SSC CHSL Tier-1 2022: Official Paper (Held On: 16 March, 2023 Shift 3) (Previous Year Paper)

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

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Practise under exam conditions, then review your answers after you submit.

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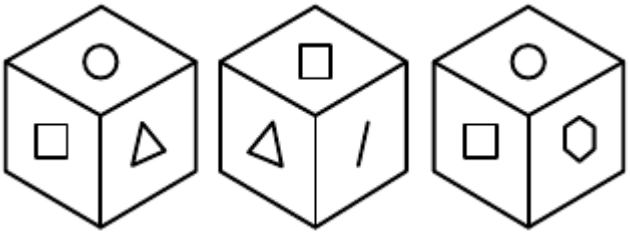
ENGLISH LANGUAGE

Q1. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

_tk _ tt _ ltt _ lt _ kl _ tk _

(a) tlkkttl
(b) tllkttl
(c) tlktttl
(d) tlkktll

Q2. Three different positions of the same dice are given below. Find the image opposite of triangle.

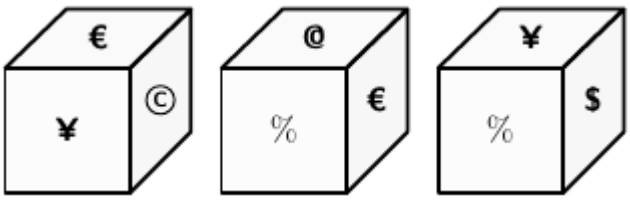


(a) Square
(b) Line
(c) Circle
(d) Hexagon

Q3. If 7 # 3 # 2 = 237 and 8 # 4 # 1 = 148, then 3 # 5 # 4 = ?

(a) 355
(b) 543
(c) 453
(d) 435

Q4. Three different positions of the same dice are shown. Select the symbol that will be on the face opposite to the one having '€'.



(a) ©
(b) ¥
(c) @
(d) $

Q5. 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)

(14, 55, 41)

(36, 99, 63)

(a) (76, 153, 67)
(b) (128, 949, 821)
(c) (28, 120, 82)
(d) (34, 107, 43)

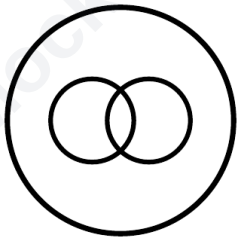
Q6. In a certain code language, 'BLOWER' is coded as 'PDUNJA'. What is the code for 'BLUFFS' in that code language?

(a) QEEJJA
(b) QDETJA
(c) QDETAJ
(d) QEDTJA

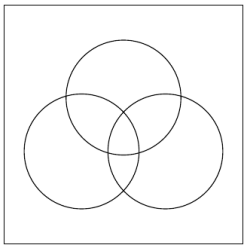
Q7. Select the Venn diagram that best represents the relationship between the following classes.

Parents, Graduates, Cricketers

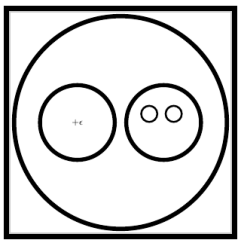
(a)



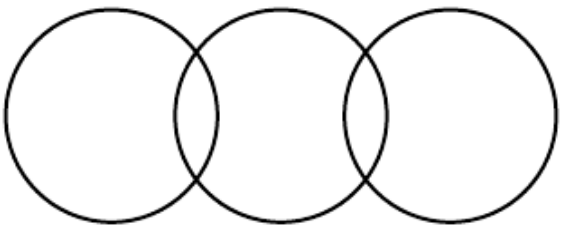
(b)



(c)



(d)



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Q8. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(6, 12, 24)

(28, 14, 7)

(a) (32, 14, 1)
(b) (36, 16, 9)
(c) (25, 18, 16)
(d) (25, 10, 4)

Q9. Pointing to a picture of a boy, Shreya said, "He is the only son of the man who is the father of my father's only son's son". How is the boy related to Shreya?

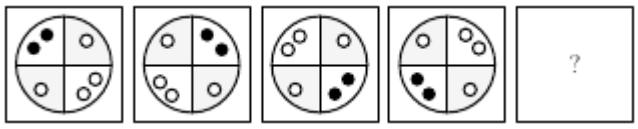
(a) Father
(b) Nephew
(c) Son-In-Law
(d) Brother

Q10. 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.

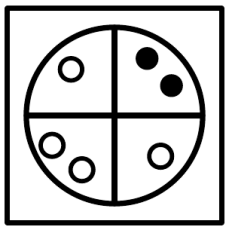
Car : Steering :: Fan : ?

(a) Three
(b) Electricity
(c) Tyre
(d) Blade

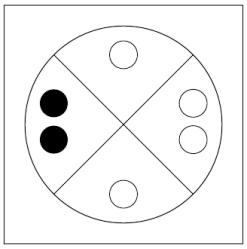
Q11. select the figure from the given options that can replace the question mark (?)in the following series.



(a)

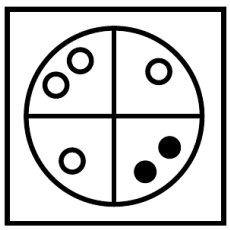


(b)

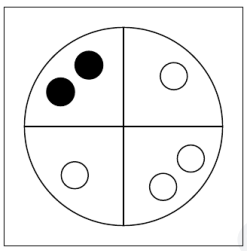


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(c)



(d)

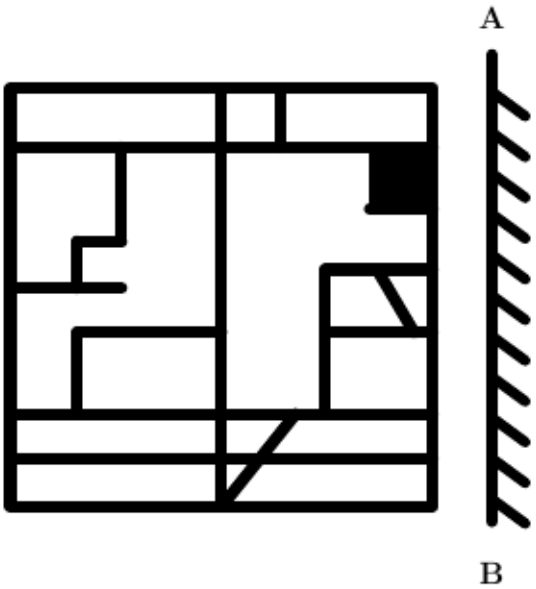


Q12. After arranging the given words according to dictionary order, which word will come at 'Fourth' position?

1. Reposed
2. Reporter
3. Represent
4. Repository
5. Repress

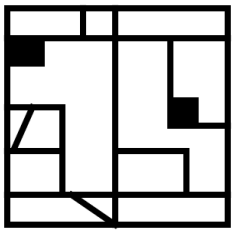
(a) Repress
(b) Repository
(c) Reposed
(d) Represent

Q13. If a mirror is placed on the line AB, then out of the option figures which figure will be the right image of the question figure?

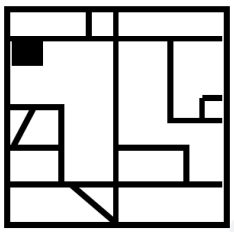


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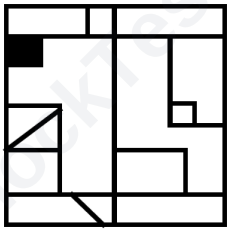
(a)



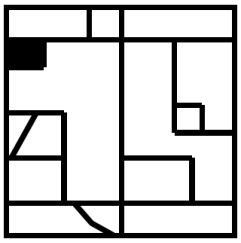
(b)



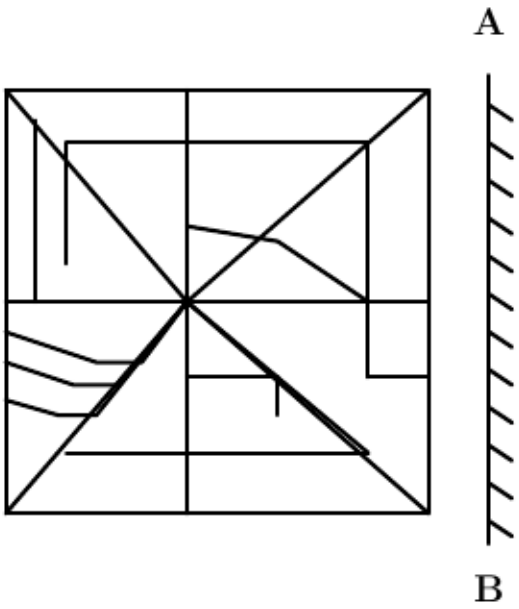
(c)



(d)

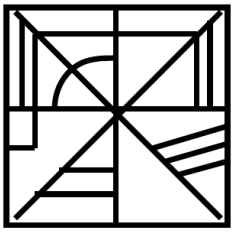


Q14. If a mirror is placed on the line AB, then out of the option figures which figure will be the right image of the question figure?

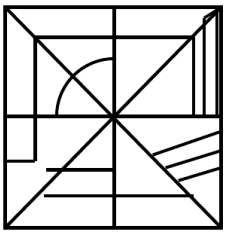


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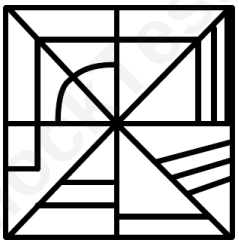
(a)



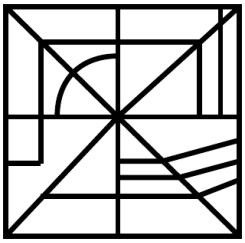
(b)



(c)



(d)



Q15. In the following question, select the odd word pair from the given alternatives.

(a) Fan – Blade
(b) Pedal – Cycle
(c) Room – House
(d) Chapter – Book

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 R are P.

II. All P are J.

Conclusions:

I. All P are R.

II. All J are P.

III. All R are J.

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

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Q17. In the following question, select the missing number from the given series.

4800, 2400, 1200, 600, 300, ?

(a) 90
(b) 75
(c) 150
(d) 80

Q18. In the following question, four number pairs are given. In each pair the number on left side of (–) is related to the number of the right side of (–) with some Logic/Rule /Relation. Three pairs are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(a) 28125 – 3125
(b) 11322 – 1258
(c) 49374 – 5483
(d) 49401 – 5489

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

(a) VWYB
(b) LMOR
(c) QSVY
(d) ABDG

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

Track : Race :: Pitch : ?

