SSC CHSL Tier-1 2022: Official Paper (Held On: 14 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. In the following question, select the missing number from the given series.

32, 35, 39, 42, 46, 49, ?

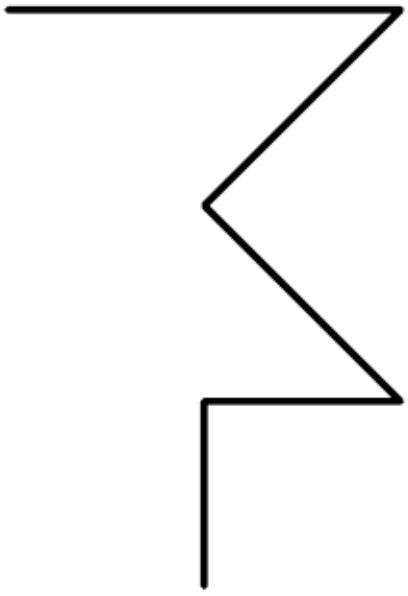
(a) 53
(b) 50
(c) 51
(d) 52

Q2. 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.

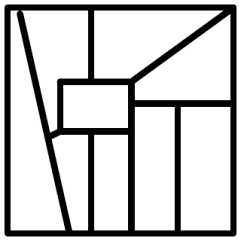
Mammal : Man :: Reptile : ?

(a) Butterfly
(b) Lizard
(c) Rat
(d) Whale

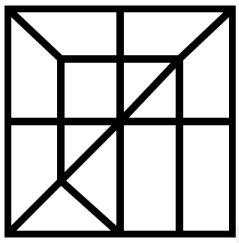
Q3. Select the option figure in which the given figure is embedded. (rotation is NOT allowed)



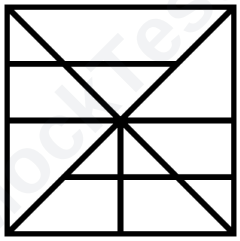
(a)



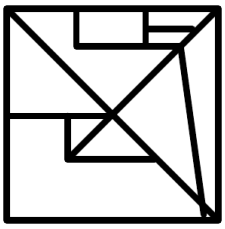
(b)



(c)



(d)



Q4. After interchanging the given two numbers (Not digits) what will be the values of expression (I) and (II) respectively ?

4 and 6

I. 8 – 4 × 3 + 6 ÷ 2

II. 4 + 3 × 6 – 8 ÷ 2

(a) 8 and 10

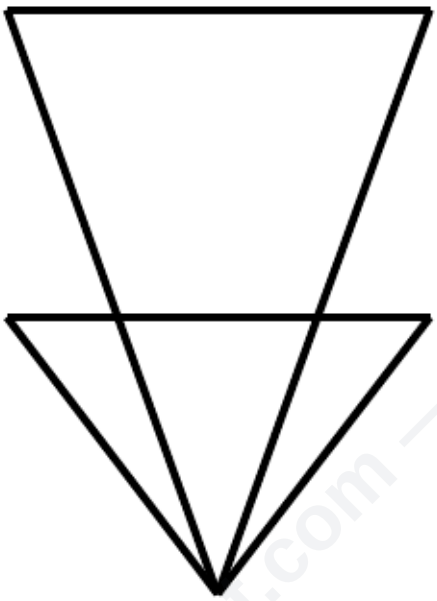
(b) 10 and 8

(c) 14 and –8

(d) –8 and 14

Q5. How many triangles are there in the given figure?

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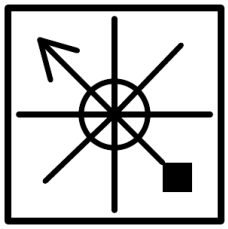


(a) 8
(b) 10
(c) 11
(d) 9

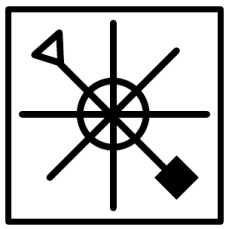
Q6. Select the figure from the given options that can replace the question mark (?) in the following series.



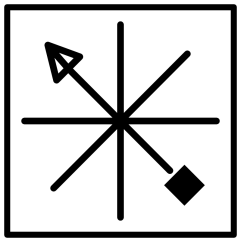
(a)



(b)

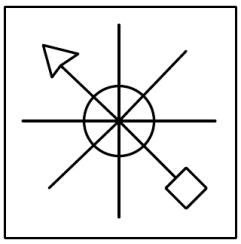


(c)



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(d)



Q7. 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)

(101, 10201, 10302)

(95, 9025, 9120)

(a) (102, 10069, 10172)
(b) (105, 11025, 11230)
(c) (104, 10816, 10820)
(d) (102, 10404, 10506)

Q8. In a certain code language, ‘FONT’ is coded as ‘714’, ‘GLUE’ is coded as ‘494’. What is the code for ‘JOKE’ in that code language?

(a) 396
(b) 400
(c) 450
(d) 456

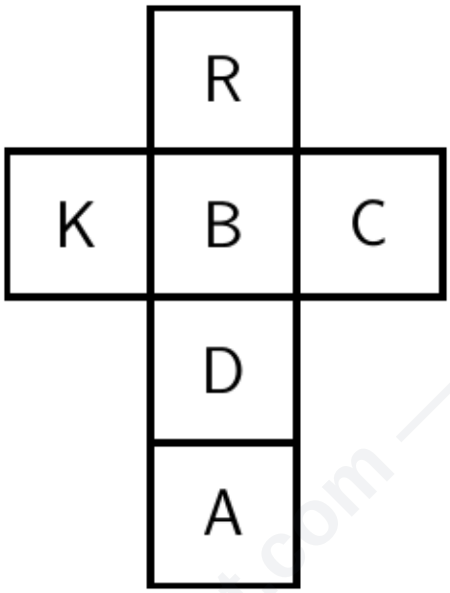
Q9. Words given on the left side of (::) are related with each other by some Logic/Rule /Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/Relation.

Ranchi : Jharkhand :: Dispur : ?

(a) Sikkim
(b) Nagaland
(c) Assam
(d) Meghalaya

Q10. A cube is made by folding the given sheet. In the cube so formed, which letter will be on the face opposite to the face showing 'A'?

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(a) B
(b) C
(c) R
(d) K

Q11. In a certain code language, ‘ALWAYS’ is coded as ‘AKYAXU’. What is the code for ‘BEYOND’ in that code language?

(a) BDAOMG
(b) BDAOME
(c) BDAOMF
(d) BDBOMF

Q12. Select the correct option that indicates the arrangement of the given words in a logical and meaningful order.

1. Thighs
2. Stomach
3. Nose
4. Lips
5. Skull

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

Q13. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

jtm _ r _ jt _ prs _ tmpr _ j _ mprs

(a) psmjst
(b) pssjst
(c) psmjts
(d) pmsjst

Q14. In the following question, select the odd word pair from the given alternatives.

(a) Scalpel – Surgeon
(b) Axe – Woodcutter
(c) Sword – Warrior
(d) Sculptor – Chisel

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Q15. If 5 # 2 = 25 and 8 # 2 = 64, then 11 # 2 = ?

(a) 143
(b) 99
(c) 121
(d) 1331

Q16. In the following question below are given some statements 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. All D are E.

II. Some E are F.

Conclusions:

I. All D are F.

II. Some F are E.

III. All E are D.

(a) Only conclusion III follows
(b) Only conclusion II follows
(c) All conclusion follows
(d) Only conclusion I follows

Q17. I is the brother of K. H is the wife of I. J is the mother of L. K is the brother of J. How K is related to L?

(a) Nephew
(b) Maternal Uncle
(c) Brother
(d) Father

Q18. In the following question, select the odd letter/letters from the given alternatives.

(a) ZVR
(b) QMI
(c) OKG
(d) WTP

Q19. Select the option in which the numbers share 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)

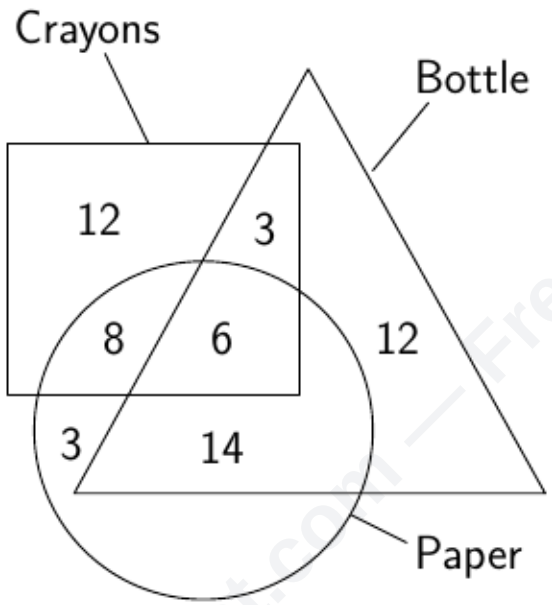
(32, 24, 8)

(48, 42, 6)

(a) (64, 62, 8)
(b) (56, 50, 6)
(c) (16, 14, 4)
(d) (18, 12, 4)

Q20. How many paper are not bottles?

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(a) 17
(b) 14
(c) 11
(d) 8

Q21. 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.

Sister : Brother :: Niece : ?

(a) Mother
(b) Brother
(c) Daughter
(d) Nephew

Q22. Select the option that is related to the second number in the same way as the third number is related to the fourth number and fifth number is related to sixth number.

? : 225 :: 9 : 169 :: 12 : 256

(a) 13
(b) 11
(c) 16
(d) 15

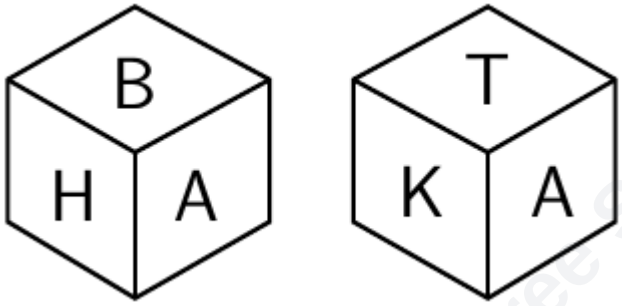
Q23. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /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)

(46, 93, 187)

(123, 247, 495)

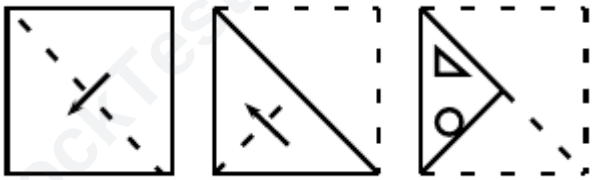
(a) (208, 418, 837)
(b) (313, 627, 1255)
(c) (111, 213, 427)
(d) (184, 369, 729)

Q24. Two positions of a dice are given below. What can come on the adjacent faces of the face containing 'K' on it?

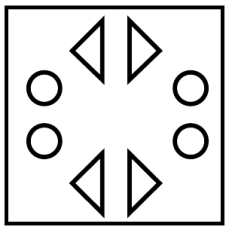


(a) H and T
(b) H and B
(c) B and A
(d) A and H

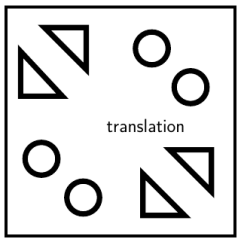
Q25. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



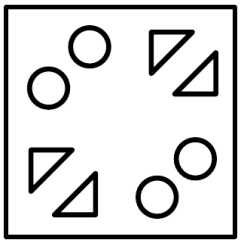
(a)



(b)

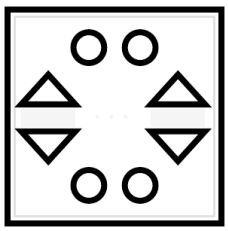


(c)



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(d)



GENERAL INTELLIGENCE

Q26. In 2018, India was the _____ producer of groundnut in the world.

(a) fourth largest
(b) third largest
(c) largest
(d) second largest

Q27. In 1929, under the presidency of _____, the Lahore Congress formalised the demand of Purna Swaraj.

(a) Sardar Vallabhbhai Patel
(b) Mahatma Gandhi
(c) Subhas Chandra Bose
(d) Jawaharlal Nehru

Q28. Which of the following pairs regarding soil is correct?

I. Forest soil – These soils are loamy and silty in valley sides
II. Black soil – generally poor in phosphoric contents

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

Q29. Which of the following pair of "player – sports" is correct?

I. Anshu Malik – Boxing
II. Eldhose Paul – Triple Jump

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

Q30. Which of the following statements is NOT correct regarding the stratosphere?

(a) It lies above the mesosphere
(b) It extends up to a height of 50 km.
(c) It contains a layer of ozone gas.
(d) This layer is almost free from clouds.

Q31. Which of the following shortcut key is used to start a new line in the same cell in MSExcel 365?

(a) Tab + Enter
(b) Alt + Enter
(c) Ctrl + Enter
(d) Shift + Enter

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Q32. 11th National Seed Congress was held in _____.

(a) Mysuru
(b) New Delhi
(c) Chenna
(d) Gwalior

Q33. Which of the following is correct regarding the Private Income?

