It is similar to the meaning of "relentless" in terms of consistency.

• Example: The constant humming of the refrigerator could be heard throughout the house.

• Persistent: This word also shares a similar meaning to "relentless" as it suggests the act of continuing with an action or effort despite obstacles or setbacks. However, "persistent" may imply a less intense or prolonged level of determination compared to "relentless."

• Example: The persistent student kept asking questions until he fully understood the topic.

• Unabating: This word means continuing without weakening or diminishing in intensity. It is similar in meaning to "relentless," emphasizing the absence of a decrease or cessation in something.

• Example: The storm's unabating winds rattled the windows throughout the night.

Q95. Answer: (d) very careful.

Here the correct answer is Option 4.

Key Points

• The error in the sentence is in the phrase "very careful."

• It should be "very carefully" because "careful" is an adjective and "carefully" is an adverb that modifies the verb "writes."

• The correct answer is: Option D - 'very careful' should be 'very carefully'.

• The grammatical rule involved is the use of adjectives and adverbs.

• Adjectives modify nouns or pronouns, while adverbs modify verbs, adjectives, or other adverbs.

• In this sentence, "careful" is an adjective, but it should be modified by the adverb "carefully" instead.

• The conclusive line is: The error in the sentence is the use of the adjective "careful" instead of the adverb "carefully," making option D the correct answer.

Correct Sentence: When she feels low, she writes very carefully.

Q96. Answer: (d) shipped

Here the correct answer is Shipped.

Key Points

• The correct answer for blank number 1 is: shipped.

• In the given passage, the sentence talks about how tons of fruits and vegetables are produced, processed, and [blank] on a daily basis so that we can buy them fresh. The word that fits logically in this context is "shipped."

• When produce is "shipped," it means that it is transported or sent from one place to another, typically from the farms or production facilities to the stores where consumers can purchase them. The sentence suggests that these fruits and vegetables are shipped to ensure their freshness when they reach the stores.

• Example: "The apples were harvested from the orchard, sorted, packaged, and then shipped to various supermarkets across the country."

• Thus, the correct answer is Option 4.

Additional Information

• Other options explained:

• dusted: This option does not fit the context of the passage. "Dusted" means to remove dust or particles from the surface of something, which is not relevant to the transportation of fruits and vegetables.

• Example: "She dusted off the old books on the shelf to make them look presentable."

• slipped: This option does not fit the context of the passage. "Slipped" means to slide or move quietly and quickly, which does not make sense in the context of produce transportation.

• Example: "He slipped into the room unnoticed."

• clipped: This option does not fit the context of the passage. "Clipped" means to cut or trim something, which is not applicable to the transportation of fruits and vegetables.

• Example: "She clipped the coupons from the newspaper to save money on groceries."

Q97. Answer: (d) turn

Here the correct answer is Turn.

Key Points

• The correct answer for blank number 2 is: turn.

• In the given passage, the sentence mentions that many fruits and vegetables such as apricots, mushrooms, lettuce, and pears [blank] brown or spoil over time. The word that appropriately fits in this context is "turn."

• When fruits and vegetables "turn" brown, it refers to the process of the color of their flesh or skin changing from its original color to a brownish hue. This typically happens when the produce undergoes enzymatic browning, which is a natural chemical reaction that occurs when certain enzymes in the fruit or vegetable come into contact with oxygen.

• Example: "The sliced apple started to turn brown after being exposed to air for a while."

• Thus, the correct answer is Option 4.

Additional Information

• Other options explained:

• serve: This option does not fit the context of the passage. "Serve" means to provide or present something for use or consumption, which is not related to the discoloration or spoiling of fruits and vegetables.

• Example: "She will serve a delicious meal for dinner."

• abide: This option does not fit the context of the passage. "Abide" means to comply with or follow something, which does not make sense in the context of fruits and vegetables browning or spoiling.

• Example: "He always abides by the rules of the game."

• bend: This option does not fit the context of the passage. "Bend" means to curve or flex something, which is not applicable to the discoloration or spoilage of fruits and vegetables.

• Example: "She bent the wire to create a hook."

Q98. Answer: (b) called

Here the correct answer is Called.