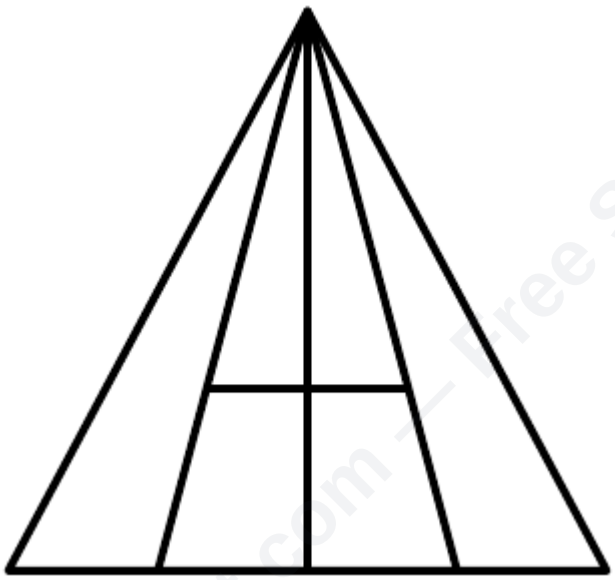
(a) Wrestling
(b) Chess
(c) Cricket
(d) Exercise

Q21. In a certain code language, ‘BACK’ is coded as ‘2325215’, ‘CAME’ is coded as ‘2125117’. What is the code for ‘GBJH’ in that code language?

(a) 1332711
(b) 1323711
(c) 1323771
(d) 1323111

Q22. How many maximum triangles are there in the given figure?

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(a) 8
(b) 13
(c) 15
(d) 21

Q23. What will come in the place of '?' in the following equation, if '+' and '×' are interchanged and also '-' and '÷' are interchanged?

20 ÷ 5 × 10 - 5 + 2 = ?

(a) 4
(b) 19
(c) 12
(d) 2

Q24. 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.

Turtle : Reptile :: ?

(a) Snake : Rodent
(b) Mammal : Man
(c) Lizard : Reptile
(d) Mammal : Frog

Q25. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.

9 : 30 :: 11 : 36 :: 13 : ?

(a) 42
(b) 45
(c) 48
(d) 39

GENERAL INTELLIGENCE

Q26. Pandit Ram Narayan is a Hindustani Classical musician who plays _____.

(a) Flute
(b) Harmonium
(c) Sarangi
(d) Tabla

Q27. In which year was Battle of Peshawar fought between Raja Jayapal and Mahmud Ghazni?

(a) 1001
(b) 1112
(c) 1305
(d) 1258

Q28. Union Home Minister Amit Shah unveiled 14 feet high statue of Lok Nayak Jayprakash Narayan in _____ in October 2022.

(a) Bihar
(b) Jharkhand
(c) West Bengal
(d) Maharashtra

Q29. Dhupgarh peak is the highest point of which of the following States of India?

(a) Chhattisgarh
(b) Jharkhand
(c) Uttar Pradesh
(d) Madhya Pradesh

Q30. Which of the following statements is correct?

I. Death rate in India is 7.1 per 1000 in 2011.
II. Life expectancy at birth is 72.6 years in 2012.

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

Q31. In which month, Hiroshima Day is observed across the world?

(a) October
(b) August
(c) January
(d) July

Q32. The monetary policy instrument called ‘bank rate’ is aligned to _____.

(a) Liquidity adjustment facility
(b) Cash Reserve ratio
(c) Discount rate
(d) Marginal standing facility rate

Q33. ISRO successfully launched the communication satellite GSAT-24 from _____.

(a) Moscow in Russia
(b) Chicago in US
(c) Berlin in Germany
(d) Kourou in French Guiana

Q34. Which of the following is correct regarding the respiration?

I. Regular traditional breathing exercise (pranayama) can increase the capacity of lungs to take in more air.
II. During inhalation, ribs move up and outwards and diaphragm moves down.

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

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Q35. Which of the following shortcut key is used to make the contents of a cell italic in MS-Excel 365 ?

(a) Ctrl + 4
(b) Ctrl + 3
(c) Ctrl + 6
(d) Ctrl + 2

Q36. What are hardware devices that retrieve data from a computer system and further translate the received data into a form understandable to humans?

(a) Processor
(b) Input Devices
(c) Storage Devices
(d) Output Devices

Q37. Who of the following person wrote a book named Kitab-ul-Hind?

(a) Zuhayr ibn Abi Sulma
(b) Antara Ibn Shaddad
(c) Al-Biruni
(d) Imru' al-Qais

Q38. _____percent can be taken as the average value for the amount of organic matter that is present at each step of food chain and reaches the next level of consumers.

(a) 5
(b) 20
(c) 10
(d) 2

Q39. Which amendment in the Indian constitution is related to extension of jurisdiction of High Courts to Union territories?

(a) 9^(th) Amendment
(b) 7^(th) Amendment
(c) 1^(st) Amendment
(d) 13^(th) Amendment

Q40. Which of the following sports was NOT played at Tokyo Olympics 2020 held in 2021?

(a) Table Tennis
(b) Fencing
(c) Mallakhamba
(d) Volleyball

Q41. Bharatanatyam is a classical dance of _____ in southern India.

(a) Tamil Nadu
(b) Kerala
(c) Karnataka
(d) Andhra Pradesh

Q42. The "SOVA Virus" which has been seen in the news recently is a _____.

(a) Malware
(b) Type of covid-19
(c) Type of monkey virus
(d) Cattle Virus

Q43. What is the official language of Bhutan, a neighbouring country of India?

(a) Yuan
(b) Dzongkha
(c) Ngultrum
(d) Kyat

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Q44. Which of the following Constitution Amendment Act made the Right to education a Fundamental Right under article 21 A of the Indian constitution?

(a) 91^(st) Amendment Act, 2003
(b) 86^(th) Amendment Act, 2002
(c) 89^(th) Amendment Act, 2003
(d) 19^(th) Amendment Act, 1966

Q45. Which country will host the 2024 Summer Olympic Games?

(a) Germany
(b) Switzerland
(c) England
(d) France

Q46. Which state hosted the 36th National Games in the year 2022?

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

Q47. The first woman to win the Dronacharya Award was weightlifting coach _____ in 2000.

(a) Sunita Sharma
(b) Renu Kohli
(c) Purnima Mahato
(d) Hansa Sharma

Q48. When lead nitrate is heated, then which of the following gases is produced?

(a) Nitrogen oxide
(b) Lead dioxide
(c) Nitrogen dioxide
(d) Lead Tri-oxide

Q49. The simultaneous shifts of both the demand curve and the supply curve can happen in which of the following ways?

I. Supply curve shifts leftward and demand curve shifts rightward.
II. Both supply and demand curves shift leftwards.
III. Supply curve shifts rightward and demand curve shifts leftward.

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

Q50. The Earth has been divided into many time zones. How many degrees does each time zone covers?

(a) 24 degrees
(b) 20 degrees
(c) 15 degrees
(d) 10 degrees

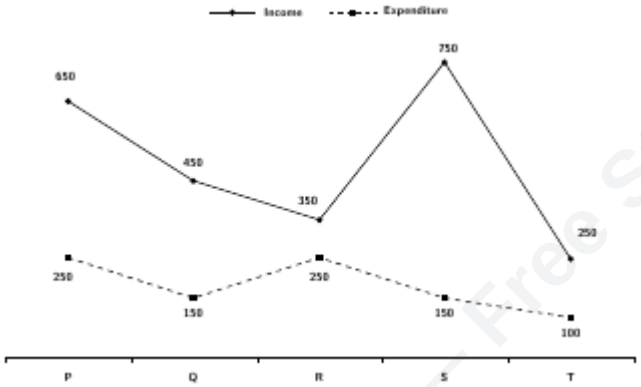
QUANTITATIVE APTITUDE

Q51. If the 4-digit number 48ab is divisible by 2, 5 and 7, then what is the value of (10a - b) ?

(a) 0
(b) 20
(c) 10
(d) 30

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Q52. The line chart given below shows the income and expenditure of a company in five years.



The income in years P and Q together is how much percent more than the expenditure in years S and T together?

(a) 220 percent
(b) 380 percent
(c) 29 percent
(d) 340 percent

Q53. If the volume of a cube is 1728 cm^3, then what is the total surface area of the cube?

(a) 804 cm^2
(b) 729 cm^2
(c) 864 cm^2
(d) 926 cm^2

Q54. Angle subtended by a chord PQ on the centre of a circle is 180 degree. If length of chord PQ is 54 cm, then what will be the diameter of this circle?

(a) 54 cm
(b) 81 cm
(c) 27 cm
(d) 64 cm

Q55. A person borrowed Rs. 8000 on compound interest at the rate of 20 percent per annum. If the interest is compounded half yearly. then what will be the amount to be paid after 1.5 years?

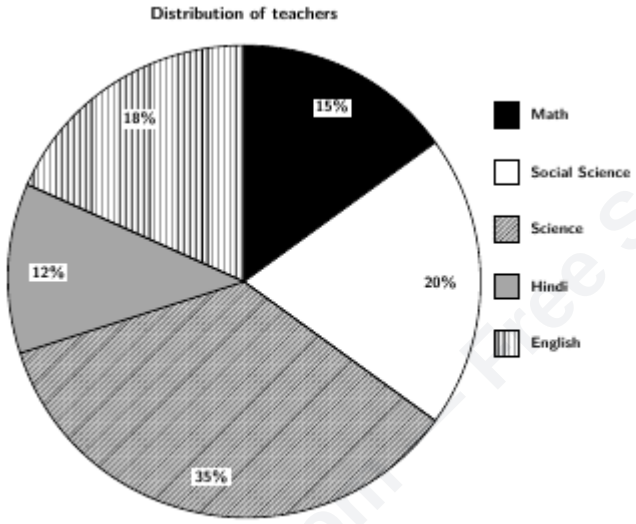
(a) Rs. 10648
(b) Rs. 11488
(c) Rs. 10825
(d) Rs. 9865

Q56. The following pie-chart shows percentage wise distribution of teachers of six different subjects in a school.