(a) Private Income = Factor income from net domestic product accruing to the private sector + National debt interest – Net factor income from abroad + Current transfers from government + Other net transfers from the rest of the world
(b) Private Income = Factor income from net domestic product accruing to the private sector + National debt interest + Net factor income from abroad – Current transfers from government + Other net transfers from the rest of the world
(c) Private Income = Factor income from net domestic product accruing to the private sector + National debt interest + Net factor income from abroad + Current transfers from government + Other net transfers from the rest of the world
(d) Private Income = Factor income from net domestic product accruing to the private sector – National debt interest + Net factor income from abroad + Current transfers from government + Other net transfers from the rest of the world

Q34. Which country hosted the 2023 Men's FIH Hockey World Cup?

(a) India
(b) England
(c) Spain
(d) France

Q35. _____ and Nitin Gadkari inaugurated the 81st annual session of the Indian Roads Congress in Lucknow in October 2022.

(a) Narendra Modi
(b) Yogi Adityanath
(c) Rahul Gandhi
(d) Smriti Irani

Q36. Which of the following is the correct representation of a number of atoms?

(a) (given mass/molar mass) × Avogadro number
(b) (avogadro number/given mass) × molar mass
(c) (molar mass/given mass) × Avogadro number
(d) (given mass/ Avogadro number) × molar mass

Q37. Identify the person from the given statements.

Popularly known as the “King of Pop”, the best-selling American singer, songwriter and dancer

(a) Benny Andersson
(b) John Lennon
(c) Elton John
(d) Michael Jackson

Q38. Which of the following comes under 5th schedule of the Indian constitution?

(a) Provisions related to Schedule Areas and Scheduled Tribes
(b) Provisions related to Tribal areas in states of Assam, Meghalaya, Tripura, Mizoram
(c) Provisions related to Oaths or Affirmations
(d) Provisions related to Languages

Q39. Elon Musk who was awarded in Starmus Festival's the Stephen Hawking Medal for Science Communication is the CEO of _____.

(a) Microsoft
(b) Tesla
(c) Adobe Inc
(d) Flipkart

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Q40. World Environment Day is held every year on _____.

(a) 5^(th) June
(b) 1^(st) January
(c) 29^(th) August
(d) 1^(st)July

Q41. Which among the following is the largest container port in India as of October 2022?

(a) Port Blair
(b) Tuticorin Port
(c) Paradip Port
(d) Jawaharlal Nehru Port

Q42. The part VII of the Indian constitution has been omitted. It is related with which of the following?

(a) Provision relating to property
(b) States in part B of the first schedule
(c) Armed forces in states in part A of the second schedule
(d) Reservation for Anglo –Indian communities in parliament

Q43. Which of the following statements is correct regarding the features of a perfectly competitive market?

I. The market consists of a large number of buyers and sellers.
II. Information is perfect.

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

Q44. Which among the following dance forms is not related to Karnataka?

(a) Rauf
(b) Huttari
(c) Suggi
(d) Karaga

Q45. Akham Lakshmi Devi received the sangeet Natak Akademi Award in 2018 for her contribution to _____.

(a) Bharatnatyam Dance
(b) Manipuri Dance
(c) Kathak Dance
(d) Sattriya Dance

Q46. Which of the following Harappan town was located on Khadir Beyt in the Runn of Kutch and was divided into three parts?

(a) Sotka-koh
(b) Chanhudaro
(c) Surkotada
(d) Dholavira

Q47. Which team was the Pro Kabaddi League (PKL) Season 8 winner?

(a) Bengal Warriors
(b) Bengaluru Bulls
(c) Dabang Delhi K.C.
(d) Patna Pirates

Q48. Behind the cornea, there is a dark muscular structure called the _____.

(a) retina
(b) pupil
(c) iris

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(d) lens

Q49. Which of the statements is NOT correct regarding energy?

(a) The energy possessed by a body due to its change in position or shape is called the potential energy.

(b) An object of mass m moving with velocity v has a kinetic energy of (mv) /2.

(c) The gravitational potential energy of an object of mass, M raised through a height, Hfrom the earth's surface is given by MgH.

(d) An object in motion possesses what is known as the kinetic energy of the object.

Q50. Which of the following is a magnetic disk?

(a) Winchester

(b) DVD

(c) CD-RW

(d) CD-R

QUANTITATIVE APTITUDE

Q51. In Δ PQR, angle Q = 90 degrees and QX is perpendicular to PR If PQ = 15 cm and PR = 25 cm, then what is the ratio of PX : XR?

(a) 2 : 3

(b) 7 : 18

(c) 1 : 4

(d) 9 : 16

Q52. In Δ ABC, Z is a point on side BC and AB = AC. If angle AZB = 90 degree and BC = 42 cm, then what will be the length of BZ?

(a) 21 cm

(b) 32 cm

(c) 28 cm

(d) 35 cm

Q53. What are the last three digit of the multiplication 654321 × 123456?

(a) 376

(b) 344

(c) 324

(d) 352

Q54. If the difference between the two numbers is 20 percent of their sum, then what is the ratio of larger number and smaller number?

(a) 6 : 5

(b) 5 : 4

(c) 4 : 3

(d) 3 : 2

Q55. After two successive discounts of 40 percent and 20 percent an article is sold for Rs. 4632, What is the marked price of the article?

(a) Rs. 7650

(b) Rs. 8870

(c) Rs. 9650

(d) Rs. 8050

Q56. A chord of length 48 cm is at a distance of 7 cm from the centre of the circle. What is the length of the chord of the same circle which is at a distance of 15 cm from the centre of the circle?

(a) 40 cm

(b) 45 cm

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(c) 35 cm
(d) 42 cm

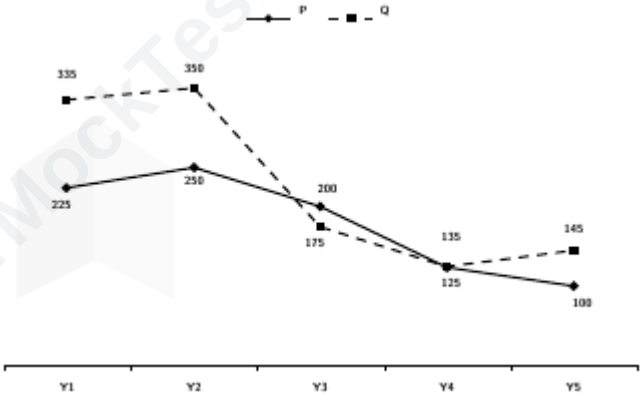
Q57. Vinay sells an article at a profit of 20 percent. If both the cost price and selling price are reduced by Rs. 20, then the profit becomes 40 percent. What is the initial cost price?

(a) Rs. 80
(b) Rs. 60
(c) Rs. 50
(d) Rs. 40

Q58. A is thrice as good a workman as B and together they can finish a work in 32 days. In how many days will B alone complete the same work?

(a) 96 days
(b) 104 days
(c) 112 days
(d) 128 days

Q59. The line chart given below shows the GDP of two countries P and Q in different five years.



L1 = The total GDP of country P in all the 5 years.
L2 = The total GDP of country Q in all the 5 years.
What is the value of (L2 - L1)?

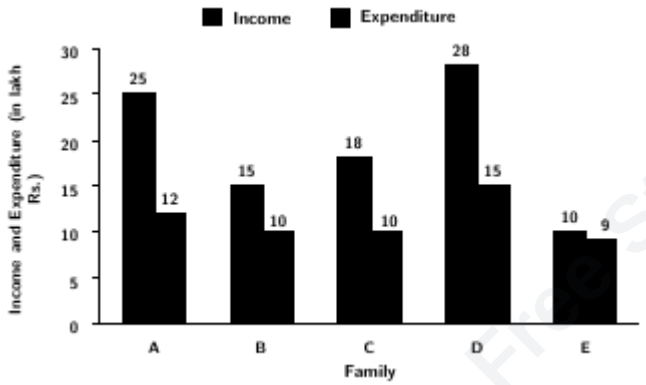
(a) 180
(b) 240
(c) 280
(d) 160

Q60. A person invested a total sum of Rs. 15,500 in three different schemes of simple interest at the annual rate of 4 percent, 6 percent and 10 percent. At the end of one year he got same interest in all three schemes. What is the sum invested at the rate of 6 percent?

(a) Rs. 5400
(b) Rs. 5000
(c) Rs. 5500
(d) Rs. 6500

Q61. The following bar graph shows the income and the expenditure (in lakh Rs.) of five families in the year 2021.
What is the savings of families A, C and E together?

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(a) Rs. 32 lakhs
(b) Rs. 30 lakhs
(c) Rs. 22 lakhs
(d) Rs. 21 lakhs

Q62. What is the value of (sin θ+cos θ)/(sin θ-cos θ)+ (sin θ-cos θ)/(sin θ+cos θ)?

(a) $1/(\sin^2\theta - \cos^2\theta)$
(b) $2(\sin^2\theta - \cos^2\theta)$
(c) $2/(\sin^2\theta - \cos^2\theta)$
(d) $\sin^2\theta - \cos^2\theta$

Q63. The table given below shows the number of male teacher and female teachers in 5 schools.

Schools	Male teachers	Female teachers
J	180	240
K	240	210
L	210	60
M	150	30
N	90	90

A1 =The average number of female teachers in all the 5 schools.
A2 =The average number of male teachers in all the 5 schools.
What is the value of (A1 + A2)?

(a) 300
(b) 48
(c) 126
(d) 174

Q64. Angle subtended by a chord MN on the circumference of a circle is 90 degree. If radius of the circle is 12 cm, then what will be the length of chord MN?

(a) 30 cm
(b) 24 cm
(c) 6 cm
(d) 36 cm

Q65. If cot 3A = tan (A - 36°), then what is the value of A?

(a) 33.5 degree
(b) 25 degree
(c) 30 degree
(d) 31.5 degree

Q66. Average of 6 consecutive even numbers is 35, What will be the sum of smallest and largest even number among these 6 numbers?

(a) 68
(b) 72
(c) 70
(d) 66

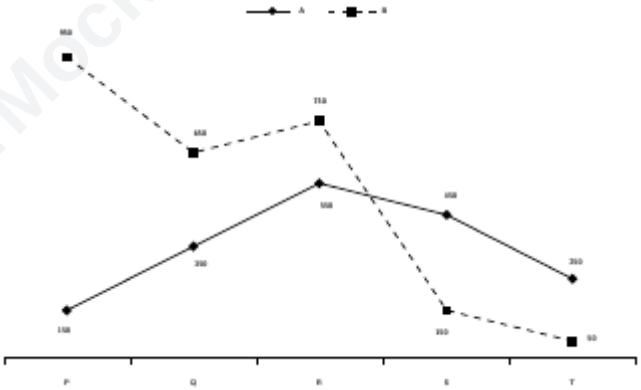
Q67. Half of the perimeter of a rectangle is 30 cm. If the length of the rectangle is 6 cm more than its breadth, then what is the area of the rectangle?

(a) 216 cm^2
(b) 250 cm^2
(c) 185 cm^2
(d) 195 cm^2

Q68. What is the value of 7×4÷8/5×25÷125+5×4÷8/8×4÷16-7×4÷2/8×7÷4?

(a) 4
(b) 13/4
(c) 15/4
(d) 9/2

Q69. The line chart given below shows the sales of two companies A and B in 5 years.



J1 = The total sales of A in all years.

J2 = The total sales of B in all years.

What is the value of (J2 - J1)?

(a) 600
(b) 400
(c) 1000
(d) 800

Q70. A man makes four trips of equal distances. His speed on first trip was 720 km/hr and in each subsequent trip his speed was half of the previous trip. What is the average speed of the man in these four trips?

(a) 104 km/hr
(b) 156 km/hr
(c) 192 km/hr
(d) 288 km/hr

Q71. If $9a + 9b + 9c = 81$ and $4ab + 4bc + 4ca = 160$, then what is the value of $6a^2 + 6b^2 + 6c^2$?

(a) 1
(b) 3
(c) 4
(d) 6

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Q72. If a+1/a=8, then what is the value of 1/(a^4)+a^4?

(a) 4098
(b) 3846
(c) 3842
(d) 4094

Q73. If sin P=15/22, then what is the value of tan P?

(a) 16/√259
(b) 22/√259
(c) 14/√259
(d) 15/√259

Q74. If a : b : c = 2 : 3 : 5 and 5b - a + 2c = 115, then what is the value of b?

(a) 15
(b) 12
(c) 6
(d) 24

Q75. The average weight of 100 students is 34 kg. The average weight of first 49 students is 34 kg and of last 50 students is 32 kg. What is the weight of the 50^(th) student?

(a) 138 kg
(b) 134 kg
(c) 130 kg
(d) 136 kg

GENERAL AWARENESS

Q76. Choose the incorrectly spelt word.

(a) Stone
(b) Minyed
(c) Punch
(d) Crunch

Q77. Fill in the blank with the most suitable word.

At that time, I only knew that I adored the way he laughed for no _____.

(a) just
(b) disbelief
(c) reason
(d) account

Q78. Improve the underlined part of the sentence. Choose ‘No improvement’ as an answer if the sentence is grammatically correct.

Their appointment lasted for almost an hour.

(a) lastly for
(b) lasting for
(c) No improvement
(d) last for

Q79. Improve the underlined part of the sentence. Choose ‘No improvement’ as an answer if the sentence is grammatically correct.