Key Points

• The correct answer for blank number 3 is: called.

• In the given passage, the sentence states that this reaction is also [blank] enzymatic browning and is one of the largest causes of [blank] in fruits and vegetables. The word that fits logically in this context is "called."

• In this context, "called" is used to indicate the name or designation of the reaction, which is enzymatic browning.

• The term "enzymatic browning" is a scientific name given to the chemical reaction that occurs in fruits and vegetables when certain enzymes interact with oxygen, leading to the browning or discoloration of the produce.

• Example: "The process of apples turning brown when exposed to air is called enzymatic browning."

• Thus, the correct answer is option 2.

Additional Information

• Other options explained:

• passed: This option does not fit the context of the passage. "Passed" means to move or go past something, which is not appropriate in the context of enzymatic browning.

• Example: "The car passed by quickly on the highway."

• "Become" means to undergo a change or transformation, but in the context of the passage, it is not suitable for describing the enzymatic browning reaction.

• Example: "The green bananas will become ripe and yellow after a few days."

• saying: This option does not fit the context of the passage. "Saying" refers to a spoken or written expression, proverb, or phrase, which does not make sense in relation to enzymatic browning.

• Example: "There is a saying that 'an apple a day keeps the doctor away.'"

Q99. Answer: (b) spoilage

Here the correct answer is Spoilage.

Key Points

• The correct answer for blank number 4 is: spoilage.

• In the given passage, the sentence mentions that enzymatic browning is one of the largest causes of [blank] in fruits and vegetables, even though it does not make the food harmful to eat. The word that best fits in this context is "spoilage."

• Spoilage refers to the process or condition of becoming rotten, deteriorated, or unfit for use or consumption. In the context of fruits and vegetables, spoilage refers to their decay or decomposition, which can occur due to various factors, including enzymatic browning.

• Example: "The presence of mold and the foul smell indicated the spoilage of the strawberries."

• Thus, the correct answer is Option 2.

Additional Information

• Other options explained:

• corruption: This option does not fit the context of the passage. "Corruption" typically refers to dishonest or unethical behavior, particularly in a social, political, or financial context, and it does not relate to the decay or deterioration of fruits and vegetables.

• Example: "The government launched an anti-corruption campaign to combat bribery and fraud."

• ablaze: This option does not fit the context of the passage. "Ablaze" refers to something being on fire or in flames, which is not applicable to the causes of deterioration in fruits and vegetables.

• Example: "The building was ablaze, and the firefighters rushed to extinguish the fire."

• kindle: This option does not fit the context of the passage. "Kindle" means to ignite or start a fire, typically metaphorically used for arousing or inspiring emotions or actions. It is unrelated to the decay or spoilage of fruits and vegetables.

• Example: "His speech on human rights kindled a sense of justice and empathy in the audience."

Q100. Answer: (d) fact

Here the correct answer is Fact.

Key Points

• The correct answer for blank number 5 is: fact.

• In the given passage, the sentence mentions that the name "enzymatic browning" comes from the [blank] that an enzyme within the fruit turns the fruit brown. The word that appropriately fits in this context is "fact."

• In this context, "fact" refers to the reality or truth that an enzyme within the fruit causes the browning reaction.

• The name "enzymatic browning" is derived from this factual observation about the enzymatic process responsible for the discoloration of fruits and vegetables.

• Example: "The fact that the enzyme polyphenol oxidase triggers the browning reaction is well-documented."

• Thus, the correct answer is Option 4.

Additional Information

• Other options explained:

• craze: This option does not fit the context of the passage. "Craze" refers to a short-lived enthusiasm or obsession for something, and it is not relevant to the explanation of enzymatic browning.

• Example: "The new video game created a craze among young gamers."

• shape: This option does not fit the context of the passage. "Shape" refers to the form, contour, or configuration of something, and it does not pertain to the naming or explanation of enzymatic browning.

• Example: "She tried to shape the clay into a vase."

• facade: This option does not fit the context of the passage. "Facade" refers to the front or outer appearance of a building or object, and it does not relate to the process or cause of enzymatic browning.

• Example: "The grand building had an impressive facade."

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