Total number of teachers = 1800

The ratio of the number of teachers in Hindi to the number of teachers in English and Mathematics together is:

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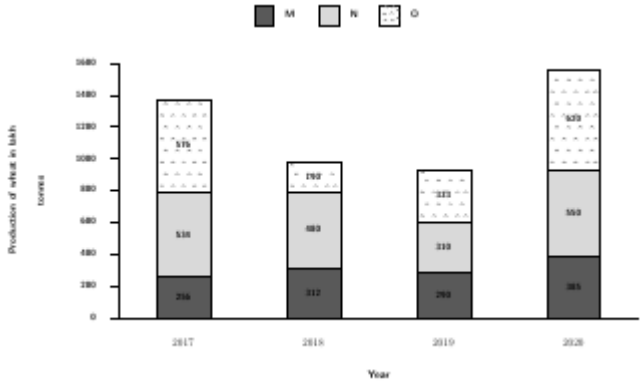
(a) 5 : 3
(b) 4 : 11
(c) 12 : 11
(d) 15 : 11

Q57. Find the single equivalent discount of 10% and 20%.
(a) 26%
(b) 28%
(c) 30%
(d) 32%

Q58. Distance of a chord AB from the centre of a circle is 6 cm. If diameter of this circle is 20 cm, then what will be the sum of radius and length of chord AB?
(a) 18 cm
(b) 26 cm
(c) 16 cm
(d) 20 cm

Q59. Two numbers are in the ratio 9 : 16. If both numbers are increased by 40, then their ratio becomes 2 : 3. What is the difference between the two numbers?
(a) 64
(b) 60
(c) 48
(d) 56

Q60. The graph shows the production of wheat (in lakh tons) by states M, N, and O in four consecutive years. Find the year which has the minimum production of wheat.



(a) 2018
(b) 2020
(c) 2019
(d) 2017

Q61. The ratio of three numbers is 6 : 5 : 9. If 20 percent of the first number is 30, then what would be 50 percent of the difference of third and second number?
(a) 40
(b) 50
(c) 30
(d) 45

Q62. If cos x = 5/13, then what is the value of tan X + cot X ?
(a) 60/169
(b) 109/169
(c) 169/60
(d) 169/109

Q63. 8 men or 10 boys can complete a work in 174 days. 12 men and 14 boys will complete the same work in how many days?
(a) 60 days
(b) 50 days
(c) 72 days
(d) 84 days

Q64. The average age of a team having 12 players is 24 years. If the age of the coach is also included, then the average age increases by 2 years. What is the age of the coach?
(a) 53 years
(b) 57 years
(c) 50 years
(d) 52 years

Q65. If A + 1/A = -1 then find the value of (A^6 + A^3 -1)/(A^9 + A^3 - 1)
(a) 0
(b) -1
(c) 2
(d) 1

Q66. If $(x + 1)^2$+ $(x + 2)^2$ = 16, then what is the value of $4x^2$ + 12x + 40 ?
(a) 52
(b) 62
(c) 56
(d) 74

Q67. A train of length 360 meters crosses an electric pole in 30 seconds and crosses another train of the same length traveling in the opposite direction in 15 seconds. What is the speed of the second train?
(a) 12 m/s
(b) 36 m/s
(c) 24 m/s
(d) 60 m/s

Q68. Anil sold an article at a loss of 15%. Had he sold it for Rs. 84 more, he would have gained 13%. At what price should he have sold if to gain 20% ?
(a) Rs. 360
(b) Rs. 375
(c) Rs. 350

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(d) Rs. 300

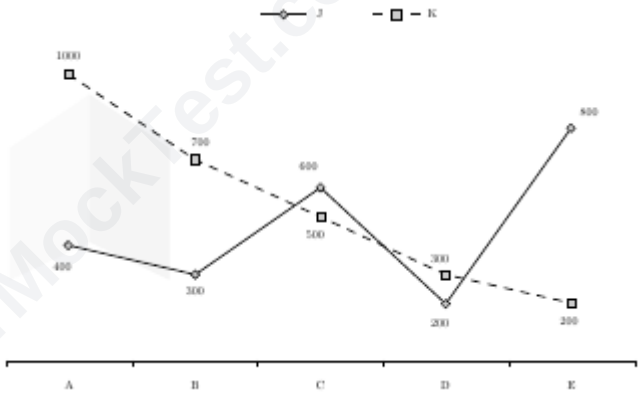
Q69. Two medians DM and EN of ΔDEF intersect each other at G at right angles, If EF = 20 cm and EN = 12 cm, then what is the length of DM?

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

Q70. Find the value of tan x, if sec x + tan x = √3 and x lies between 0° and 90°.

(a) √3
(b) 1
(c) 1/√3
(d) 0

Q71. The line chart given below shows the expenditure of two companies J and K in five different years.



L1 = The difference between average expenditure of company J in year A and B and the average expenditure of company K in year C and D.

L2 = The value of average expenditure of company K in all 5 years,

What is the value of (L2 - L1)?

(a) 490
(b) 540
(c) 350
(d) 420

Q72. In a company, the average age of female employees is 24 years. The average age of all the employees is 32 years. If the number of males and females is the same, then what will be the average age of male employees?

(a) 40 years
(b) 42 years
(c) 48 years
(d) 38 years

Q73. ΔABC is a right angled triangle angle B = 90 degree, AB = 12 cm, BC = 5 cm. What is the value of cos A + sin C ?

(a) 24/13
(b) 25/13
(c) 10/13
(d) 12/13

Q74. What is the value of (15 ÷ 5 × 3 - 12 × 12 ÷ 6 + 15 ÷ 5 × 6)/(18 ÷ 3 × 5 - 12 ÷ 6 × 5 + 18 ÷ 9 × 5) ?

(a) 1/20
(b) 1/5
(c) 1/15
(d) 1/10

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Q75. PX is a tangent drawn from point X, touches the circle at P, O is the centre of the circle. Radius of this circle is 10 cm and OX = 26 cm. What is the length of PX ?

(a) 24.5 cm
(b) 24 cm
(c) 23.5 cm
(d) 25 cm

GENERAL AWARENESS

Q76. Select the word that is opposite in meaning (ANTONYM) to the word given below

Amalgamate

(a) Integrate
(b) Combine
(c) Dismantle
(d) Coalesce

Q77. Choose the incorrectly spelt word.

(a) Trnuk
(b) Blade
(c) Mentor
(d) Dinner

Q78. Choose the word that means the same as the given word.

Nark

(a) Reassure
(b) Irritate
(c) Solace
(d) Obligation

Q79. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

Have people rolling in the aisles

(a) To use false promises to pull people on one’s side
(b) Make an audience laugh uncontrollably
(c) To have a dispute with someone
(d) Willing to do something immediately

Q80. Choose the word that can substitute the given group of words.

A religions war

(a) Inscription
(b) Colonialism
(c) Colloquial
(d) Crusade

Q81. Choose the sentence with no spelling error.

(a) The cursor must be plased at the strat of the line.
(b) The cursor must be placed at the start of the line.
(c) The cursor must be plased at the start of the line.
(d) The cursur must be placed at the start of the line.

Q82. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

In the flesh

(a) To be near death

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(b) To talk
(c) In bodily form
(d) To get a tattoo

Q83. Rearrange the parts of the sentence in correct order.

P. the shape of an egg has been highly regarded for its evolution
Q. the body in the most efficient way, not roll away once laid, is structurally
R. as large enough to incubate an embryo, small enough to exit
S. sound enough to bear weight and be the beginning of life for so many species

(a) PRQS
(b) QPRS
(c) PSQR
(d) SPQR

Q84. Select the correct indirect form of the given sentence.

He said, “I will go to Indonesia tomorrow”.

(a) He said that he would go to Indonesia tomorrow.
(b) He said that he would go to Indonesia the next day.
(c) He said that he would be going to Indonesia the next day.
(d) He said he would go to Indonesia by tomorrow.

Q85. Fill in the blank with the most suitable word.

A disconsolate Arjun _____ his way back down the mountain.

(a) absconds
(b) elopes
(c) deserts
(d) makes

Q86. Choose the word that can substitute the given group of words.

A slight fault that can be forgiven

(a) Referral
(b) Libertine
(c) Venial
(d) Libel

Q87. Find the part of the given sentence that has an error in it. If there is no error, choose ‘No error’.

If you doesn’t have a doctor, contact your public health authority.

(a) your public health authority.
(b) a doctor, contact
(c) No error
(d) If you doesn’t have

Q88. Choose the word that means the same as the given word.

Remedy

(a) Parochial
(b) Tablet
(c) Plagiarism
(d) Panacea

Q89. Fill in the blank with an appropriate option.

I believe that we are _____ responsible for our choices.

(a) profusely
(b) durably
(c) solely

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(d) ordinarily

Q90. Select the correct passive form of the given sentence.

She told me to wait here.

(a) I was told to wait here by her.
(b) I was told to wait there by her.
(c) I was told to waited here by her.
(d) I am told to wait here by her.

Q91. Improve the underlined part of the sentence. Choose ‘No improvement’ as an answer if the sentence is grammatically correct.

The shelf is too highest for me to reach.

(a) too highly
(b) more higher
(c) No improvement
(d) too high

Q92. Improve the underlined part of the sentence. Choose ‘No improvement’ as an answer if the sentence is grammatically correct.

They weren't allows to take their dog into the store.

(a) allowed to took
(b) No improvement
(c) allow to take
(d) allowed to take

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

The palace was in turmoil because Sikhandi (had return.)

(a) had returned
(b) No correction required
(c) have turned
(d) was return

Q94. Find the part of the given sentence that has an error in it. If there is no error, choose ‘No error’.

The Event Horizon Telescope can help scientists analyse the shapes and behaviours of event horizons.

(a) and behaviours of event horizons.
(b) No error
(c) The Event Horizon Telescope can
(d) help scientists analyse the shapes

Q95. Choose the word that means the same as the given word.