A young girl was kidnapped from the mainly street in 3 o’clock yesterday afternoon.

(a) main streets in
(b) main street on
(c) No improvement

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(d) main street at

Q80. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

Neck of the woods

(a) Neighbourhood
(b) Barren land
(c) Valley
(d) Highways

Q81. Choose the word that can substitute the given group of words.

A publication containing astronomical or meteorological information

(a) Allegory
(b) Bane
(c) Conscription
(d) Almanac

Q82. Choose the word that can substitute the given group of words.

A substance for killing algae

(a) Algaecide
(b) Prepuce
(c) Fungicide
(d) Ruthenium

Q83. Select the option that will improve the (bracketed) part of the sentence. In case of no improvement select the option 'No improvement'.

I wouldn't have (accepted anything accept) a job in Europe.

(a) accepted everything expect
(b) excepted anything accept
(c) No improvement
(d) accepted anything except

Q84. Choose the word that is opposite in meaning to the given word.

Abandon

(a) Recklessness
(b) Constraint
(c) Casualness
(d) Spontaneity

Q85. Choose the sentence with no spelling error.

(a) A flash of lightning revealed the mountains.
(b) A flsh of lightning revaeled the mountains.
(c) A flash of lightnig revealed the mountans.
(d) A flash of lightning revealed the mounitans.

Q86. Select the correct indirect form of the given sentence.

My coach said, “You should take a healthy diet.”

(a) My coach told me that I should have taken a healthy diet.
(b) My coach told me that I should take a healthy diet.
(c) My coach told me that you should take a healthy diet.
(d) My coach said that I shall take a healthy diet.

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Q87. Choose the word that is opposite in meaning to the given word.

Incongruous

(a) Unharmonious
(b) Jarring
(c) Fettered
(d) Appropriate

Q88. Choose the word that is opposite in meaning to the given word.

Annex

(a) Subtract
(b) Profuse
(c) Protract
(d) Propose

Q89. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.

Around 30 percent of the Indian population are estimated to have latent TB.

(a) Indian population are estimated
(b) No error
(c) to have latent TB.
(d) Around 30 percent of the

Q90. Rearrange the parts of the sentence in correct order.

P. gangrene, who had recovered from Covid-19 infection and

Q. gallstones resulting in gangrene of gallbladder requiring urgent surgery

R. presented with severe inflammation of gallbladder without

S. we recently successfully treated five patients for gallbladder

(a) SPRQ
(b) QPRS
(c) RQPS
(d) PRQS

Q91. Choose the word that can substitute the given group of words.

A person who is interested in material gains and is hostile to art/culture

(a) Perfectionist
(b) Sage
(c) Philistine
(d) Egghead

Q92. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

At daggers drawn with

(a) To be bitterly hostile towards each other
(b) At the lowest estimate
(c) To accept someone
(d) To help someone in time of need

Q93. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.

The fiscal deficit has to be held in check because it represent the government's claim on the non-government sector's savings.

(a) No error
(b) because it represent the government's claim
(c) on the non-government sector's savings.
(d) The fiscal deficit has to be held in check

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Q94. Choose the word that means the same as the given word.

Genial

(a) Tense
(b) Lacuna
(c) Laconic
(d) Convivial

Q95. Select the correct passive form of the given sentence.

He built a website from scratch.

(a) A website has been built from scratch by him.
(b) A website was built from scratch by him.
(c) A website was building from scratch by him.
(d) A website is built from scratch by him.

Directions

Direction: 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.

Each year, the U.S. Department of Agriculture and the Environmental Protection Agency (1)____ federal pollinator experts to share the latest scientific findings on bee and pollinator health, and assess the status of (2)__ important insects, birds, bats and other species. One clear (3) __ from this year's meeting was that climate change (4)__ a new and formidable stressor for bees, potentially amplifying previously known issues in ways that scientists can't yet (5)____ but need to prepare for.

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

(a) accost
(b) host
(c) roast
(d) mandates

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

(a) this
(b) thus
(c) those
(d) these

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

(a) standard
(b) takeaway
(c) thesis
(d) diffidence

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

(a) has become
(b) became
(c) was became
(d) becoming

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

(a) shrimp
(b) predict
(c) shun
(d) notify

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ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) 53

The logic followed here is:

Logic: 3 and 4 has been added on alternate basis to get the next term of the series.

Hence, the correct answer is "53".

Q2. Answer: (b) Lizard

The logic followed here is:

Logic: The first word is a category and the second word is a representative of that category.

Here,

Mammal : Man → Man is a representative of the Mammal category.

Similarly,

Reptile : Lizard → Lizard is a representative of the Reptile category.

Hence, the correct answer is "Lizard".

Q3. Answer: (c) [figure]

The image embedded in given figure is as shown below:

Hence, "Option 3" is the correct answer.

Q4. Answer: (d) –8 and 14

BODMAS Rule:

Given Equation I. 8 – 4 × 3 + 6 ÷ 2.

After interchanging 4 and 6, the equations we get are:

→ 8 – 6 × 3 + 4 ÷ 2

→ 8 – 6 × 3 + 4 ÷ 2 =?

→ 8 – 6 × 3 + 2 =?

→ 8 – 18 + 2 =?

→ 10 – 18 = – 8.

Given Equation II. 4 + 3 × 6 – 8 ÷ 2.

After interchanging 4 and 6, the equations we get are:

→ 6 + 3 × 4 – 8 ÷ 2

→ 6 + 3 × 4 – 8 ÷ 2 =?

→ 6 + 3 × 4 – 4 =?

→ 6 + 12 – 4 =?

→ 18 – 4 = 14.

Hence, the correct answer is "– 8 and 14".

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Q5. Answer: (c) 11

The triangles are:

So, there are 11 triangles are in the given figure.

Hence, the correct answer is "11".

Q6. Answer: (c) [figure]

The logic followed here is:

Step I: Symbol 'Square' has shifting two place in anticlockwise direction in next images, and getting Shaded in alternate image.

Step II: Symbol 'Triangle' has shifting two place in aniticlockwise direction in next images, and getting Shaded in alternate image.

Step III: Symbol 'Circle' has subtracting one part in each next images.

So, the complete series will be:

So, 'Option 3' will replace the question mark.

Hence, the correct answer is "Option 3".

Mistake PointsBoth Option 1 and 3 has the different image, please check the shaded square carefully.

Q7. Answer: (d) (102, 10404, 10506)

The logic followed here is:

Logic: Second Number = (First Number)2

Third Number = Second Number + First Number

Given,

(101, 10201, 10302)

→ 10201 = (101)2

→ 10201 = 10201

→ 10201 + 101 = 10302.

(95, 9025, 9120)

→ 9025 = (95)2

→ 9025 = 9025

→ 9025 + 95 = 9120.

Let's check each option as per the logic:

1) (102, 10069, 10172):

→ 10069 = $(102)^2$

→ 10069 ≠ 10404

→ LHS ≠ RHS.

2) (105, 11025, 11230):

→ 11025 = $(105)^2$

→ 11025 = 11025

=> 11230 = 11025 + 105

→ 11230 ≠ 11130

→ LHS ≠ RHS.

3) (104, 10816, 10820):

→ 10816 = $(104)^2$

→ 10816 = 10816

=> 10820 = 10816 + 104

→ 10820 ≠ 10920

→ LHS ≠ RHS.

4) (102, 10404, 10506):

→ 10404 = $(102)^2$

→ 10404 = 10404

=> 10506 = 10404 + 102

→ 10506 = 10506

→ LHS = RHS.

Here, we can see that only Option 4 follow the logic.

Hence, the correct answer is "(102, 10404, 10506)".

Q8. Answer: (b) 400

The logic followed here is:

Logic: (Sum of the place value of first two number) × (Sum of the place value of last two number) = Code of the word.

‘FONT’ is coded as ‘714’.

→ (6(F) + 15(O)) × (14(N) + 20(T))

→ 21 × 34 = 714.

‘GLUE’ is coded as ‘494’.

→ (7(G) + 12(L)) × (21(U) + 5(E))

→ 19 × 26 = 494.

Similarly, for 'JOKE'

→ (10(J) + 15(O)) × (11(K) + 5(E))

→ 25 × 16 = 400.

So, 'JOKE' will be coded as '400'.

Hence, the correct answer is "400".

Q9. Answer: (c) Assam

The logic followed here is:

Ranchi : Jharkhand → Ranchi city is the capital of Jharkhand.

Similarly,

Dispur : Assam → Dispur city is the capital of Assam.

Hence, the correct answer is "Assam".

Additional Information

Capital City	State
Gangtok	Sikkim
Kohima	Nagaland
Shillong	Meghalaya

Q10. Answer: (a) B

From the given open Dice:

K and C is the opposite sides.

R and D is the opposite sides.

B and A is the opposite sides.

So, the face of 'B' is opposite to the face showing 'A'

Hence, the correct answer is "Option 1".

Q11. Answer: (c) BDAOMF

The logic followed here is:

‘ALWAYS’ is coded as ‘AKYAXU’,

Similarly, for 'BEYOND'

So, 'BEYOND' is coded as 'BDAOMF'.

Hence, the correct answer is "Option 3".

Q12. Answer: (c) 1, 2, 4, 3, 5

The logic followed here is:

Logic: The arrangement is based on body parts from bottom to top.

Here is the correct arrangement:

1) Thighs

2) Stomach

4) Lips

3) Nose

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5) Skull

Hence, the correct answer is " 1, 2, 4, 3, 5 ".

Q13. Answer: (a) psmjst

The logic followed here is:

Given Sequence: jtm _ r _ jt _ prs _ tmpr _ j _ mprs

Now, putting the letters in the blank spaces given in the option one by one:

Option 1) psmjst → j t m p r s / j t m p r s / J t m p r s / j t m p r s.

Here, 'Option 1' followed a pattern.

Option 2) pssjst → j t m p r s / j t s p r s / J t m p r s / j t m p r s.

Option 3) psmjts → j t m p r s / j t m p r s / J t m p r t / j s m p r s.

Option 4) pmsjst → j t m p r m / j t s p r s / J t m p r s / j t m p r s.

Hence, the correct answer is "Option 1".

Q14. Answer: (d) Sculptor – Chisel

The logic followed here is:

Logic: The first word is a tool/instrument and the second word is the professional who uses that tool or instrument.

Let's check each option using the logic:

1) Scalpel – Surgeon:

→ A surgeon uses a scalpel.

2) Axe – Woodcutter:

→ A woodcutter uses an axe.

3) Sword – Warrior:

→ A warrior uses a sword.

4) Sculptor – Chisel:

→ Here the word order is reversed compared to the others. A chisel is used by a sculptor, not the other way around.

Here, we can see that the Option 4 is the odd word pair.

Hence, the correct answer is " Sculptor – Chisel ".

Q15. Answer: (c) 121

The logic followed here is:

5 # 2 = 25:

→ $(5)^2 = 25$

8 # 2 = 64:

→ $(8)^2 = 64$

Similarly,

11 # 2 =?

→ $(11)^2 = 121$

Hence, the correct answer is "121".

Q16. Answer: (b) Only conclusion II follows

Given Statements:

I. All D are E.

II. Some E are F.

The least possible Venn diagram for the given statement is:

Conclusions:

I. All D are F - False (Because, there is no definite relation given between D and F, so it can be possible only).

II. Some F are E - True (Because Some F are E).

III. All E are D - False (All D are E gives some E are D, and All E are D is possible only).

So, Only conclusion II follows.

Hence, the correct answer is "Option 2".

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Q17. Answer: (b) Maternal Uncle

Family Chart:

Given:

I is the brother of K.

H is the wife of I.

J is the mother of L.

K is the brother of J.

So, K is the Maternal Uncle of L.

Hence, the correct answer is "Option 2".

Q18. Answer: (d) WTP

The logic followed here is:

Logic: 4 has been subtracted to each letter's positional value to get the next letter of the cluster.

Let's check each option as per the logic:

1) ZVR:

2) QMI:

3) OKG:

4) WTP:

Hence, the correct answer is " WTP ".

Q19. Answer: (b) (56, 50, 6)

The logic followed here is:

Logic: (First Number - Second Number) = Third Number

(32, 24, 8):

→ 32 - 24 = 8

→ 8 = 8 → LHS = RHS.

(48, 42, 6):

→ 48 - 42 = 6

→ 6 = 6 → LHS = RHS.

Let's check each option as per the logic:

1) (64, 62, 8):

→ 64 - 62 = 8

→ 2 ≠ 8

→ LHS ≠ RHS.

2) (56, 50, 6):

→ 56 - 50 = 6

→ 6 = 6

→ LHS = RHS.

3) (16, 14, 4):

→ 16 - 14 = 4

→ 2 ≠ 4

→ LHS ≠ RHS.

4) (18, 12, 4):

→ 18 - 12 = 4

→ 6 ≠ 4

→ LHS ≠ RHS.

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

Hence, the correct answer is " (56, 50, 6) ".

Q20. Answer: (c) 11

According to the given Venn diagram:

The shaded area shows the "total number of paper are not bottles".

So, the total number of paper are not bottles = 8 + 3 = 11.

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Hence, the correct answer is "11".