Nascence

(a) Cessation
(b) Incipience
(c) Omega
(d) Acrimonious

Directions

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

Today I have a college admission interview with a Yale alum. Yale is Second-Best School, but for once, I put my foot down and (1) ____to apply to Best School (Harvard). The idea of (2) __ Charlie’s younger brother at another school is a bridge entirely too far. Besides, (3) __ knows if Harvard would even take me now that Charlie’s been suspended. My mom and (4) __ are in the kitchen. Because of my interview, she’s steaming frozen mandu (dumplings) for me as a treat. I am having a pre-mandu appetizer of Cap’n Crunch (the best cereal known to mankind) and (5) ____ in my Moleskine notebook

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

(a) refused
(b) rejoiced
(c) dwelled
(d) levelled

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

(a) been
(b) having been
(c) be
(d) being

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

(a) whose
(b) which
(c) who
(d) whom

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

(a) me
(b) I
(c) am
(d) myself

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

(a) sieving
(b) visualising
(c) reading
(d) writing

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) tlkkttl

The logic followed here is:
Given Sequence: _tk _ tt _ ltt _ lt _ kl _ tk _
Now, putting the letters in the blank spaces given in the option one by one:
Option 1) tlkkttl → t t k l / t t k l / t t k l / t t k l / t t k l
Here, 'Option 1' followed a pattern.

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Option 2) tllkttl→ t t k l / t t l l / t t k l / t t k l / t t k l
Option 3) tlkttl→ t t k l / t t k l / t t t l / t t k l / t t k l
Option 4) tlkktl→ t t k l / t t k l / t t k l / t t k l / l t k l
Hence, the correct answer is "Option 1".

Q2. Answer: (d) Hexagon

For find the opposite surface of 'triangle', we need to compare the common surface in the given dices,
So, From Dice 1 and Dice 3,
→ Square and Circle is the common surface in the both dice, so the Triangle and 'Hexagon' will be the opposite face.
Hence, the correct answer is "Option 4".

Q3. Answer: (c) 453

The logic followed here is:
Logic: Last number is place on the 1st place.
For, 7 # 3 # 2 = 237
→ 732 after interchange 237.
For, 8 # 4 # 1 = 148
→ 841 after interchange 148.
Similarly, 3 # 5 # 4 = ?
→ 354 after interchange 453.
Hence, the correct answer is "453".

Q4. Answer: (d) $

For find the opposite surface of '€', we need to compare the common surface in the given dices,
Now, symbol '€' is given in Dice 1 and Dice 2,
So, From Dice 1 and Dice 2,
→ € is the common surface and ¥, @, ©, % is the adjacent surface.
So, the remaining '$' will be the opposite face of '€'.
Hence, the correct answer is "Option 4".

Q5. Answer: (b) (128, 949, 821)

The logic followed here is:
Logic: 1st number + 3rd number = 2nd number.
Now,
For, (14, 55, 41)
=> 14 + 41 = 55.
For, (36, 99, 63)
=> 36 + 63 = 99.
Similarly, for (128, 949, 821)
=> 128 + 821 = 949.
Hence, the correct answer is "Option 2".

Q6. Answer: (d) QEDTJA

The logic followed here is:
'BLOWER' is coded as 'PDUNJA',
Similarly, for 'BLUFFS'
So, 'BLUFFS' is coded as 'QEDTJA'.
Hence, the correct answer is "Option 4".

Q7. Answer: (b) [figure]

The logic followed here is:
Some Parents can be Graduates,
Some Parents can be Cricketers,
Some Cricketers can be Graduates,

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Some Parents can be Cricketers as well Graduates,

Hence, the correct answer is "Option 2".

Q8. Answer: (d) (25, 10, 4)

The logic followed here is : First Number × Third Number = Second Number²

Given :

• (6, 12, 24)

= 6 *24 = 144 = 12²

• (28, 14, 7)

= 28*7 = 196 = 14²

• Option - (1) :(32, 14, 1) = 32*1 = 32 ≠ 14²

• Option - (2) : (36, 16, 9) = 36*9 = 324 ≠ 16²

• Option - (3) : (25, 18, 16) = 25*16 = 400 ≠ 18²

• Option - (4) : (25, 10, 4) = 25*4 = 100 = 10²

Hence, "Option - (4)" is the correct answer.

Q9. Answer: (b) Nephew

Family Chart:

Given: Pointing to a picture of a boy, Shreya said, "He is the only son of the man who is the father of my father's only son's son".

So, the boy is 'Nephew' of Shreya

Hence, the correct answer is "Option 2".

Q10. Answer: (d) Blade

In the given pair "Car : Steering", a car is operated or controlled using a steering wheel. So the relationship here is "Device : Control element".

Following this logic, a fan is operated or its operation is facilitated by its blade(s). Therefore, "Fan : Blade" follows the same relationship.

As for the other options:

• "Three" is not directly related to a fan's operation.

• "Electricity" is indeed necessary for a fan's operation, but it isn't a control element.

• "Tyre" is unrelated to a fan. It's a part of a car, not a fan.

Hence, the correct answer is "Blade".

Q11. Answer: (d) [figure]

The logic followed here is:

Logic: Images are rotating one place in clockwise direction.

So, 'Option 4' will replace the question mark.

Hence, the correct answer is "Option 4".

Q12. Answer: (d) Represent

The correct dictionary order for the give words are:

2. Reporter

1. Reposed

4. Repository

3. Represent

5. Repress

So, the word 'Represent' will come at ‘Fourth’ position.

Hence, the correct answer is "Option 4".

Q13. Answer: (d) [figure]

The logic here followed is

Hence, the correct answer is "Option 4".

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Q14. Answer: (b) [figure]

The logic here followed is

Hence, the correct answer is "Option 2".

Q15. Answer: (a) Fan – Blade

The pairs "Pedal - Cycle", "Room - House", and "Chapter - Book" represent a part-whole relationship, where the first item is an integral part of the second item:

• A pedal is an integral part of a cycle.

• A room is an integral part of a house.

• A chapter is an integral part of a book.

However, the pair "Fan - Blade" doesn't follow the same pattern. Here, blade is integral part of Fan which should second part not first part.

Therefore, "Fan - Blade" is the odd pair out, as the first item doesn't necessarily include the second item.

Q16. Answer: (d) Only conclusion III follows

Given Statements:

I. All R are P.

II. All P are J.

The least possible Venn diagram for the given statement is:

Conclusions:

I. All P are R - False (Because, the given statement is All R are P, so some R will be P definitely but All P are R can be possible only).

II. All J are P - False (Because, the given statement is All P are J, so some J will be P definitely but All J are P can be possible only).

III. All R are J - True (Because, All R are P and All P are J, so All R are J).

So, Only conclusion III follows.

Hence, the correct answer is "Option 4".

Q17. Answer: (c) 150

The logic followed here is:

So, '150' will complete the series.

Hence, the correct answer is "Option 3".

Q18. Answer: (c) 49374 – 5483

The logic followed here is:

Logic: 1st number ÷ 9 = 2nd number.

Now, checking the options:

Option 1) 28125 – 3125 → 28125 ÷ 9 = 3125.

Option 2) 11322 – 1258 → 11322 ÷ 9 = 1258.

Option 3) 49374 – 5483 → 49374 ÷ 9 = 5486 ≠ 5483.

Option 4) 49401 – 5489 → 49401 ÷ 9 = 5489.

So, '49374 – 5483' odd among the given options.

Hence, the correct answer is "Option 3".

Q19. Answer: (c) QSVY

The logic followed here is:

Option 1) VWYB

Option 2) LMOR

Option 3) QSVY

Option 4) ABDG

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

Hence, the correct answer is "Option 3".

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Q20. Answer: (c) Cricket

The relationship here is "venue or place : activity conducted".

In the pair "Track : Race", a track is the place or venue where a race is typically conducted.

Following this pattern, a pitch is the place or venue where a game of cricket is typically played. Therefore, "Pitch : Cricket" follows the same relationship.

As for the other options:

• Wrestling typically takes place in a ring, not on a pitch.

• Chess is played on a board, not a pitch.

• Exercise could be conducted in many places, and the term 'pitch' is not typically associated with exercise.

Therefore, "Cricket" is the correct answer.

Q21. Answer: (b) 1323711

Logic: Place value of Opposite letter - Positional value of given letter

'BACK' is coded as '2325215

B → Y(25) - B(2) = 23

A → Z(26) - A(1) = 25

C → X(24) - C(3) = 21

K → P(16) - K(11) = 5

'CAME' is coded as '2125117

C → X(24) - C(3) = 21

A → Z(26) - A(1) = 25

M → N(14) - M(13) = 1

E → V(22) - E(5) = 17

Similarly,

G → T (20) - G (7) = 13

B → Y (25) - B (2) = 23

J → Q(17) - J (10) = 7

H → S(19) - H (8) = 11

Hence, the correct answer is 1323711.

Q22. Answer: (b) 13

The triangles are:

So, there are '13' triangles in the given figure.

Hence, the correct answer is "13".

Q23. Answer: (b) 19

BODMAS Table:

Given equation: 20 ÷ 5 × 10 - 5 + 2 = ?

Now, if '+' and '×' and '-' and '÷' are interchanged, then:

=> 20 - 5 + 10 ÷ 5 × 2 = ?

=> 20 - 5 + 2 × 2 = ?

=> 20 - 5 + 4 = ?

=> 24 - 5 = 19.

Hence, the correct answer is "Option 2".

Q24. Answer: (c) Lizard : Reptile

In the given pair "Turtle : Reptile", a turtle is an example of a reptile. So, we need to find a pair where the second word is the class of the animal, and the first word is an example of that class.

Following this logic:

• "Snake : Rodent" is incorrect, as a snake is a reptile, not a rodent.

• "Mammal : Man" is incorrect, as according to the given format, the class (mammal) should be in the second place, not the first.

• "Lizard : Reptile" is correct, as a lizard is indeed an example of a reptile, which follows the same pattern.

• "Mammal : Frog" is incorrect, as a frog is an amphibian, not a mammal.

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Therefore, the correct answer is "3) Lizard : Reptile".

Q25. Answer: (a) 42

The logic followed here is:

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

Now,

For, 9 : 30

=> (9 × 3) + 3

=> 27 + 3 = 30.

For, 11 : 36

=> (11 × 3) + 3

=> 33 + 3 = 36.

Similarly, for 13 : ?

=> (13 × 3) + 3

=> 39 + 3 = 42.

Hence, the correct answer is "Option 1".

Q26. Answer: (c) Sarangi

The correct answer is Option 3.

Key Points

• Pandit Ram Narayan is a renowned musician and maestro of the sarangi, a stringed instrument used in Hindustani classical music. He is recognized as one of the most esteemed sarangi players in the world. Born on December 25, 1927, in Udaipur, Rajasthan, Pandit Ram Narayan has made significant contributions to the field of Indian classical music.