Q21. Answer: (d) Nephew

The logic followed here is:

Sister : Brother → 'Sister' is the female counterpart of the male 'Brother'.

Similarly,

Niece : Nephew → 'Niece' is the female counterpart of the male 'Nephew'.

Hence, the correct answer is "Nephew".

Q22. Answer: (b) 11

The logic followed here is:

Logic: (1st number + 4)2 = 2nd number.

Now,

For, 9 : 169

=> (9 + 4)2 = (13)2 = 169.

For, 12 : 256

=> (12 + 4)2 = (16)2 = 256.

Similarly, for ? : 225

=> (11 + 4)2 = (15)2 = 225.

Hence, the correct answer is "Option 2".

Q23. Answer: (b) (313, 627, 1255)

The logic followed here is:

Logic: Second Number = (First Number × 2) + 1

Third Number = (Second Number × 2) + 1

(46, 93, 187):

=> 93 = (46 × 2) + 1

→ 93 = 92 + 1

→ 93 = 93

=> 187 = (93 × 2) + 1

→ 187 = 187.

(123, 247, 495):

=> 247 = (123 × 2) + 1

→ 247 = 246 + 1

→ 247 = 247

=> 495 = (247 × 2) + 1

→ 495 = 294 + 1

→ 495 = 495.

Let's check each option as per the logic:

1) (208, 418, 837):

=> 418 = (208 × 2) + 1

→ 418 = 416 + 1

→ 418 ≠ 417 → Doesn't follow the logic.

2) (313, 627, 1255):

=> 627 = (313 × 2) + 1

→ 627 = 626 + 1

→ 627 = 627

=> 1255 = (627 × 2) + 1

→ 1255 = 1254 + 1

→ 1255 = 1255 => Follow the logic.

3) (111, 213, 427):

=> 213 = (111 × 2) + 1

→ 213 = 222 + 1

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→ 213 ≠ 223 => Doesn't follow the logic.

4) (184, 369, 729):

=> 369 = (184 × 2) + 1

→ 369 = 368 + 1

→ 369 = 369

=> 729 = (369 × 2) + 1

→ 729 = 738 + 1

→ 729 ≠ 739 => Doesn't follow the logic.

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

Hence, the correct answer is " (313, 627, 1255) ".

Q24. Answer: (c) B and A

From the given dice:

A is the common letter in both Dice,

Here, H, B, K and T are the adjacent of A.

and, the remaining face will be opposite of A.

Now, checking the options:

Option 1) H and T → False (H is the opposite face of K).

Option 2) H and B → False (H and B is the adjacent of A, not K).

Option 3) B and A → True (B and A will be the adjacent surface of K).

Option 4) A and H → False (A and H is the adjacent of B, not K).

Therefore, 'B and A' the adjacent faces of the face containing 'K'.

Hence, the correct answer is "Option 3".

Q25. Answer: (b) [figure]

The paper when unfolded will appear as shown below:

Hence, the correct answer is "Option 2".

Q26. Answer: (d) second largest

The correct answer is Option 4.

Key Points

• In 2018, India was the second largest producer of groundnut in the world.

• The primary producers of groundnuts (also known as peanuts) are several countries around the world.

• The top producers of groundnuts globally include China, India, Nigeria, the United States, Sudan, Senegal, Argentina, Myanmar, Indonesia, and Brazil.

• China and India are the largest producers of groundnuts, accounting for a significant portion of the world's total production.

• These countries have favorable climates and large agricultural sectors that contribute to their high production levels.

• Nigeria is the leading producer of groundnuts in Africa, and it plays a vital role in the continent's overall production.

• The United States is also a major producer, particularly in the southern states, such as Georgia, Texas, Alabama, and Florida.

Q27. Answer: (d) Jawaharlal Nehru

The correct answer is Option 4.

Key Points

• In 1929, under the presidency of Jawaharlal Nehru, the Lahore Congress formalized the demand of Purna Swaraj.

• Jawaharlal Nehru was a prominent leader of the Indian National Congress and later became the first Prime Minister of independent India.

• The Lahore Congress session held on December 31, 1929, marked a significant milestone in India's struggle for independence as it declared the goal of complete self-rule or Purna Swaraj for India.

Additional Information

• Sardar Vallabhbhai Patel, often referred to as the Iron Man of India, was a prominent political leader and one of the founding fathers of the Republic of India.

• He was born on October 31, 1875, in Nadiad, Gujarat, and passed away on December 15, 1950.

• Vallabhbhai Patel played a crucial role in India's struggle for independence from British rule.

• He was a close associate of Mahatma Gandhi and actively participated in various civil disobedience movements led by the

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Indian National Congress.

• As the leader of the Bardoli Satyagraha in 1928, he successfully led a farmers' protest against oppressive land taxes imposed by the British colonial authorities.

• Mahatma Gandhi, born Mohandas Karamchand Gandhi on October 2, 1869, in Porbandar, Gujarat, India, was a preeminent leader of India's independence movement against British rule.

• He is widely known as Mahatma, a term meaning "great soul," and is revered as the Father of the Nation in India.

• Gandhi's philosophy of nonviolence, called Satyagraha, became a guiding principle for the Indian freedom struggle and inspired civil rights movements around the world.

• Subhas Chandra Bose, also known as Netaji, was a prominent nationalist leader and freedom fighter in India's struggle for independence from British rule.

• He was born on January 23, 1897, in Cuttack, Odisha, India, and his untimely death occurred on August 18, 1945.

• Subhas Chandra Bose played a significant role in mobilizing the Indian masses against British colonial rule.

• He advocated for complete independence and believed in taking more assertive and militant measures to achieve it.

• Bose was a charismatic leader and an influential orator who captured the imagination of many Indians.

Q28. Answer: (a) Both I and II

The correct answer is Option 1.

Key Points

• Black soil, also known as black cotton soil or regur soil, is generally poor in phosphoric contents.

• It is characterized by its high clay content and is known for its ability to retain moisture.

• However, it tends to have low natural fertility in terms of essential nutrients like phosphorus. Therefore, the correct pair regarding soil is:

• Forest soil – These soils are loamy and silty in valley sides

• Black soil – generally poor in phosphoric contents

Q29. Answer: (a) Only II

The correct answer is Option 1.

Key Points

• Eldhose Paul's remarkable rise in the world of athletics is indeed a testament to his perseverance and hard work.

• He won India's first gold medal in the men's triple jump event at the Commonwealth Games in Birmingham on August 8, 2022.

• This victory not only brought him recognition within India but also garnered attention on the international stage.

• Before his Commonwealth Games triumph, Eldhose Paul made history by becoming the first Indian triple jumper to qualify for the final at the World Athletics Championships in Oregon.

• This achievement showcased his talent and potential to compete at the highest level of the sport.

Additional Information

• Anshu Malik Winning a silver medal at the World Wrestling Championships is a remarkable feat, especially considering she became the first Indian woman to reach the final in the history of the event.

• Anshu's accomplishment surpassed the achievements of renowned wrestlers like Geeta Phogat and Vinesh Phogat, which speaks volumes about her talent and dedication.

• Anshu's success extends beyond the World Championships.

• She has also secured a silver medal at the Commonwealth Games, another prestigious international sporting event.

• Additionally, she has earned the title of Asian champion in her weight category, further solidifying her position as a top-class wrestler.

• Moreover, by the age of 21, Anshu has already participated in the Olympics, which is the pinnacle of athletic competition.

• Such early exposure to the world stage bodes well for her future career, as she gains invaluable experience and continues to hone her skills.

Q30. Answer: (a) It lies above the mesosphere

The correct answer is Option 1.

Key Points

• The statement "It lies above the mesosphere" is incorrect when referring to the stratosphere.

• The stratosphere is actually located above the troposphere, which is the lowest layer of the Earth's atmosphere.

• The stratosphere extends from about 10 to 50 kilometers (6 to 31 miles) above the Earth's surface.

Additional Information

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• The Earth's atmosphere is divided into five primary layers based on temperature changes with increasing altitude. From the bottom to the top, these layers are:

• Troposphere: This is the lowest layer of the atmosphere, extending from the Earth's surface up to an average altitude of about 12 kilometers (7.5 miles) at the poles and 18 kilometers (11 miles) at the equator. The troposphere is where weather phenomena occur, and it contains most of the Earth's air mass and moisture.

• Stratosphere: Above the troposphere lies the stratosphere, extending from the top of the troposphere up to approximately 50 kilometers (31 miles) in altitude. The stratosphere contains the ozone layer, which plays a crucial role in absorbing the Sun's harmful ultraviolet (UV) radiation.

• Mesosphere: The mesosphere is situated above the stratosphere and extends up to around 85 kilometers (53 miles) in altitude. In this layer, temperatures decrease with increasing altitude, reaching extremely low temperatures.

• Thermosphere: The thermosphere starts above the mesosphere and extends upward to about 600 kilometers (373 miles). It is characterized by a significant increase in temperature due to the absorption of intense solar radiation. Despite the high temperatures, the thermosphere would not feel hot to human perception due to its extremely low density of particles.

• Exosphere: The exosphere is the outermost layer of the Earth's atmosphere. It begins around 600 kilometers (373 miles) above the Earth's surface and extends indefinitely into space. The exosphere consists of extremely sparse gas molecules that gradually dissipate into the vacuum of outer space.

Q31. Answer: (b) Alt + Enter

The correct answer is Alt + Enter.

Key Points

• Alt + Enter shortcut in Excel 365 to insert a new line within a cell.

• This is especially useful when you're dealing with data that needs specific formatting or when you need to organize information clearly within a single cell.

Additional Information Some Important short

Shortcut Key	Action
Ctrl + C	Copy the selected cell or range
Ctrl + V	Paste the copied content into a selected cell
Ctrl + X	Cut the selected cell or range
Ctrl + Z	Undo the last action
Ctrl + Y	Redo the last undone action
Ctrl + S	Save the current workbook
Ctrl + O	Open an existing workbook
Ctrl + N	Create a new workbook
Alt + Enter	Start a new line in the same cell
Ctrl + 1	Open the Format Cells dialog box
Ctrl + Arrow Key	Navigate to the edge of the data region
Shift + Space	Select the entire row
Ctrl + Space	Select the entire column
Ctrl + Shift + Arrow Key	Select all cells to the edge of the data region
Ctrl + P	Open the Print dialog box
Ctrl + F	Open the Find and Replace dialog box
F2	Edit the active cell
Ctrl + Home	Navigate to cell A1
Ctrl + End	Navigate to the last used cell
Ctrl + D	Fill down
Ctrl + R	Fill right

Ctrl + Shift + L	Toggle AutoFilter
Alt + '='	AutoSum
Ctrl + T	Create a table with the selected range

Q32. Answer: (d) Gwalior

The correct answer is Gwalior.

Key Points

• The 11th National Seed Congress was held in Gwalior, Madhya Pradesh, India, from February 25-27, 2022.

• The theme of the Congress was "Seeds for Sustainable Agriculture."

• The Congress was inaugurated by the Union Minister of Agriculture and Farmers Welfare, Shri Narendra Singh Tomar.

• The Congress was attended by over 2,000 delegates from all over India, including scientists, farmers, seed industry representatives, and policymakers.

Additional Information

• The National Seed Congress was established in 1986.

• The first National Seed Congress was held in New Delhi.

• The National Seed Congress has been held every two years since 1986.

Q33. Answer: (c) Private Income = Factor income from net domestic product accruing to the private sector + National debt int...

The correct answer is Private Income = Factor income from net domestic product accruing to the private sector + National debt interest + Net factor income from abroad + Current transfers from government + Other net transfers from the rest of the world.

Key Points

• Private income is the sum of various factor and transfer incomes that are received by private sector from all sources within and outside the country.

• This private sector includes corporates as well as households.

• Thus, the formula for Private Income is as follows:

• Private income = Income from domestic product accruing to private sector + Net factor income from abroad + All types of transfer incomes

• When we subtract from this income, the amount that is paid in the form of taxes, we get Personal income which is the net income left with corporates and private individuals.

• Along with corporate taxes, undistributed profit is also subtracted from private income to arrive at personal income.

Q34. Answer: (a) India

The correct answer is India.

Key Points

• The 2023 Men's FIH Hockey World Cup was hosted the 15th edition of the Men's FIH Hockey World Cup.

• It was held from 13th January to 29th January 2023 at the Kalinga Stadium in Bhubaneswar and Rourkela in India.

• The quadrennial world championship for men's national field hockey teams is organized by the International Hockey Federation.

• The sixteen national teams were required to register a playing squad of eighteen players and two reserve players.

Additional Information

• International Hockey Federation commonly known by the acronym FIH.

• Its headquarter is in Lausanne, Switzerland.

• Mohammad Tayyab Ikram of Macau was elected as the new president of the International Hockey Federation.

Q35. Answer: (b) Yogi Adityanath

The correct answer is Yogi Adityanath.

Key Points

Yogi Adityanath, the Chief Minister of Uttar Pradesh, and Nitin Gadkari, the Union Minister of Road Transport and Highways, inaugurated the 81st annual session of the Indian Roads Congress in Lucknow on October 8, 2022.The session was held at the Indira Gandhi Pratishthan in Lucknow.

Q36. Answer: (a) (given mass/molar mass) × Avogadro number

The correct answer is (given mass/molar mass) × Avogadro number.

Key Points Here's a breakdown of the formula:

• "given mass": This refers to the mass of the substance you are considering, typically given in grams.

• "molar mass": This represents the molar mass of the substance, which is the mass of one mole of that substance. It is expressed in grams per mole.

• "Avogadro's number": This constant is denoted by "Na" or "L" and has a value of approximately 6.022×10^{23}. It represents the number of particles (atoms, molecules, ions) in one mole of a substance.

• The correct representation of the number of atoms is (given mass/molar mass) × Avogadro number.

Additional Information

The formula can be understood in the following steps:

1. Divide the given mass of the substance (in grams) by the molar mass of the substance (in grams per mole). This gives you the number of moles of the substance.

• (given mass / molar mass)

2. Multiply the number of moles by Avogadro's number to obtain the number of atoms.

• (given mass / molar mass) × Avogadro's number

Q37. Answer: (d) Michael Jackson

The correct answer is Michael Jackson.

Key Points

• Michael Jackson was born on August 29, 1958, and died on June 25, 2009.

• Jackson was an American singer, songwriter, dancer, and philanthropist.

• He is known as "The King of Pop" and is regarded as one of the most significant cultural figures of the 20th century.

• Some honors given to Jackson include:

• "Presidential Public Safety Commendation" award by Ronald Reagan in 1984.

• "Artist of the Decade" by George H. W. Bush in 1990.

• "Point of Light Ambassador" by Bush in 1992.

• The RIAA regards him as the biggest-selling music artist of all time worldwide.

• Jackson has 13 Grammy Awards, Grammy Legend Award, Grammy Legend Award, and many more awards.

• In 2021, he was among the inaugural inductees into the Black Music & Entertainment Walk of Fame.

Additional Information

Name	Birthdate	Occupation	Notable Achievements
Benny Andersson	December 16, 1946	Musician, Composer	Member of the Swedish band ABBA, known for hits like "Dancing Queen" and "Mamma Mia!"
John Lennon	October 9, 1940	Musician, Singer-Songwriter	Co-founder of the Beatles, renowned for songs like "Imagine" and "Hey Jude"
Elton John	March 25, 1947	Musician, Singer-Songwriter	Prolific career with numerous chart-topping hits, including "Rocket Man" and "Candle in the Wind"

Q38. Answer: (a) Provisions related to Schedule Areas and Scheduled Tribes

The correct answer is Provisions related to Schedule Areas and Scheduled Tribes.

Key Points Schedule 5 of the Indian Constitution

• The administration and control of Scheduled Areas and Scheduled Tribes are addressed in the Fifth Schedule.

• Article 244(1) is directly related to Schedule 5. Ten states currently have Fifth Schedule Areas: Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana.

• The criteria for declaring an area as Scheduled Area are as follows:

• a preponderance of the tribal population;

• compactness and reasonable size of the area;

• under-developed nature of the area; and

• the marked disparity in the economic standard of the people.

Additional Information

Schedule	Description
1	The States and the Union Territories
2	Salary, Allowances, and Pension of the President and Governors
3	Oaths or Affirmations
4	Allocation of seats in the Council of States
5	Provisions as to the Administration and Control of Scheduled Areas and Scheduled Tribes
6	Provisions as to the Administration of Tribal Areas in the States of Assam, Meghalaya, Tripura and Mizoram
7	The Union List, the State List and the Concurrent List
8	The Scheduled Languages
9	Validation of certain Acts and Regulations
10	Provisions as to disqualification on ground of defection
11	The Powers, Authority and Responsibilities of Panchayats
12	The Powers, Authority and Responsibilities of Municipalities

Q39. Answer: (b) Tesla

The correct answer is Tesla.

Key Points

• Elon Musk, a prominent entrepreneur and visionary, was awarded the Stephen Hawking Medal for Science Communication at the Starmus Festival.

• The Starmus Festival is an international science and arts festival that brings together leading scientists, astronomers, artists, and musicians to celebrate scientific achievements and promote science communication.

• The Stephen Hawking Medal for Science Communication is an esteemed award presented at the Starmus Festival to recognize individuals who have made significant contributions to popularizing science and making it accessible to the general public.

• Elon Musk received this prestigious award for his remarkable efforts in science communication and his contributions to advancing scientific knowledge and technological innovation.

• Musk is the CEO of Tesla, an electric vehicle and clean energy company known for its groundbreaking advancements in electric vehicle technology and sustainable energy solutions.

• Through Tesla, Musk has played a crucial role in popularizing electric vehicles and driving the transition towards a sustainable transportation system.

• As the CEO of Tesla, Musk has been instrumental in revolutionizing the automotive industry by introducing electric vehicles that combine performance, range, and sustainability.

• Musk's visionary approach and his ability to communicate complex scientific concepts in a relatable manner have made him an influential figure in science communication.

• His efforts have not only advanced the field of electric vehicles but have also inspired a global movement towards clean energy and a more sustainable future.

• The recognition of Elon Musk with the Stephen Hawking Medal for Science Communication highlights his significant contributions in making science and technology accessible to a wider audience and fostering public interest in scientific advancements.

Additional Information

Company	Founder(s)	Headquarters	Year Founded
Microsoft	Bill Gates and Paul Allen	Redmond, Washington, U.S.	1975
Flipkart	Sachin Bansal and Binny Bansal	Bangalore, India	2007
Adobe Inc	John Warnock and Charles Geschke	San Jose, California, U.S.	1982

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Q40. Answer: (a) 5^(th) June

The correct answer is 5th June.

Key Points

• Every year, World Environment Day is observed on June 5.

• This day is celebrated to encourage awareness and environmental protection.

• In the year 2022, Sweden is the host of world environment day.

• The day will be celebrated under the theme "Only One Earth" in 2022.

• In 1972, the United Nations General Assembly established World Environment Day on the first day of the Stockholm Conference on the Human Environment.

• The day was first observed in 1974 in the city of Spokane in the USA.

• According to United Nations, "The celebration of this day provides us with an opportunity to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises, and communities in preserving and enhancing the environment."

Additional Information

Date	Importance of the Day
January 1st	New Year's Day, a globally celebrated day marking the beginning of the Gregorian calendar year. It is a time for reflection, resolutions, and celebrations worldwide.
August 29th	National Sports Day in India, celebrated on the birth anniversary of Major Dhyan Chand, a legendary hockey player. The day aims to promote sports and honor sporting achievements in the country.
July 1st	Canada Day, the national day of Canada, commemorating the anniversary of the enactment of the Constitution Act, 1867. It celebrates Canadian heritage, culture, and achievements.

Q41. Answer: (d) Jawaharlal Nehru Port

The Correct answer is Jawaharlal Nehru Port.

Key Points:

• The Jawaharlal Nehru Port is the largest container port in India as of October 2022.

• It is located in Navi Mumbai.

• The port alone handles about 40% of the country's ocean cargo.

• The port serves as the major cargo hub for Karnataka, Gujarat, Madhya Pradesh, and Maharashtra.

Additional InformationParadip Port:

• It is on the east coast of India in the Jagatsinghpur district of Odisha.

• Paradip Port is a natural, deep-water port.

• It was the first Major Port commissioned after Independence.

• It is situated at the confluence of the Mahanadi River and the Bay of Bengal.

• It is situated 210 nautical miles south of Kolkata and 260 nautical miles north of Visakhapatnam.

Tuticorin Port:

• Tuticorin Port is also known as V. O. Chidambaranar Port Trust.

• The VO Chidambaranar Port Trust (Thoothukudi) is one of the 13 major ports in India.

• It was declared a major port on 11 July 1974.

• It is the second-largest port in Tamil Nadu and the fourth-largest container terminal in India.

• Thoothukudi has been the center of maritime trade and pearl fishery for over 2000 years. The natural harbor with a rich hindland activates the development of the port.

Q42. Answer: (b) States in part B of the first schedule

Correct Answer States in part B of the first schedule

Key Points

• Out of the 22 parts of the Indian Constitution that originally existed during its formation, the only part which has been deleted is Part VII.

• It was repealed by the Constitution (7th Amendment) Act, 1956.

• It dealt with the Part-B States in the Indian Union.

• At the time of Independence and during the framing of the Constitution, India consisted of three types of states. A, B and C

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• The Part B states were former princely states or groups of princely states.

• The Part B states were Hyderabad, Jammu & Kashmir, Madhya Bharat, Mysore, Patiala, East Punjab States Union (Pepsu), Rajasthan, Saurashtra, and Travancore-Cochin.

• When all the states were reorganized on a linguistic basis through the States Reorganisation Act, 1956, Constitution (Seventh Amendment) Act was also passed.

• This completely led to a permanent alteration of the Indian Map and very much near to the present one. Hence Part B states were completely removed.

• The scheme of Part A, B, and C states were completely done away with and the only classification that now remains is States and the Union Territories.

• Hence the Seventh Amendment deleted Part VII which dealt with Part B states now stands omitted.

Q43. Answer: (c) Both I and II

Correct Answer Both I and II

Key Points:Both statements are generally accepted to be features of a perfectly competitive market.

I. Large number of buyers and sellers:

• A perfectly competitive market is characterized by a large number of buyers and sellers.

• This ensures that no single buyer or seller has the power to significantly influence the price of the product or service in the market.

• Any attempt to do so would result in buyers or sellers shifting to competitors, preventing the development of market power.

II. Perfect information:

• Another important feature of a perfectly competitive market is perfect information.

• This means all buyers and sellers in the market have complete knowledge about the product, its prices, and other relevant market conditions.

• This facilitates rational decision-making.

• However, in the real world, perfect information rarely exists due to various constraints and asymmetries in access to information.

• Remember, though, that the concept of a perfectly competitive market is a theoretical ideal and does not precisely represent actual markets.

• It's a simplifying assumption used in economics to study and model certain aspects of the market and economic behavior.

Q44. Answer: (a) Rauf

The correct answer is Rauf

Key Points:

• Rauf and Hikat is a folk dance associated with the state of Jammu and Kashmir.

• Apart from this, other folk dances of Jammu and Kashmir include Damali, Hikat, Mandjas, etc.

Additional Information: Huttari:

• Huttari dance is a folk dance done mainly by Kodavas in Kodagu.

• The dance is performed by wearing Kodava outfit with fancy knives.

• It is a harvest festival celebrated during November or December.

Suggi:

• Suggi dance is also a harvesting festival in Karnataka.

• It is mainly performed by Halakki Tribe.

Yakshagana:

• Yakshagana is a folk theatre form of Karnataka.

• It is popular in coastal districts of Dakshina Kannada, Udupi and Ittara Kannada of Karnataka

• The dance is performed during the night after winter crop harvestation.

Other folk dances of Karnataka:

• Dollu Kunita

• Togalu Gombeyata

• Karaga

• Veeragaase

• Kamsale

• Goravara Kunita etc.

Important Points:Classical dances of India:

Dance	Origin
Bharat Natyam	Tamilnadu
Kuchipudi	Andhrapradesh
Kathakali	Kerala
Mohiniattam	Kerala
Odissi	Odisha
Manipuri	Manipur
Kathak	Uttarpradesh
Sattriya	Assam

Q45. Answer: (b) Manipuri Dance

Correct Answer Manipuri Dance

Key Points

• Shrimati Akham Lakshmi Devi was born on May 1, 1952, in Imphal, Manipur.

• She received her training in Manipuri dance from Gurus Amubi Singh, Tomba Singh, and Th. Babu Singh.

• She specialized in Manipuri dance at the Jawaharlal Nehru Manipur Dance Academy in Imphal.

• Shrimati Akham Lakshmi Devi has performed in various prestigious dance festivals, including the Bhagyachandra national dance festival and those organized by the Manipur State Kala Akademi and Sangeet Natak Akademi.

• Her performances in dance productions by the Jawaharlal Nehru Manipur Dance Academy, such as Keibul Lamjao, Ramayan, Lei Langba, Moirang Sha, and Geet Govinda, have received critical acclaim.

• She has received several honors, including the Manipur State Kala Akademi Award in 2010 and the Nritya Bhusan in 2014.

• Shrimati Akham Lakshmi Devi was awarded the Sangeet Natak Akademi Award in 2018 for her significant contributions to Manipuri dance.

Additional Information

• Classical dances Exponents

• Bharatnatyam

• T. Balasaraswati, Shanta Rao, Mrinalini Sarabhai, Yamini Krishnamurthy, Kamala, Vyjayanthimala, Sonal man Singh, Samyukta Panigrahi, and Rukhmini Devi.

• Kathak

• Sitara Devi, Birju Maharaj, Gopi Krishna, Binda din Maharaj, Kalkadin, Uma Sharma.

• Kathakali

• Guru Krishna Kutty, Kanak Rele and Raghvan

• Mohiniattam

• Sunanda Nair, Jayaprabha Menon, Pallavi Krishnan, Gopika Verma, Vijayalakshmi and Radha Dutta.

• Manipuri

• Guru Bipin Sinha, Jhaveri sisters, and T Nadia Singh.

• Odissi

• Aadya Kaktikar, Aditi Bandyopadhyay, Anita Babu, Arpita Venkatesh and Aruna Mohanty.

• Kuchipudi

• Bhavana Reddy, Kaushalya Reddy, Raja and Radha Reddy and Yamini Reddy.