• The sarangi is a bowed instrument with sympathetic strings that resonate along with the main strings. It is known for its ability to produce a soulful and melodic sound, often compared to the human voice. Pandit Ram Narayan's mastery of the sarangi has brought immense popularity and recognition to the instrument.

• He has been instrumental in elevating the status of the sarangi as a solo instrument and has showcased its capabilities through numerous performances and recordings.

• Pandit Ram Narayan's unique style and virtuosity have earned him accolades and awards, including the prestigious Padma Vibhushan, the second-highest civilian award in India.

• His contributions to Hindustani classical music extend beyond his performances. Pandit Ram Narayan has also been actively involved in teaching and mentoring the younger generation of musicians, passing on his knowledge and expertise to future artists.

• Pandit Ram Narayan's musical journey and his dedication to preserving and promoting the sarangi have left an indelible mark on Indian classical music, making him a revered figure in the world of Hindustani classical music.

Q27. Answer: (a) 1001

The correct answer is Option 1.

Key Points

• The Battle of Peshawar between Raja Jayapala and Mahmud of Ghazni took place in the year 1001 CE.

• Raja Jayapala was the ruler of the Hindu Shahi dynasty in the region, while Mahmud of Ghazni was a prominent Muslim conqueror from the Ghaznavid dynasty.

• The battle resulted in the defeat of Raja Jayapala and marked the beginning of Mahmud's invasions into the Indian subcontinent.

Additional Information

• The Hindu Shahi dynasty was a medieval Indian dynasty that ruled the region of Gandhara (present-day Afghanistan and Pakistan) from the 9th to the 10th centuries CE.

• They were known as the "Shahi" or "Kings of the Shahis" and were primarily of Hindu faith, although some rulers may have embraced Buddhism as well.

• The dynasty's origins are believed to be in the ancient Gandhara region, which had a rich history and was a center of Buddhist culture.

• The Hindu Shahis emerged as a powerful dynasty in the wake of the decline of the Turk Shahi dynasty.

• The Hindu Shahi rulers were known for their resistance against the Arab and Turkic invasions from the west.

• They successfully defended their territories against several attempts at conquest by Muslim armies, including the expeditions of Arab general Qutayba ibn Muslim in the 8th century.

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Q28. Answer: (a) Bihar

The correct answer is Option 1.

Key Points

• Union Home Minister Amit Shah unveiled a 14 feet high statue of Lok Nayak Jayprakash Narayan in Sitabdiara, Saran district, Bihar in October 2022.

• Political Activist and Leader:

• Lok Nayak Jayprakash Narayan, often referred to as JP, was a prominent Indian political leader and activist.

• He played a significant role in the Indian independence movement and was a staunch advocate for social and political reform in post-independence India.

• Total Revolution Movement:

• JP is best remembered for leading the "Total Revolution" movement in the 1970s.

• This was a public campaign against corruption and the increasing authoritarianism of the Indian government at the time, especially during the period of the Emergency declared by then Prime Minister Indira Gandhi.

• Sampoorna Kranti (Total Revolution):

• JP's concept of "Sampoorna Kranti" or "Total Revolution" encompassed various aspects of society, including social, political, economic, and cultural transformations.

• He called for a complete overhaul of the system to achieve a truly democratic society.

• Bihar Movement:

• Jayprakash Narayan led the Bihar Movement in the mid-1970s, a popular uprising in the Indian state of Bihar that aimed to bring about greater accountability and transparency in the government.

• Awards and Honors:

• JP was posthumously awarded the Bharat Ratna, India's highest civilian award, in 1999 for his significant contributions to Indian society and politics.

• He remains a respected figure in Indian history, and his life and works continue to inspire political activism and social reform in the country.

Q29. Answer: (d) Madhya Pradesh

The correct answer is Option 4.

Key Points

• Dhupgarh peak is the highest point in the state of Madhya Pradesh, India.

• It is situated in the Satpura Range and has an elevation of approximately 1,350 meters (4,429 feet) above sea level.

• Dhupgarh offers breathtaking panoramic views of the surrounding landscapes and is a popular destination for tourists and nature enthusiasts.

Q30. Answer: (d) Only I

The correct answer is Option 4.

Key Points

• With the government's efforts, the death rates have declined from 25 per 1000 population in 1951 to 7.1 per 1000 in 2011 life expectancy at birth has increased from 36.7 years in 1951 to 67.9 years in 2012.

• According to the 2011 census in India, the life expectancy at birth was approximately 65.5 years.

• It's important to note that life expectancy can vary over time and may have changed since then.

• For the most up-to-date information, it is recommended to refer to recent reports or official sources such as the Registrar General and Census Commissioner of India or the World Health Organization (WHO).

Additional Information

• The World Health Organization (WHO) is a specialized agency of the United Nations (UN) responsible for international public health.

• It was established on April 7, 1948, and its headquarters are located in Geneva, Switzerland.

• The WHO's primary objective is to promote global health, monitor public health trends, provide technical support and expertise, and coordinate international efforts to combat diseases and improve health outcomes worldwide.

• The WHO plays a crucial role in various areas of public health, including disease prevention, health promotion, emergency response, health systems strengthening, and health policy development.

• It collaborates with governments, non-governmental organizations (NGOs), and other international partners to address global health challenges, such as infectious diseases, maternal and child health, non-communicable diseases, mental health, and environmental health.

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Q31. Answer: (b) August

The correct answer is August.

Key Points

• Every year August 6 is observed as Hiroshima Day to mark the atomic bombing of Japanese cities during World War II.

• The first nuclear bomb was dropped over Hiroshima on August 6, 1945, & 3 days later the second bomb was dropped over Nagasaki killing millions of people in an instant.

• Hiroshima Day is observed every year to remind the world about the devastating results of nuclear weapons.

Additional Information

• On 6 August 1945, an American aircraft, B-29 Bomber, dropped Little Boy on Hiroshima, reportedly killing 90,000 people instantly.

• Three days later, another B-29 aircraft dropped Fat Man on Nagasaki.

• The day is observed every year as a reminder of the brutal killings of innocent civilians.

• The day plays a key role in making anti-war and anti-nuclear policies a priority in international relationships.

Q32. Answer: (d) Marginal standing facility rate

The correct answer is Marginal standing facility rate.

Key Points

• Marginal standing facility rate

• It is the rate at which banks borrow funds overnight from the RBI against approved government securities.

• Under MSF, banks can borrow funds up to one percentage of their net demand and time liabilities (NDTL).

• It used by banks to borrow from the Reserve Bank of India in an emergency situation when inter-bank liquidity dries up completely.

Additional Information

• Liquidity adjustment facility

• The RBI introduced the LAF as a result of the recommendations of the Narasimham Committee on Banking Sector Reforms (1998).

• A liquidity adjustment facility (LAF) is a tool used in monetary policy, primarily by the Reserve Bank of India (RBI),

• It allows banks to borrow money through repurchase agreements (repos) or for banks to make loans to the RBI through reverse repo agreements.

• This arrangement manages liquidity pressures and assures basic stability in the financial markets.

• Cash Reserve Ratio

• Commercial banks have to hold a certain minimum amount of deposit as reserves with the central bank

• The percentage of cash required to be kept in reserves as against the bank's total deposits is called the Cash Reserve Ratio

• The cash reserve is either stored in the bank’s vault or is sent to the RBI

• Banks can’t lend the CRR money to corporates or individual borrowers, banks can’t use that money for investment purposes.

Q33. Answer: (d) Kourou in French Guiana

The correct answer is Kourou in French Guiana.

Key Points

• SRO successfully launched communication satellite GSAT-24 from Kourou in French Guiana on 23 June 2022.

• GSAT-24, built by ISRO for NewSpace India Limited (NSIL), was launched by French company Arianespace.

• GSAT-24 is a 24-Ku band communication satellite weighing 4180 kg with pan-India coverage for meeting DTH application needs.

Additional Information

• It was the first demand driven communication satellite mission undertaken by NSIL post space sector reforms.

• NSIL, a Government of India company under the Department of Space, has leased the entire satellite capacity to Tata Play.

Q34. Answer: (a) Both I and II

The correct answer is Both I and II.

Key Points

• Respiration is the process by which energy is released from food in our body. The function of the respiratory system is to breathe in oxygen for respiration producing energy from food and to breathe out carbon dioxide.

• An important feature of all living cells is respiration which is related to the liberation of metabolic energy as ATP.

• Respiration is an amphibolic and exergonic cellular process.

• Respiration is of two types.
• Aerobic respiration- with the use of oxygen. Eg plants
• The equation of Aerobic Respiration
• Glucose + Oxygen → Carbon dioxide + Water + Energy
• Anaerobic respiration- without the use of oxygen. Eg yeast
• The equation of Anaerobic Respiration
• Glucose → Alcohol + Carbon dioxide + Energy
Various types of respiration are:

Respiratory organ	Types of respiration	Animals
Lungs	Pulmonary	Mammals, Birds, Reptiles, and amphibians
Gills	Bronchial	Fish, crabs, tadpole larvae
Skin	Cutaneous	Earthworm, leech, amphibians
Trachea	Tracheal	Insects

Q35. Answer: (b) Ctrl + 3

The correct answer is Ctrl + 3.
Key Points

Ctrl+3	Applies or removes italic formatting.
Ctrl+2	Applies or removes bold formatting.
Ctrl+4	Applies or removes underlining.
Ctrl+6	Alternates between hiding and displaying objects.
Ctrl+8	Displays or hides the outline symbols.
Ctrl+9	Hides the selected rows.

Q36. Answer: (d) Output Devices

Correct Answer Output Devices.
Key Points:
• Hardware devices that retrieve data from a computer system and translate the received data into a form understandable to humans are known as output devices.
• These devices take digital information from a computer and convert it into a human-readable format.
Some common examples of output devices include:
• Monitor/Display: A visual output device that presents information in the form of text, images, and graphics on a screen.
• Printer: Prints digital data onto physical paper in the form of text, images, or both.
• Speaker: Converts digital audio data into an audible sound, allowing users to hear sounds, music, or other audio output.
• Projector: Displays computer-generated images or video onto a larger screen or projection surface, often used for presentations or home theater setups.
• Headphones/Earphones: Output devices that provide audio output directly to the user's ears, allowing for private listening.
• Plotter: A device used to produce high-quality, large-scale graphics or drawings based on computer instructions.