• Sattriya

• Mallika Kandali,Late Moniram Dutta Muktiyar Barbayan, Late Roseshwar Saikia Barbayan, Late Dr. Maheswar Neog, Late Dr Bhupen Hazarika, Late Ananda Mohan Bhagawati

Q46. Answer: (d) Dholavira

The Harappan towns Dholvira.

Key Points

• The Harappan Civilization prospered around 4700 years ago.

• The cities of the Harappan Civilization flourished mainly in the valley of the river Indus and are the earliest cities in the Indian subcontinent.

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• These cities were located in the Punjab and Sind in Pakistan, and in Gujarat, Rajasthan, Haryana and the Punjab in India.
• The Harappan towns Dholvira and Lothal are located in Gujarat.
• Dholavira:
• Dholavira was located on Khadir Beyt (also spelt as Bet) in the Rann of Kutch in Gujarat, with fresh water and fertile soil.
• Unlike some of the other Harappan cities, which were divided into two parts, Dholavira was divided into three parts, and each piece was surrounded by massive stone walls, with entrances through gateways.

Additional Information

Site	Location
Mehrgarh	Balochistan (Pakistan)
Koldihwa	Uttar Pradesh
Rakhi Garhi	Haryana

Q47. Answer: (c) Dabang Delhi K.C.

The correct answer is Dabang Delhi.

Key Points

• The Pro Kabaddi League's eighth season began on December 22 at the Sheraton Grand Bengaluru Whitefield Hotel & Convention Centre in Bengaluru.
• Dabang Delhi KC clinched the Pro Kabaddi League Season 8 trophy by eking out a close 37-36 win over Patna Pirates in the summit clash.

Additional Information

• Pro Kabaddi League (known as Vivo Pro Kabaddi for sponsorship reasons) is a men's professional Kabaddi league from India.
• It was launched in 2014 and is aired on Star Sports.
• Vivo
• Vivo Pro Kabaddi

Period	Sponsor	Tournament
2013–16	Star Sports	Star Sports Pro Kabaddi
2017–19		
2021–25		

Q48. Answer: (c) iris

The correct answer is iris.

Key Points

• Behind the cornea, there is a dark muscular structure called the Iris.
• It is a thin annular structure of the eye.
• Iris is responsible for controlling the diameter and size of the pupil and thus controlling the light that enters the eye.
• Layers
• Iris consists of two layers
• In front, a pigmented fibrovascular layer known as stroma
• A layer of pigmented epithelial cells beneath the stroma.
• The stroma is connected to a sphincter muscle.
• Iris:
• The coloured ring around the pupil of the eye is called the iris.
• Controls light levels inside the eye.
• Tiny muscles that dilate and constrict the pupil size.
• Divides the front of the eye from the back of the eye.
• Colour comes from melanin.
• Iris is a part of Sclerotic and choroid.
• Zones
• Pupillary zone

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• Ciliary zone

Q49. Answer: (b) An object of mass m moving with velocity v has a kinetic energy of (mv) /2.

The correct answer is Option 2.

Key Points

• The kinetic energy of an object is given by the formula KE = 1/2 mv^2, where m is the mass of the object and v is the velocity of the object.

• In this formula, the velocity is squared, so kinetic energy increases with the square of the velocity.

• Therefore, an object moving twice as fast has four times the kinetic energy.

Hence statement 2 is incorrect.

• Potential energy is the stored energy an object has because of its position or state.

• A common example is gravitational potential energy.

• An object high off the ground has gravitational potential energy because it can do work as it falls to the ground.

• Another example is elastic potential energy stored in a stretched or compressed spring.

Hence statement 1 is correct.

• The formula for gravitational potential energy near the surface of the Earth is PE = MgH, where m is the mass of the object, g is the acceleration due to gravity (approximately 9.8 m/s^2 near the Earth's surface), and h is the height above the ground.

• So, the potential energy increases linearly with height.

Hence statement 3 is correct.

• An object in motion has kinetic energy because it has the capacity to do work by virtue of its motion.

• The amount of kinetic energy an object has depends on both its mass and how fast it's moving.

• As I mentioned in statement 2, the formula for kinetic energy is 1/2 mv^2.

Hence statement 4 is correct.

Q50. Answer: (a) Winchester

The answer is Winchester.

Key Points

• A Winchester disk is a type of hard disk drive that uses a rotating magnetic disk to store data.

• Winchester disks are the most common type of hard disk drive in use today.

• They are typically used in personal computers, servers, and other devices that require large amounts of storage space.

• DVDs, CD-RWs, and CD-Rs are all optical disks that use a laser to store data.

• They are not magnetic disks.

Additional Information

Feature	Magnetic Disk	Optical Disk
Data storage method	Magnetic fields	Laser
Storage capacity	Up to several terabytes	Up to several gigabytes
Access Speed	Relatively faster	Relatively slower
Durability	Less durable	More durable
Cost	Less expensive	More expensive

Q51. Answer: (d) 9 : 16

Given:

Δ PQR, where angle Q = 90 degrees, which means it is a right-angled triangle at Q.

PQ = 15 cm, PR = 25 cm, which are two sides of the triangle.

QX is perpendicular to PR, which divides PR into two segments PX and XR.

Concept Used:

If a perpendicular is drawn from the vertex of the right angle of a right-angled triangle to the hypotenuse, then it divides the hypotenuse into two segments. The lengths of these

segments are proportional to the lengths of the other two sides. This is based on the principle of similar triangles.

Calculation:

Using the principle of similar triangles, since Δ PQR ~ Δ PQX, we have:

PX/PQ = PQ/PR

Plugging in the given values:

PX/15 = 15/25

Solving this, we get PX = 9 cm.

XR = PR - PX

=> 25 - 9 = 16

Therefore, the ratio of PX to XR is 9:16.

Therefore Option 4 is the correct answer.

Q52. Answer: (a) 21 cm

Given:

Triangle ABC, where AB = AC indicating it is an isosceles triangle.

Z is a point on side BC.

angle AZB = 90 degrees, which means AZ is a perpendicular drawn from point A onto side BC.

BC = 42 cm

Concept Used:

In an isosceles triangle, if a line is drawn from the vertex of the equal sides to the base such that it is perpendicular to the base, it bisects the base. This line is also known as the

altitude of the isosceles triangle.

Calculation:

Since AB = AC and angle AZB = 90 degrees, by the property of an isosceles triangle, the line AZ will bisect BC at Z. Therefore, BZ = CZ.

So, if BC = 42 cm, then BZ = BC/2 = 42/2 = 21 cm.

Hence, the length of BZ is 21 cm.

Therefore Option 1 is the correct answer.

Q53. Answer: (a) 376

Given:

654321 × 123456

Formula:

To find the last three digits of a product, we can ignore the first two digits and multiply the remaining digits.

Solution:

Ignoring the first two digits of 654321 and 123456, we have 321 × 456.

Multiplying these digits, we get 146376

Therefore, the last three digits of 654321 × 123456 are 376.

Q54. Answer: (d) 3 : 2

Shortcut Trick

Let the Sum of the two numbers be 100 units.

The Difference is given as 20% of the sum => 20 units.

Larger number = (Sum + Difference) ÷ 2 = (100 + 20) ÷ 2 = 60.

Smaller number = (Sum − Difference) ÷ 2 = (100 − 20) ÷ 2 = 40.

Required Ratio = 60 : 40 = 3 : 2.

Therefore The correct answer is 3 : 2.

Alternate Method

Let the larger number be x and the smaller number be y.

Given: (x − y) = 20% × (x + y)

Formula: Percentage to Fraction conversion: 20% = 20/100 = 1/5

=> (x − y) = (1/5) × (x + y)

=> 5 × (x − y) = 1 × (x + y)

=> 5x − 5y = x + y

=> 5x − x = y + 5y

=> 4x = 6y

=> x/y = 6/4

=> x/y = 3/2

Therefore The correct answer is 3 : 2.

Additional Information

Componendo and Dividendo Rule

If a/b = c/d, then (a + b) ÷ (a − b) = (c + d) ÷ (c − d). This is very useful for ratio problems involving sums and differences.

Ratio of Sum and Difference

If (x + y) ÷ (x − y) = a ÷ b, then the ratio of the numbers x ÷ y = (a + b) ÷ (a − b).

Percentage to Fraction Table

Converting common percentages helps in quick calculation: 20% = 1/5, 25% = 1/4, 40% = 2/5, 50% = 1/2.

Q55. Answer: (c) Rs. 9650

Shortcut Trick

Ratio method for successive discounts:

40% discount → 5 : 3 (MP : Price 1)

20% discount → 5 : 4 (Price 1 : SP)

Combined Ratio (MP : SP) = (5 × 5) : (3 × 4) = 25 : 12

12 units = Rs. 4632 => 1 unit = Rs. 386

25 units = 25 × 386 = Rs. 9650

Therefore The correct answer is Rs. 9650.

Alternate Method

Given:

First discount (d1) = 40%

Second discount (d2) = 20%

Selling Price (SP) = Rs. 4632

Formula Used:

SP = MP × (1 − d1/100) × (1 − d2/100)

Calculations:

=> 4632 = MP × (1 − 40/100) × (1 − 20/100)

=> 4632 = MP × (60/100) × (80/100)

=> 4632 = MP × 0.6 × 0.8

=> 4632 = MP × 0.48

=> MP = 4632 ÷ 0.48

=> MP = 9650

Therefore The correct answer is Rs. 9650.

Additional Information

Single Equivalent Discount

For two successive discounts of x% and y%, the net discount is (x + y − xy/100)%.

Discount and Price Relationship

Selling Price = Marked Price − Discount | Discount % = (Discount ÷ Marked Price) × 100.

Successive Percentage Change

If a value is changed by a% and then by b% successively, the final value is Initial Value × (1 + a/100) × (1 + b/100).

Q56. Answer: (a) 40 cm

Given:

A circle with a chord of length 48 cm which is 7 cm away from the centre of the circle.

We are to find the length of another chord in the same circle which is 15 cm away from the centre.

Concept Used:

The Perpendicular from the centre of a circle to a chord bisects the chord.

Pythagorean theorem: Hypotenuse2 = Base2 + Perpendicular2

Calculation:

MP = PN = MN/2 = 48/2 = 24 cm, and

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The distance from the centre as d1 = 15 cm.
From the Pythagorean theorem, the radius r of the circle is:
=> r = √(a² + d1²)
=> √((24 cm)² + (7 cm)²)
=> √(576 cm² + 49 cm²)
=> √(625 cm²)
=> 25 cm.
For the unknown chord, let's denote half of its length as b, and the known distance from the centre as d2 = 15 cm.
Again using the Pythagorean theorem, we find x/2 as:
=> x/2 = √(r² - d2²)
=> √((25 cm)² - (15 cm)²)
=> √(625 cm² - 225 cm²)
=> √(400 cm²)
=> 20 cm.
So, the full length of the unknown chord is x = 2 × 20 cm = 40 cm.
Therefore, the length of the chord of the same circle which is at a distance of 15 cm from the center of the circle is 40 cm.
Therefore Option 1 is the correct answer.

Q57. Answer: (d) Rs. 40

Shortcut Trick
Initial ratio of CP : SP = 100 : 120 = 5 : 6
New ratio of CP : SP = 100 : 140 = 5 : 7 (since both CP and SP are reduced by Rs. 20)
Applying the cross-multiplication method: Difference in ratio units = (5 × 7) − (5 × 6) = 5 units.
Absolute difference in value = (7 × 20) − (5 × 20) = 40.
=> 5 units = Rs. 40 (Since initial CP is exactly 5 units, Initial CP = Rs. 40).
Therefore The correct answer is Rs. 40.
Alternate Method
Given:
Initial profit = 20%
Both Cost Price (CP) and Selling Price (SP) are reduced by Rs. 20.
New profit = 40%
Formula Used:
SP = CP × (100 + Profit%) ÷ 100
Initial Scenario
CP = 5x
+20% Profit
SP = 6x
− Rs. 20
− Rs. 20
New Scenario
CP = 5x − 20
+40% Profit
SP = 6x − 20
Equation: (6x − 20) = 1.4 × (5x − 20)
Calculations:
Let the initial Cost Price (CP) be 5x and Selling Price (SP) be 6x (from the 20% profit ratio of 100:120).
=> New CP = 5x − 20
=> New SP = 6x − 20
The new profit is 40%, so the ratio of new CP to new SP is 100 : 140 = 5 : 7.
=> (5x − 20) ÷ (6x − 20) = 5 ÷ 7
=> 7 × (5x − 20) = 5 × (6x − 20)
=> 35x − 140 = 30x − 100

=> 35x − 30x = 140 − 100

=> 5x = 40

=> Initial Cost Price = 5x = Rs. 40.

Therefore The correct answer is Rs. 40.

Additional Information

Profit and Loss Ratios

Profit or loss is always calculated on the base of Cost Price (CP) unless specifically mentioned otherwise. Profit % = (SP − CP) ÷ CP × 100.

Cross Multiplication Method

When two related quantities (like CP and SP) change by equal or unequal amounts, their final ratio can be determined smoothly using cross-product differences directly equated to the absolute magnitude of change.

Marked Price and Discount

Discount is exclusively given on the Marked Price (MP). The relationship connecting Cost Price, Marked Price, Profit% and Discount% is MP ÷ CP = (100 + Profit%) ÷ (100 − Discount%).

Q58. Answer: (d) 128 days

Given:

A is thrice as good a workman as B

Both can complete the work in 32 days

Concept Used:

The efficiency of work done is inversely proportional to the number of days.

Calculation:

Let A takes ‘x’ days to complete the work.

Then, amount of the work completed by Aman in 1 day = 1/x

Then Kamal would take 3x days to complete the work.

Then, amount of the work completed by Kamal in 1 day = 1/3x

Now, it is given that they complete the work together in 32 days.

I.e.,

=> 1/x + 1/3x = 1/32; => (3 + 1)/3x = 1/32

=> 3x = 32 × 4 = 128

Hence, days taken by B to complete the task = 128

Therefore Option 4 is the correct answer.

Q59. Answer: (b) 240

Calculation:

L1 = The total GDP of country P in all 5 years.

L1 = 225 + 250 + 200 + 125 + 100 = 900

L2 = The total GDP of country Q in all 5 years.

L2 = 335 + 350 + 175 + 135 + 145 = 1140

L2 - L1 = 1140 - 900 = 240

Therefore Option 2 is the correct answer.

Q60. Answer: (b) Rs. 5000

Given:

Total investment = Rs. 15,500

The annual rates of simple interest for these schemes are 4%, 6%, and 10% respectively.

At the end of one year, the interest earned from all three schemes is the same.

Concept Used:

Simple Interest, I = PRT/100,

where P is the principal (the initial amount of money),

R is the rate of interest, and

T is the time in years.

Calculation:

Let's denote the sums invested in the schemes with rates 4%, 6%, and 10% as P1, P2, and P3 respectively.

We know that P1 + P2 + P3 = Rs. 15,500.

We are also given that the interests earned from these investments after one year are the same, which gives us two more equations:

I1 = I2 and I1 = I3,

Substituting I = PRT/100 into these equations gives:

P1 × 4/100 = P2 × 6/100, and

P1 × 4/100 = P3 × 10/100.

From the first equation, we find P2 = P1 × 2/3.

From the second equation, we find P3 = P1 × 2/5.

Substituting these expressions for P2 and P3 into the equation P1 + P2 + P3 = 15,500, we get:

P1 + P1 × 2/3 + P1 × 2/5 = 15,500,

Solving this equation for P1 gives:

P1 = 15,500 / (1 + 2/3 + 2/5)

=> 15,500 / (15/15 + 10/15 + 6/15)

=> 15,500 / 31/15 = Rs. 7,500.

So, the sum invested at the rate of 6% (P2) is:

=> P2 = P1 × 2/3

=> 7,500 × 2/3 = Rs. 5,000.

Therefore Option 2 is the correct answer.

Q61. Answer: (c) Rs. 22 lakhs

Calculation:

Saving of family A = 25 - 12 = 13

Saving of family C = 18 - 10 = 8

Saving of family E = 10 - 9 = 1

Savings of families A, C and E together = 13 + 8 + 1 = Rs. 22 lakhs

Therefore Option 3 is the correct answer.

Q62. Answer: (c) $2/(\sin^2\theta - \cos^2\theta)$

Calculation:

$(\sin\theta+\cos\theta)/(\sin\theta-\cos\theta)+ (\sin\theta-\cos\theta)/(\sin\theta+\cos\theta)$

Cross-multiplication

$((\sin\theta+\cos\theta)^2+(\sin\theta-\cos\theta)^2)/(\sin\theta-\cos\theta)(\sin\theta+\cos\theta)$

$(\sin^2\theta+\cos^2\theta+2\sin\theta\cos\theta)+(\sin^2\theta+\cos^2\theta-2\sin\theta\cos\theta)/(\sin^2\theta-\cos^2\theta)$

$(2(\sin^2\theta+\cos^2\theta))/(\sin^2\theta-\cos^2\theta)$

$2/(\sin^2\theta-\cos^2\theta)$

Therefore Option 3 is the correct answer.

Q63. Answer: (a) 300

Calculation:

A1 =The average number of female teachers in all the 5 schools.

=> (240 + 210 + 60 + 30 + 90)/5

=> 630/5

=> 126

A2 =The average number of male teachers in all the 5 schools.

=> (180 + 240 + 210 + 150 + 90)/

=> 870/5

=> 174

A1 + A2 = 126 + 174

=> 300

Therefore Option 1 is the correct answer.

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Q64. Answer: (b) 24 cm

Given:

The length of radius is 12 cm.

Concept used:

If an angle subtended by a chord on the circumference of a circle is 90 degrees, then the chord is the circle's diameter.

Diameter is the double of radius.

Calculation:

Let O be the circle's centre, and let C is the point on the circumference.

Using, If an angle subtended by a chord on the circumference of a circle is 90 degrees, then the chord is the circle's diameter.

So, MN is the diameter.

MN = 2(OM) = 2(ON) = 12 × 2 = 24 cm

Therefore Option 2 is the correct answer.

Q65. Answer: (d) 31.5 degree

Given:

cot 3A = tan (A - 36°)

Concept Used:

tan A = cot(90 - A)

Calculation:

cot 3A = tan (A - 36°)

=> cot 3A = cot[90 - (A - 36°)]

=> cot 3A = cot (126 - A)

=> 3A = 126 - A

=> 4A = 126

=> A = 31.5°

Therefore Option 4 is the correct answer.

Q66. Answer: (c) 70

Shortcut Trick

For any sequence of consecutive even or odd numbers, the numbers form an Arithmetic Progression (AP).

In an AP, the average of all terms is equal to the average of the first and last terms.

=> Average = (Smallest Number + Largest Number) ÷ 2

=> Smallest + Largest = 2 × Average

=> Sum = 2 × 35 = 70

Therefore The correct answer is 70.

Alternate Method

Given:

Average of 6 consecutive even numbers = 35

Formula Used:

Average = Sum of observations ÷ Number of observations

30

Smallest

32

34

36

38

40

Largest

Avg = 35

Sum = 30 + 40 = 70

Calculations:

=> Let the 6 consecutive even numbers be x, x + 2, x + 4, x + 6, x + 8, and x + 10.

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=> Sum of these 6 numbers = x + (x + 2) + (x + 4) + (x + 6) + (x + 8) + (x + 10)

=> Sum = 6x + 30

=> Average = (6x + 30) ÷ 6 = x + 5

=> We are given that the average is 35.

=> x + 5 = 35

=> x = 35 − 5 = 30

=> The smallest number = x = 30

=> The largest number = x + 10 = 30 + 10 = 40

=> Sum of smallest and largest number = 30 + 40 = 70

Therefore The correct answer is 70.

Additional Information

Average of an Arithmetic Progression (AP)

For any sequence with a constant difference (like consecutive numbers), the average is simply (First Term + Last Term) ÷ 2.

Consecutive Even/Odd Numbers

Any sequence of consecutive even or odd numbers has a common difference of 2. For n numbers, the difference between the largest and smallest term is exactly 2 × (n − 1).

Sum of 'n' terms in AP

The total sum of terms in an arithmetic sequence can be calculated quickly as: Sum = n × Average.

Q67. Answer: (a) 216 cm²

Given:

Half of the perimeter of a rectangle is 30 cm.

The length of the rectangle is 6 cm more than its breadth.

Concepts Used:

The perimeter of a rectangle is given by P = 2l + 2w, where l is the length and w is the width.

The area of a rectangle is given by A = lw.

Calculation:

Since the half perimeter of the rectangle is 30 cm, the full perimeter (P) is 2 × 30 cm = 60 cm.

Let's the width of the rectangle as w.

According to the problem, the length (l) of the rectangle is 6 cm more than the width, so l = w + 6 cm.

We can substitute l and w into the perimeter equation and solve for w:

=> 60 cm = 2l + 2w = 2(w + 6 cm) + 2w,

=> 60 cm = 2w + 12 cm + 2w,

=> 60 cm = 4w + 12 cm,

=> 48 cm = 4w,

=> w = 48/4 = 12 cm.

Substituting w into the equation l = w + 6 cm gives l = 12 cm + 6 cm = 18 cm.

Finally, we can find the area of the rectangle by substituting l and w into the area equation:

A = lw = 18 cm × 12 cm = 216 cm².

Therefore, the area of the rectangle is 216 cm².

Therefore Option 1 is the correct answer.

Q68. Answer: (c) 15/4

Given:

7×4÷8/5×25÷125+5×4÷8/8×4÷16-7×4÷2/8×7÷4?

Concept used:

Calculation:

7×4÷8/5×25÷125+5×4÷8/8×4÷16-7×4÷2/8×7÷4

=> (7×1/2)/(5×1/5)+(5×1/2)/(8×1/4)-7×2/(8×7/4)

=> 7× 1/2+(5 × 1/2)/2-(7 × 2)/(7 × 2)

=> 7× 1/2+5/4-1

=> 14/4+5/4-4/4

=> 15/4

Therefore Option 3 is the correct answer.

Q69. Answer: (d) 800

Calculation:

J1 = The total sales of A in all years = (150 + 350 + 550 + 450 + 250)

=> 1750

J2 = The total sales of B in all years = (950 + 650 + 750 + 150 + 50)

=> 2550

J2 - J1 = 2550 - 1750

=> 800

Therefore Option 4 is the correct answer.

Q70. Answer: (c) 192 km/hr

Given:

A man makes four trips of equal distances.

His speed on the first trip was 720 km/hr.

In each subsequent trip, his speed was half of the previous trip.

Concept Used:

The average speed is given by the total distance travelled divided by the total time taken.

Calculation:

Let's denote the distance of each trip as d.

For the first trip, his speed was 720 km/hr, so the time taken was d/720.

For the second trip, his speed was 720/2 = 360 km/hr, so the time taken was d/360.

For the third trip, his speed was 360/2 = 180 km/hr, so the time taken was d/180.

For the fourth trip, his speed was 180/2 = 90 km/hr, so the time taken was d/90.

So, the total distance travelled was 4d, and the total time taken was d/720 + d/360 + d/180 + d/90.

We can calculate the average speed as:

Average speed = total distance / total time

=> 4d / (d/720 + d/360 + d/180 + d/90)

=> 4 / (1/720 + 2/720 + 4/720 + 8/720)

=> 4 / 15/720

=> 4 × 720/15

=> 4 × 48 km/hr

=> 192 km/hr

Therefore, the average speed of the man in these four trips is 192 km/hr.

Therefore Option 3 is the correct answer.

Q71. Answer: (d) 6

Given:

9a + 9b + 9c = 81

4ab + 4bc + 4ca = 160

6a2 + 6b2 + 6c2

Concept Used:

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

Calculation:

9a + 9b + 9c = 81

a + b + c = 9 .....(i)

4ab + 4bc + 4ca = 160

ab + bc + ca = 40 .....(ii)

We know that,

(a + b + c)2 = a2 + b2 + c2 + 2ab + 2bc + 2ca

Put the values from above equations

92 = a2 + b2 + c2 + 2 × 40

a2 + b2 + c2 = 81 - 80 = 1

Multiply both sides by 6

6a2 + 6b2 + 6c2 = 6

Therefore Option 4 is the correct answer.

Q72. Answer: (c) 3842

Given:

a+1/a=8

Formula used:

If, (a + 1/a) = t

(a² + 1/a²) = t² - 2

a^4 + 1/a^4= (a2 + 1/a2)² - 2

Calculation:

(a + 1/a) = 8

=> (a2 + 1/a2) = 82 - 2

=> (a2 + 1/a2) = 62

a4 + 1/a4 = (a2 + 1/a2)² - 2

=> a4 + 1/a4 = 62² - 2

=> a4 + 1/a4 = 3844 - 2

=> 3842

Therefore Option 3 is the correct answer.

Q73. Answer: (d) 15/√259

Given:

sin P=15/22

Concept Used:

tan A = sin A/cos A

cos A = √(1 - sin² A)

Calculation:

cos A = √(1 - sin2 A)

cos A = √(1 - (15/22)²)

cos A = √(1 - (225/484))

cos A = √((484 - 225)/484)

cos A = √(259/484)

cos A = √(259)/22

tan A = sin A/cos A

tan A = (15/22)/(√(259)/22)

tan A = 15/√259

Therefore Option 4 is the correct answer.

Q74. Answer: (a) 15

Given:

a : b : c = 2 : 3 : 5

5b - a + 2c = 115

Calculation:

Let the value of a, b, c be 2x, 3x and 5x, respectively.

So,

=> 5b - a + 2c = 115

=> 5 × 3x - 2x + 2 × 5x = 115

=> 23x = 115

=> x = 5

Value of b = 3x = 3 × 5 = 15

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Therefore Option 1 is the correct answer.

Q75. Answer: (b) 134 kg

Given:

Average weight of 100 students = 34 kg

Average weight of first 49 students = 34 kg

Average weight of last 50 students = 32 kg

Concept used:

Average = sum of the elements/number of elements

Calculation:

Total weight of 100 students = 100 × 34 = 3400 kg

Total weight of first 49 students = 34 × 49 = 1666kg

Total weight of last 50 students = 50 × 32 = 1600 kg

The weight of 50^(th) student = 3400 - 1666 - 1600 = 134kg.