Q37. Answer: (c) Al-Biruni

The correct answer is Al-Biruni.
Key Points:The Kitab-ul-Hind:
• Al-Biruni’s Kitab-ul-Hind, written in Arabic, is simple and lucid.
• It is a voluminous text, divided into 80 chapters on subjects such as religion and philosophy, festivals, astronomy, alchemy, manners and customs, social life, weights and measures, iconography, laws, and metrology.
• Generally (though not always), Al-Biruni adopted a distinctive structure in each chapter, beginning with a question, following this up with a description based on Sanskritic traditions, and concluding with a comparison with other cultures.
• Some present-day scholars have argued that this almost geometric structure, remarkable for its precision and predictability, owed much to his mathematical orientation.

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• Al-Biruni, who wrote in Arabic, probably intended his work for peoples living along the frontiers of the subcontinent.

• He was familiar with translations and adaptations of Sanskrit, Pali, and Prakrit texts into Arabic – these ranged from fables to works on astronomy and medicine. However, he was also critical of the ways in which these texts were written and clearly wanted to improve on them.

Q38. Answer: (c) 10

The correct answer is 10%.

Key Points:Only 10% of the available energy is transferred to the next trophic level, most of the energy is lost to the environment as heat.

• 10% can be taken as the average value for the amount of organic matter that is present at each step and reaches the next level of consumers.

• Since so little energy is available for the next level of consumers, food chains generally consist of only three or four steps.

Additional Information:

• The food chain is a linear sequence of organisms that starts from producer organisms and ends with decomposer species.

• The Food web is a connection of multiple food chains.

• The food chain follows a single path whereas the food web follows multiple paths.

• From the food chain, we get to know how organisms are connected with each other.

• Food chain and food web form an integral part of this ecosystem.

Q39. Answer: (b) 7^(th) Amendment

Correct Answer is 7th Amendment

Key Points7th Constitutional amendment act(1956):

• Abolishing the previous classification of state into four categories.

• Extended the jurisdiction of high courts to union territories.

• Provided for the establishment of a common court for 2 or more states.

• Provided for the appointment of additional acting judges of the high court.

Additional Information1st Constitutional amendment act(1951):

• It was crucial in facilitating land reforms in India.

• Added Article 31A and Article 31B to protect laws related to the acquisition of estates and other land reforms from judicial scrutiny.

• Empowered the state to make special provisions for the advancement of socially and economically backward class.

• Provided for the saving of laws providing for the acquisition of estate, etc.

• Added the ninth schedule to protect the land reform and other laws included in the form of the judicial review.

• Added three more grounds of restriction on freedom of speech and expression viz, public order, friendly relation with foreign states, and incitement to an offense. It also made the restriction reasonable and thus justiciable.

• Provided that the state trading and nationalization of any trade or business by any state is not to be invalid on the ground of violation of the right to trade or business.

13th Constitutional amendment act(1962):

• Gave the status of state to Nagaland and made a special provision for it.

9th Constitutional amendment act(1960):

• It primarily dealt with the re-adjustment of the boundaries between India and Pakistan.

• Facilitate the cession of the Berubari union.

Q40. Answer: (c) Mallakhamba

The Correct answer is Mallakhamba

Key Points:Mallakhamba:

Traditional Indian sport:

• Mallakhamba is a traditional Indian sport that combines gymnastics, yoga, and wrestling.

• It originated as a training method for wrestlers and evolved into a separate sport.

Vertical pole or rope:

• Participants perform acrobatic and gymnastic exercises on a vertical wooden pole or a rope.

• The pole is made of teak wood and polished with castor oil to reduce friction.

TOKYO OLYMPICS

• The 2020 Olympics was held in Tokyo from 23 July to 8 August 2021.

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• The International Olympics Committee postponed the games due to Covid-19.
• This was the second time When Japan will host the Olympics. (First in 1964)
• Miraitowa is the official mascot of the 2020 Summer Olympics.
• The mascot is created by Japanese artist Ryo Taniguchi.

The International Olympic Committee (IOC)

• IOC is a not-for-profit independent international organization.
• Created- 23 June 1894
• The first Olympic Games of the modern era were conducted in April 1896.
• The Olympic Charter is the codification of the Fundamental Principles of Olympism.
• President- Thomas Bach
• Olympic Motto- CITIUS – ALTIUS - FORTIUS meaning (FASTER - HIGHER - STRONGER -COMMUNITER)
• The 138th session of the International Olympic Committee met between 20-21 July 2021.
• At this meeting, the International Olympic Committee decided to change the Olympic motto 'Citius, Altius, Fortius' to 'Citius, Altius, Fortius, Communiter'.

Additional InformationTokyo Olympics 2020

• India won 7 medals at Tokyo Olympics 2020, which includes 1 Gold, 2 Silver, and 4 Bronze medals.
• Neeraj Chopra won a Gold medal in the Javelin Throw event.
• Ravi Kumar Dahiya won a Silver medal in Men's Wrestling 57KG category.
• Mirabai Chanu won a Silver medal in the Women's Weightlifting 49 KG category.
• P.V. Sindhu won a Bronze medal in Women's Singles Badminton.
• Lovlina Borgohain won a Bronze medal in the Women's Welterweight Boxing category.
• Indian Men's Hockey team won the Bronze medal.
• Bajrang Punia won a Bronze medal in Men's Wrestling 65 KG category.

Q41. Answer: (a) Tamil Nadu

The correct answer is Tamil Nadu.

Key Points

• Bharatanatyam originated in Tamil Nadu.
• Bharatanatyam is the oldest Indian classical dance and it originated hundreds of years ago in the Indian state of Tamil Nadu.
• This dance form expresses the religious themes and spiritual ideas of South India.
• The ancient Tamil epic Silappatikaram contains the description of Bharatanatyam.
• The Sangeet Natak Akademi currently confers classical status on eight Indian classical dance styles: Bharatanatyam (Tamil Nadu), Kathak (North, West and Central India), Kathakali (Kerala), Kuchipudi (Andhra Pradesh), Odissi (Odissa), Manipuri (Manipur), Mohiniyattam (Kerala), and Sattriya (Assam).

Additional Information

• The Indian States and Folk Dances
• Andhra Pradesh- Kuchipudi, Bhamakalpam, Lambadi, Dhimsa, Kolattam, Butta Bommalu.
• Assam- Bihu, Bichhua, Natpuja, Maharas, Kaligopal, Bagurumba, Naga dance, Khel Gopal, Tabal Chongli, Canoe, Jhumura Hobjanai
• Bihar- Jata-Jatin, Bakho-Bakhain, Panwariya, Sama Chakwa, Bidesia.
• Gujarat- Garba, Dandiya Ras, Tippani Juriun, Bhavai.
• Haryana- Jhumar, Phag, Daph, Dhamal, Loor, Gugga, Khor, Gagor.
• Himachal Pradesh- Jhora, Jhali, Chharhi, Dhaman, Chhapeli, Mahasu, Nati, Dangi.
• Jammu and Kashmir- Rauf, Hikat, Mandjas, Kud Dandi Nach, Damali.
• Karnataka- Yakshagan, Huttari, Suggi, Kunitha, Karga, Lambi.
• Kerala- Kathakali (Classical), Ottamthullal, Mohiniattam, Kaikottikali.
• Maharashtra- Lavani, Nakata, Koli, Lezim, Gafa, Dahikala Dasavtar or Bohada.
• Odisha- Odissi (Classical), Savari, Ghumara, Painka, Munari, Chhau.
• West Bengal- Kathi, Gambhira, Dhali, Jatra, Baul, Marasia, Mahal, Keertan.
• Punjab- Bhangra, Giddha, Daff, Dhaman, Bhand, Naqual.
• Rajasthan- Ghumar, Chakri, Ganagor, Jhulan Leela, Jhuma, Suisini, Ghapal, Kalbeliya.
• Tamil Nadu- Bharatanatyam, Kumi, Kolattam, Kavadi.

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• Uttar Pradesh- Nautanki, Raslila, Kajri, Jhora, Chappeli, Jaita.
• Uttarakhand- Garhwali, Kumayuni, Kajari, Jhora, Raslila, Chappeli.
• Goa- Tarangamel, Koli, Dekhni, Fugdi, Shigmo, Ghode, Modni, Samayi nrutya, Jagar, Ranmale, Gonph, Tonnya mell.
• Madhya Pradesh- Jawara, Matki, Aada, Khada Nach, Phulpati, Grida Dance, Selalarki, Selabhadoni, Maanch.
• Chhattisgarh- Gaur Maria, Panthi, Raut Nacha, Pandwani, Vedamati, Kapalik, Bharthari Charit, Chandaini.
• Jharkhand- Alkap, Karma Munda, Agni, Jhumar, Janani Jhumar, Mardana Jhumar, Paika, Phagua,Hunta Dance, Mundari Dance, Sarhul, Barao, Jhitka, Danga, Domkach, Ghora Naach.
• Arunachal- Pradesh Buiya, Chalo, Wancho, Pasi Kongki, Ponung, Popir, Bardo Chham.
• Manipur- Dol Cholam, Thang Ta, Lai Haraoba, Pung Cholom, Khamba Thaibi, Nupa Dance, Raslila, Khubak Ishei, Lhou Sha.
• Meghalaya- Ka Shad Suk Mynsiem, Nongkrem, Laho.
• Mizoram- Cheraw Dance, Khuallam, Chailam, Sawlakin, Chawnglaizawn, Zangtalam, Par Lam, Sarlamkai/Solakia, Tlanglam, Bamboo Dance.
• Nagaland- Modse, Agurshikukula, Butterfly Dance, Aaluyattu, Sadal Kekai, Changai Dance, Kuki Dance, Leshalaptu, Khamba Lim, Mayur Dance, Monyoasho, Rengma, Seecha and Kukui Kucho, Shankai and Moyashai.
• Tripura- Hojagiri.
• Sikkim- Chu Faat Dance, Sikmari, Singhi Chaam or the Snow Lion Dance, Yak Chaam, Denzong Gnenha, Tashi Yangku Dance, Khukuri Naach, Chutkey Naach, Maruni Dance.
• Telangana- Dappu Nrityam or Dappu Dance, Lambadi, Perini Sivatandavam, Gusadi and Mayuri.

Q42. Answer: (a) Malware

The correct answer is Malware.

Key Points

• The "SOVA Virus" which has been seen in the news recently is a type of malware.
• The SOVA Virus specifically targets banking apps. It's designed to infiltrate your device and steal information from these apps.
• It primarily targets Android devices. This means that devices running the Android operating system are at risk.
• The primary objective of the SOVA Virus is to steal valuable assets. This could include personal information, banking details, and other sensitive data that is stored on your device or within your banking apps.

Q43. Answer: (b) Dzongkha

The correct answer is Dzongkha.

Key Points

• The official Language of Bhutan is Dzongkha.
• The capital of Bhutan is Thimphu.
• The national animal is Takin (cattle chamois or gnu goat)
• The national bird is Common Raven
• The national flower is Blue poppy.
• The national sport is Archery.
• The national tree is Bhutan Cypress.

Additional Information

Country	Official Language(s)
Bangladesh	Bengali
Pakistan	Urdu
Nepal	Nepali
Sri Lanka	Sinhala, Tamil
Myanmar	Burmese

Q44. Answer: (b) 86^(th) Amendment Act, 2002

The correct answer is 86th Amendment Act,2002.

Key Points

• The 86th amendment to the Constitution of India in 2002 provided the right to education as a fundamental right.
• A new article 21A was added which made the right to education a fundamental right for children between 6-14 years.

• Changes in Article 45 of the Directive Principle of State Policies were made.
• It made education for all children below 6 years a Directive Principle of State Policies(DPSP).
• It made the opportunities for education to the child a Fundamental Duty of parents of the children.

Additional Information

Amendment Number	Name	Year	Description
1st Amendment	The Constitution (First Amendment) Act, 1951	1951	Added restrictions to the freedom of speech and expression to prevent criticism of the government and public officials.
24th Amendment	The Constitution (Twenty-Fourth Amendment) Act, 1971	1971	Ensured that Parliament's power to amend the Constitution was not restricted by fundamental rights.
42nd Amendment	The Constitution (Forty-Second Amendment) Act, 1976	1976	Brought significant changes, including the insertion of the word "secular" in the Preamble and the expansion of the powers of the Executive.
44th Amendment	The Constitution (Forty-Fourth Amendment) Act, 1978	1978	Restored certain fundamental rights that were curtailed during the Emergency period.
73rd Amendment	The Constitution (Seventy-Third Amendment) Act, 1992	1992	Provided constitutional recognition to Panchayati Raj institutions, empowering local self-government in rural areas.
74th Amendment	The Constitution (Seventy-Fourth Amendment) Act, 1992	1992	Recognized Municipal Corporations as urban local bodies and granted them constitutional status.
86th Amendment	The Constitution (Eighty-Sixth Amendment) Act, 2002	2002	Made education a fundamental right for children between the ages of 6 and 14, known as the Right to Education (RTE).
97th Amendment	The Constitution (Ninety-Seventh Amendment) Act, 2011	2011	Introduced provisions for reservation of seats for Scheduled Castes and Scheduled Tribes in legislatures for another 10 years.
101st Amendment	The Constitution (One Hundred and First Amendment) Act, 2016	2016	Introduced the Goods and Services Tax (GST), a comprehensive indirect tax system to replace multiple indirect taxes.
103rd Amendment	The Constitution (One Hundred and Third Amendment) Act, 2019	2019	Provided reservation of seats for economically weaker sections (EWS) in higher education institutions and public employment.

Q45. Answer: (d) France

The correct answer is France.

Key Points

• The host city of the 2024 Summer Olympics is Paris, France.
• The Motto is Made for Sharing.
• Skateboarding, sport climbing, surfing, and breaking have been confirmed as the additional sports proposed for inclusion at the

Paris Olympic Games in 2024.

• Los Angeles, California, United States will host the 2028 Summer Olympics.

Additional Information

• Host cities for Summer and Winter Olympic Games:

Year	Location
2026	Milan–Cortina d'Ampezzo, Italy
2022	Beijing, China
2018	Pyeongchang, South Korea
2016	Rio de Janeiro, Brazil
2014	Sochi, Russia
2012	London, UK
2010	Vancouver, Canada
2008	Beijing, China
2006	Turin, Italy
2004	Athens, Greece

Q46. Answer: (a) Gujarat

The correct answer is Gujarat.

Key Points

• The 36th National Games, whose theme is Celebrating Unity Through Sports, are being held after a gap of seven years and took place from September 29 to October 12 at the EKA Arena TransStadia in Ahmedabad.

• As many as six cities in Gujarat - Ahmedabad, Gandhinagar, Surat, Vadodara, Rajkot and Bhavnagar.

• New Delhi additionally hosted the track cycling event.

• The curtain-raiser event (held on 3rd September 2022)witnessed the unveiling of the Games Anthem and Mascot, as well as a custom-curated website and mobile application, marking the beginning of the biggest sporting extravaganza in the country.

• An estimated 7,000 athletes from 28 states and eight Union Territories are expected to take part across 36 disciplines that include most traditional Olympic sports.

• Indigenous sports like Mallakhamb and Yogasana also featured in the National Games for the first time.

• The 2020 edition of the National Games was scheduled to be held in Goa but was cancelled due to the covid pandemic.

Additional Information

• National Games of India

• The National Games of India comprises various disciplines in which sportsmen from the different states of India participate against each other.

• The first such event was held in Lahore in the year 1924.

• The country's first few Olympic Games, now renamed as National Games, were held in North India (Delhi, Lahore, Allahabad, Patiala), Chennai, Calcutta, and Mumbai.

• For several years in the mid-twentieth century, the national games were conducted on a low-key note.

• However, the first Modern National Games on the lines of the Olympics were held in 1985 in New Delhi.

Q47. Answer: (d) Hansa Sharma

The correct answer is Hansa Sharma.

Key Points

• Hansa Sharma is a prominent weightlifting coach from India.

• She became the first woman to receive the Dronacharya Award in 2000.

• The Dronacharya Award is a prestigious sports coaching honour in India, awarded for exceptional contributions to mentoring athletes.

• Hansa Sharma's achievement marked a significant moment in Indian sports, opening doors for other women coaches.

Additional Information

Option	Field	Important Information

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Renu Kohli	Athletics	Renu Kohli is an athletics coach who won the Dronacharya Award in 2002, becoming the second woman to receive this honor.
Sunita Sharma	Cricket	Sunita Sharma is reportedly India's first woman cricket coach. She has trained dozens of first-class and international cricketers and received the Dronacharya Award in 2005 for the year 2004.
Purnima Mahato	Archery	Purnima Mahato is an Indian archer and archery coach. She has won the Indian national archery championships and a silver medal at the 1998 Commonwealth Games. She was a coach for the Indian national team at the 2008 and 2012 Summer Olympics. She received the Dronacharya Award in 2013.

Q48. Answer: (c) Nitrogen dioxide

The correct answer is Nitrogen dioxide.

Key Points

• Lead nitrate breaks down into Lead oxide (PbO), oxygen (O2), and nitrogen dioxide (NO2) when heated.

• When lead nitrate is heated, lead monoxide, nitrogen dioxide, and oxygen are produced.

• Light yellow solid lead monoxide, reddish-brown nitrogen dioxide gas, and colourless oxygen gas are the byproducts of its breakdown.

• The balanced reaction is : $2Pb(NO3)2 \rightarrow 2\ PbO + 4NO2 + O2$The brown fumes observed are of Nitrogen Dioxide (NO2)

Important Points

Identification of gases in chemistry can be done as below:

Gas	Characteristics
Hydrogen	Burns with a popping sound
Oxygen	Glowing wooden splint relights in a test tube of oxygen
Carbon dioxide	Turns limewater milky
Ammonia	The characteristic sharp, choking smell
Chlorine	Characteristic sharp, choking smell. It makes damp blue litmus paper turn red

Q49. Answer: (d) I, II and III

The correct answer is I, II and III.

Key Points

• The supply curve shifts leftward and demand curve shifts rightward.

• This combination of shifts will lead to an increase in the equilibrium price and a decrease in the equilibrium quantity.

• For example, if there is a natural disaster that destroys a large portion of the cropland, then the supply curve for food will shift leftward.

• At the same time, if people's incomes increase, then the demand curve for food will shift rightward.

• The net effect of these two shifts will be an increase in the price of food and a decrease in the quantity of food that is consumed.

Hence statement I is correct.

• Both supply and demand curves shift leftwards.

• This combination of shifts will lead to a decrease in the equilibrium price and a decrease in the equilibrium quantity.

• For example, if there is a strike by workers in the auto industry, then the supply curve for cars will shift leftward.

• At the same time, if people's incomes decrease, then the demand curve for cars will shift leftward.

• The net effect of these two shifts will be a decrease in the price of cars and a decrease in the quantity of cars that are sold.

Hence statement II is correct.

• Supply curve shifts rightward and demand curve shifts leftward.

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• This combination of shifts will lead to an ambiguous change in the equilibrium price and a decrease in the equilibrium quantity.

• For example, if there is a technological breakthrough that makes it cheaper to produce cars, then the supply curve for cars will shift rightward.

• At the same time, if people's incomes decrease, then the demand curve for cars will shift leftward.

• The net effect of these two shifts will be a decrease in the equilibrium quantity of cars, but the direction of the change in the equilibrium price is ambiguous.

Hence statement III is correct.

Q50. Answer: (c) 15 degrees

The correct answer is 15 degrees.

Key Points

• Each time zone covers 15 degrees of longitude.

• There are 24 time zones in the world, so the Earth is divided into 360/24 = 15 degrees of longitude per time zone.

• 24 degrees is the total number of degrees in a circle.

• 20 degrees is not a common number of degrees for a time zone,.

• 10 degrees is to Indian Standard Time o small to be a useful division of the Earth.

Important Points

• India uses a single time zone, Indian Standard Time (IST), which is UTC+5:30.

• This means that IST is 5 and a half hours ahead of Coordinated Universal Time (UTC).

Q51. Answer: (d) 30

Shortcut Trick

The number 48ab is divisible by 2, 5, and 7, so it must be divisible by their LCM.

LCM(2, 5, 7) = 70.