Therefore The weight of the 50^(th) student is 134 kg.

Therefore Option 2 is the correct answer.

Q76. Answer: (b) Minyed

The solution is in Hindi. Read it online.

Q77. Answer: (c) reason

The correct answer is 'Option 3' i.e. 'Reason'.

Key Points

• The most suitable word to fill in the blank is "reason".

• The reason why this answer is correct is that the phrase "laughed for no reason" is a common English expression that means someone is laughing without any obvious cause or stimulus.

• It's typically used to describe a spontaneous or uncontrollable expression of joy or amusement.

Therefore, the correct sentence is: At that time, I only knew that I adored the way he laughed for no reason.

Additional Information

• Let's briefly examine the other options:

• "Just" - This word doesn't fit the context of the sentence. "Just" is an adverb that means 'very recently' or 'exactly', and it doesn't make sense to laugh for no 'just'.

• "Disbelief" - This word also doesn't fit the context. "Disbelief" is a noun that means a refusal or inability to accept that something is true or real, and it doesn't make sense to laugh for no 'disbelief'.

• "Account" - This option doesn't fit the context either. In the given context, 'account' would imply a record or report of financial income and expenditure, which doesn't correlate with the act of laughing. It would not make sense to laugh for no 'account'.

Q78. Answer: (c) No improvement

The correct answer is 'Option 3'.

Key Points

• The sentence "Their appointment lasted for almost an hour." is grammatically correct as it is.

• The verb "lasted" is in the past tense, indicating an action that has been completed (the appointment), which is consistent with the rest of the sentence.

Therefore, the correct sentence is: 'Their appointment lasted for almost an hour.'

Q79. Answer: (d) main street at

The correct answer is 'Option 4' i.e. 'Main street at'.

Key Points

• "Main street" is correct because it refers to the principal street of a town, which is usually in a central location.

• The preposition "at" is used to denote a specific time on the clock.

• When referring to a specific time during the day, "at" is the appropriate preposition to use.

Therefore, the correct sentence is: 'A young girl was kidnapped from the main street at 3 o'clock yesterday afternoon.'

Key Points

• Let's briefly look at the other options:

• "Main streets in" - This option is incorrect because "main streets" would suggest multiple principal streets which is typically not

the case for most towns or cities. Additionally, "in" is not the correct preposition to use with a specific time.

• "Main street on" - This is incorrect because "on" is not the appropriate preposition to use with a specific time. "On" is usually used with dates or days of the week.

Q80. Answer: (a) Neighbourhood

The solution is in Hindi. Read it online.

Q81. Answer: (d) Almanac

The solution is in Hindi. Read it online.

Q82. Answer: (a) Algaecide

The solution is in Hindi. Read it online.

Q83. Answer: (d) accepted anything except

The correct answer is "Option 4' i.e. 'Accepted anything except'.

Key Points

• In this sentence, "except" is the correct word to use because it means "excluding" or "other than".

• So, the sentence is saying that the speaker wouldn't have accepted anything other than a job in Europe.

Therefore, the correct answer is: I wouldn't have accepted anything except a job in Europe.

Additional Information

• Let's examine the other options:

• "accepted everything expect" - This is incorrect. The word "expect" means to anticipate or look forward to the coming or occurrence of something. It doesn't make sense in this context.

• "excepted anything accept" - This is also incorrect. The word "excepted" is not correctly used in this context, and "accept" is incorrect here because the correct term is "except" meaning excluding.

Q84. Answer: (b) Constraint

The solution is in Hindi. Read it online.

Q85. Answer: (a) A flash of lightning revealed the mountains.

The correct answer is 'A flash of lightning revealed the mountains.'

Key Points

• "A flash of lightning revealed the mountains." This sentence is spelled correctly.

• Let's break it down:

• "A flash of lightning" - A brief, sudden, and intense burst of light caused by electricity moving through the air, often during a storm.

• "Revealed" - Showed or made known.

• "The mountains" - The large natural elevation of the earth's surface.

Q86. Answer: (b) My coach told me that I should take a healthy diet.

The correct answer is 'My coach told me that I should take a healthy diet.'

Key Points

• In indirect or reported speech, we convey what someone else has said without quoting them directly.

• The verb tense usually shifts back in the indirect speech.

• However, when the direct speech is in the present or future or when it expresses a universal truth, the tense of the verb doesn't change.

• In this case, the sentence "You should take a healthy diet" is advice that is always valid, not limited to a specific point in time, hence "should take" does not need to be changed.

Therefore, the correct answer is: 'My coach told me that I should take a healthy diet.'

Q87. Answer: (d) Appropriate

The solution is in Hindi. Read it online.

Q88. Answer: (a) Subtract

The solution is in Hindi. Read it online.

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Q89. Answer: (a) Indian population are estimated

The correct answer is 'Option 1'.

Key Points

• The error in the sentence lies in the subject-verb agreement.

• When we are referring to a percentage of a population, we usually treat it as singular.

• Therefore, the correct form of the verb here should be "is" instead of "are".

Therefore, the correct sentence is: "Around 30 percent of the Indian population is estimated to have latent TB."

Q90. Answer: (a) SPRQ

The correct answer is 'Option 1' i.e. 'SPRQ'.

Key Points

• S. "We recently successfully treated five patients for gallbladder" - This is the introductory clause that sets up the subject of the sentence.

• P. "gangrene, who had recovered from Covid-19 infection and" - This clause provides additional information about the patients, explaining that they had gallbladder gangrene and had recovered from Covid-19.

• R. "presented with severe inflammation of gallbladder without" - This clause continues to describe the patients' medical condition.

• Q. "gallstones resulting in gangrene of gallbladder requiring urgent surgery" - This clause concludes the sentence by explaining the result of the patients' condition and what was required.

Therefore, the correct answer is: 'SPRQ'.

Q91. Answer: (c) Philistine

The solution is in Hindi. Read it online.

Q92. Answer: (a) To be bitterly hostile towards each other

The solution is in Hindi. Read it online.

Q93. Answer: (b) because it represent the government’s claim

The correct answer is 'Option 2'.

Key Points

• The error in the sentence is a subject-verb agreement error.

• The verb 'represent' should be 'represents' to agree with its singular subject 'it'.

Therefore, the corrected sentence would be: "The fiscal deficit has to be held in check because it represents the government’s claim on the non-government sector’s savings."

Q94. Answer: (d) Convivial

The solution is in Hindi. Read it online.

Q95. Answer: (b) A website was built from scratch by him.

The correct answer is 'Option 2'.

Key Points

• The sentence "He built a website from scratch." is in the simple past tense, so the passive voice should also be in the simple past tense.

• The simple past tense in the passive voice is formed by using 'was' or 'were' + past participle of the main verb.

• In this case, the past participle of 'build' is 'built'.

Therefore, the correct sentence is: "A website was built from scratch by him."

Q96. Answer: (b) host

The correct answer is 'Option 2' i.e. 'Host'.

Key Points

• In the context of the sentence, the U.S. Department of Agriculture and the Environmental Protection Agency would "host" federal pollinator experts.

• To "host" means to organize an event and provide the space for it.

• This fits the context, as these organizations would be bringing experts together to share information.

Therefore, the correct sentence is: Each year, the U.S. Department of Agriculture and the Environmental Protection Agency host federal pollinator experts to share the latest scientific findings on bee and pollinator health, and assess the status of (2)____

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important insects, birds, bats and other species. One clear (3) __ from this year's meeting was that climate change (4)__ a new and formidable stressor for bees, potentially amplifying previously known issues in ways that scientists can't yet (5)____ but need to prepare for.

Additional Information

• Here's why the other options are incorrect:

• "Accost" - This means to approach and address someone aggressively or insistently. It does not fit the context of the sentence.

• "Roast" - In a colloquial sense, to "roast" someone is to humorously criticize or mock them. In a literal sense, it means to cook by prolonged exposure to heat in an oven or over a fire. Neither meaning fits in this context.

• "Mandates" - To "mandate" something means to officially give someone the authority to do a particular thing or to officially demand that a particular thing be done. It does not fit the context of the sentence as it would imply a command or instruction, not an organized meeting or gathering.

Q97. Answer: (d) these

The correct answer is 'Option 4' i.e. 'These'.

Key Points

• In the context of the sentence, the U.S. Department of Agriculture and the Environmental Protection Agency are assessing the status of specific "important insects, birds, bats and other species".

• Here, "these" is used as a demonstrative adjective to refer to specific entities that are close in context or physically near.

Therefore, the correct sentence is: Each year, the U.S. Department of Agriculture and the Environmental Protection Agency host federal pollinator experts to share the latest scientific findings on bee and pollinator health, and assess the status of these important insects, birds, bats and other species. One clear (3) ____ from this year's meeting was that climate change (4)__ a new and formidable stressor for bees, potentially amplifying previously known issues in ways that scientists can't yet (5)____ but need to prepare for.

Additional Information

• Here's why the other options are incorrect:

• "This" - "This" is a singular demonstrative adjective and does not fit because "important insects, birds, bats and other species" is plural.

• "Thus" - "Thus" is an adverb that means therefore or consequently. It does not fit in this context as we are not indicating a result or consequence.

• "Those" - "Those" is a plural demonstrative adjective that refers to specific entities that are far in context or physically far. In this context, the items being discussed (insects, birds, bats, etc.) are not distant or removed, so "these" is more appropriate.

Q98. Answer: (b) takeaway

The correct answer is 'Option 2' i.e. 'Takeaway'.

Key Points

• In this context, "takeaway" is the term that fits best.

• A "takeaway" is a main point or key message that is to be learned or drawn from something experienced or observed.

• It refers to the significant finding or conclusion from the meeting of the U.S. Department of Agriculture and the Environmental Protection Agency.

Therefore, the correct sentence is: Each year, the U.S. Department of Agriculture and the Environmental Protection Agency host federal pollinator experts to share the latest scientific findings on bee and pollinator health, and assess the status of these important insects, birds, bats and other species. One clear takeaway from this year's meeting was that climate change (4)____ a new and formidable stressor for bees, potentially amplifying previously known issues in ways that scientists can't yet (5)____ but need to prepare for.

Additional Information

• Here's why the other options are incorrect:

• "Standard" - While this can refer to an established level of requirement or excellence, it does not fit this context because it does not align with the meaning of a conclusion or key message from a meeting.

• "Thesis" - A thesis is a long piece of writing on a particular subject, especially one that is done for a higher degree in a university. It could also mean a statement or theory that is put forward as a premise to be maintained or proved. But in this context, the meeting is unlikely to produce a 'thesis'.

• "Diffidence" - This refers to modesty or shyness resulting from a lack of self-confidence. It does not fit this context because it doesn't align with a conclusion or key finding from a meeting.

Q99. Answer: (a) has become

The correct answer is Option 1' i.e. 'Has become'.

Key Points

• The perfect tense "has become" is appropriate here as it describes a state or condition that began in the past and is still relevant or ongoing in the present context.

• In other words, climate change didn't just pose a stressor to bees at one point in the past (which "became" might imply); it started doing so in the past and continues to do so now.

Therefore, the correct sentence is: Each year, the U.S. Department of Agriculture and the Environmental Protection Agency host federal pollinator experts to share the latest scientific findings on bee and pollinator health, and assess the status of these important insects, birds, bats and other species. One clear takeaway from this year's meeting was that climate change has become a new and formidable stressor for bees, potentially amplifying previously known issues in ways that scientists can't yet (5)_____ but need to prepare for.

Additional Information

• Here's why the other options are incorrect:

• "Became" - This is the past tense and is used to describe actions completed in the past. In this context, we're discussing an ongoing situation, not a completed action, so "became" would not be correct.

• "Was became" - This option is grammatically incorrect. "Was" is a past tense form of "to be" and "became" is a past tense form of "to become". You wouldn't use both in the same phrase like this.

• "Becoming" - This is the present participle form of "to become". It's used to indicate an ongoing action in the present, but it doesn't fit grammatically in this sentence.

Q100. Answer: (b) predict

The correct answer is 'Option 2' i.e. 'Predict'.

Key Points

• In this context, "predict" is the most suitable word.

• The sentence indicates that scientists are still trying to understand the extent of the impact of climate change on bees and other pollinators, and therefore they are not yet able to "predict" these effects.

Therefore, the correct sentence is: Each year, the U.S. Department of Agriculture and the Environmental Protection Agency host federal pollinator experts to share the latest scientific findings on bee and pollinator health, and assess the status of these important insects, birds, bats and other species. One clear takeaway from this year's meeting was that climate change has become a new and formidable stressor for bees, potentially amplifying previously known issues in ways that scientists can't yet predict but need to prepare for.

Additional Information

• Here's why the other options are incorrect:

• "Shrimp" - This is a small free-swimming crustacean with an elongated body, typically marine and frequently harvested for food. It has no relevance to the context of the sentence.

• "Shun" - To "shun" something is to persistently avoid, ignore, or reject it through antipathy or caution. In this context, scientists would not be shunning the effects of climate change but attempting to understand and predict them.

• "Notify" - To "notify" is to inform someone of something, typically in a formal or official manner. However, in the context of the sentence, it's not about informing others but about being able to foresee or predict future outcomes.

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