Since the number is divisible by 70, the last digit b must be 0.

Finding the multiple of 70 near 4800: 4830 ÷ 70 = 69 (Perfectly divisible).

Thus, a = 3 and b = 0, giving (10 × 3 − 0) = 30.

Therefore The correct answer is 30.

Alternate Method

Given: A 4-digit number 48ab is divisible by 2, 5, and 7.

Step 1: Determine the value of b.

=> For a number to be divisible by 2, the last digit must be 0, 2, 4, 6, or 8.

=> For a number to be divisible by 5, the last digit must be 0 or 5.

=> To satisfy both, the last digit b must be 0.

Step 2: Determine the value of a.

=> The number is now 48a0.

=> This number must be divisible by 7.

=> 48a0 = 4800 + 10a

=> 4800 ÷ 7 = 685 with a remainder of 5.

=> To make (5 + 10a) divisible by 7, test values for a (0 to 9):

=> If a = 3: 5 + 10(3) = 35 (Divisible by 7).

=> Thus, a = 3.

Step 3: Calculate the final expression.

=> Value = 10a − b

=> Value = 10(3) − 0 = 30.

Therefore The correct answer is 30.

Additional Information

Divisibility by 10

A number is divisible by 10 if and only if its last digit is 0. This is the same as being divisible by both 2 and 5.

Divisibility by 7

To check divisibility by 7, double the last digit and subtract it from the rest of the number; the result must be divisible by 7.

LCM Method for Divisibility

If a number is divisible by several coprime numbers, it is also divisible by their product (LCM).

Q52. Answer: (d) 340 percent

Calculation:

Income of P and Q = 650 + 450 = 1100

Expenditure of S and T = 150 + 100 = 250

According to the question:

(1100 - 250)250 × 100

850/250 × 100

85 × 4 = 340%

Therefore Option 4 is the correct answer.

Q53. Answer: (c) 864 cm²

Shortcut Trick

Identify the side (a) from volume: a = $\sqrt[3]{1728}$ = 12 cm.

Calculate Total Surface Area (TSA): 6 × a^2 = 6 × 144.

TSA = 864 cm^2.

Therefore The correct answer is 864 cm^2.

Alternate Method

Given:

Volume of the cube = 1728 cm^3

Formula Used:

1. Volume of cube = a^3

2. Total Surface Area (TSA) of cube = $6a^2$ (where a is the side of the cube)

Calculations:

=> a^3 = 1728

=> a = $\sqrt[3]{(12 \times 12 \times 12)}$

=> a = 12 cm

=> Total Surface Area = 6 × $(12)^2$

=> Total Surface Area = 6 × 144

=> Total Surface Area = 864 cm^2

Therefore The correct answer is 864 cm^2.

Additional Information

Lateral Surface Area (LSA) of a Cube

The area of the four vertical faces of a cube is given by LSA = $4a^2$.

Diagonal of a Cube

The length of the longest rod that can be placed inside a cube of side a is a√3.

Volume and Surface Area of a Cuboid

For a cuboid with dimensions length (l), breadth (b), and height (h): Volume = l × b × h and TSA = 2(lb + bh + hl).

Q54. Answer: (a) 54 cm

Given:

The length of the chord is 54 cm.

Concept used:

If an angle subtended by a chord on the circumference of a circle is 180 degrees, then the chord is the circle's diameter.

Calculation:

If an angle subtended by a chord on the circumference of a circle is 180 degrees, then the chord is the circle's diameter.

So the length of the diameter is 54 cm

Therefore Option 1 is the correct answer.

Q55. Answer: (a) Rs. 10648

Given:

Principal = Rs. 8000

Rate of interest = 20% per annum

Number of times interest is compounded = 2 (semi-annually)

Time = 1.5 years = 3 half-years
Formula:
Compound interest = Principal$(1 + R)^n$
Solution:
Time = 1.5 years = 3 half-years
R = 20/2 = 10%
Compound interest = 8000 $(1 + 10)^3$ = 8 × 1331 = 10648
Therefore, the amount to be paid after 1.5 years is Rs. 10648.

Q56. Answer: (b) 4 : 11

Calculation:
Number of teachers in Hindi = 12% of 1800
=> 12/100 × 1800 = 216
Number of teachers in English and Mathematics together = (18 + 15)% of 1800
=> 33/100 × 1800
=> 594
Ratio = 216 : 594 = 4 : 11
Therefore Option 2 is the correct answer.

Q57. Answer: (b) 28%

Given :
Three Discount percentages 30%, 20%, and 10%
Formula used :
S.P =M.P× (100-D%)/100 ,D% = (100-72)/100×100 = 28%
Where, M.P = Marked Price, D% = Discount Percentage
Calculation :
Let the marked price be Rs. 100
S.P = M.P× (100-10)/100×(100-20)/100 = 100×8/10× 9/10 = 72
D% = (100-72)/100×100 = 28%
Therefore The answer is 28%.
Shortcut Trick Therefore a+b+(a× b)/100 = equivalent of two discounts,
So, -10+-20+(-10× -20)/100 = 28%, -30 + 2 = 28%
Therefore Answer is 28%

Q58. Answer: (b) 26 cm

Given:
The length of chord AB from the center of a circle is 6 cm.
The length of the diameter of the circle is 20 cm
Formula used:
R = d/2
Calculation:
OA = Radius = 20/2 = 10
Using Pythagorean theorem:
$AO^2 = AP^2 + OP^2$
$10^2 = AP2 + 6^2$
$AP^2 = 100 - 36$
AP2 = 64
AP = 8
AB = 2 × AP
AB = 16
AB + AO = 16 + 10 = 26 cm
Therefore Option 2 is the correct answer.

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Q59. Answer: (d) 56

Shortcut Trick

Original Ratio = 9 : 16 (Difference = 7 units)

New Ratio = 2 : 3 (Difference = 1 unit)

Equate the difference by multiplying the new ratio by 7: New Ratio = 14 : 21

Increase in each part = 14 − 9 = 5 units = 40 => 1 unit = 8

Difference between the numbers = 7 units = 7 × 8 = 56

Therefore The correct answer is 56.

Alternate Method

Given: Original ratio = 9 : 16, Increase value = 40, Final ratio = 2 : 3.

Let the two numbers be 9x and 16x.

According to the question:

=> (9x + 40) / (16x + 40) = 2 / 3

=> 3 × (9x + 40) = 2 × (16x + 40)

=> 27x + 120 = 32x + 80

=> 32x − 27x = 120 − 80

=> 5x = 40

=> x = 8

=> Difference = 16x − 9x = 7x

=> Difference = 7 × 8 = 56

Therefore The correct answer is 56.

Additional Information

Ratio and Proportion

A ratio is a comparison of two quantities by division. Proportion is an equation that states that two ratios are equal (a : b = c : d).

Cross-Multiplication Method

For solving ratio problems involving additions or subtractions, the cross-multiplication rule (ad = bc) is the most efficient algebraic approach.

Duplicate and Triplicate Ratios

The duplicate ratio of a : b is $a^2 : b^2$, and the triplicate ratio is $a^3 : b^3$.

Difference Maintenance

If a constant value is added to both terms of a ratio, the absolute difference between the original terms remains represented by the same variable part (x) when the gap is normalized.

Q60. Answer: (c) 2019

Calculation:

Production of wheat in 2017 by M, N and O = 256 + 534 + 576 = 1366

Production of wheat in 2018 by M, N and O = 312 + 480 + 190 = 982

Production of wheat in 2019 by M, N and O = 290 + 310 + 335 = 935

Production of wheat in 2020 by M, N and O = 385 + 550 + 620 = 1555

Minimum production of wheat in the year 2019.

Therefore Option 3 is the correct answer.

Q61. Answer: (b) 50

Shortcut Trick

Ratio of numbers = 6 : 5 : 9

Given: 20% of 1^(st) number (6 units) = 30 => 1.2 units = 30

=> 1 unit = 30 ÷ 1.2 = 25

Difference between 3^(rd) and 2^(nd) = 9 − 5 = 4 units

Target: 50% of difference = 50% of 4 units = 2 units

Value = 2 × 25 = 50

Therefore The correct answer is 50.

Alternate Method

Given:

Ratio of three numbers = 6 : 5 : 9
Let the numbers be 6x, 5x, and 9x.
Condition: 20% of 1^(st) number = 30
Calculations:
=> (20 / 100) × 6x = 30
=> 0.2 × 6x = 30
=> 1.2x = 30
=> x = 30 / 1.2 = 300 / 12 = 25
=> 2^(nd) number = 5x = 5 × 25 = 125
=> 3^(rd) number = 9x = 9 × 25 = 225
=> Difference = 225 − 125 = 100
=> 50% of Difference = (50 / 100) × 100
=> Required value = 50
Therefore The correct answer is 50.
Additional Information
Ratio & Proportion
If a : b : c are three numbers, they can be expressed as ax, bx, and cx where x is the common proportionality constant.
Percentage of a Quantity
To find p% of a number N, use the formula (p / 100) × N. For example, 50% is equivalent to multiplying by 0.5 or dividing by 2.
Unitary Method in Ratios
If the value of 'n' units is known, the value of 1 unit is Value / n, which can then be used to find any other number of units.

Q62. Answer: (c) 169/60

Given:
cos X = 5/13
Concept Used:
cos X = Base/Hypotenuse
tan X = Perpendicular/Base
cot X = Base/Perpendicular
Pythagoras Theorem
Hypotenuse² = Base² + Perpendicular²
Calculation:
Apply Pythagora's theorem
=> AB² = AC² - BC²
=> AB² = 169 - 25
=> AB = 12
=> tan X = Perpendicular/Base = 12/5
=> cot X = Base/Perpendicular = 5/12
=> tan X + cot X = 12/5 + 5/12
=> (144 + 25)/60
=> 169/60
Therefore Option 3 is the correct answer.

Q63. Answer: (a) 60 days

Shortcut Trick
For 'Or / And' type questions, use the direct ratio formula: Required Days = Given Days ÷ [(M2 ÷ M1) + (B2 ÷ B1)]
=> Required Days = 174 ÷ [(12 ÷ 8) + (14 ÷ 10)]
=> Required Days = 174 ÷ [1.5 + 1.4]
=> Required Days = 174 ÷ 2.9 = 60 days
Therefore The correct answer is 60 days.
Alternate Method
Given:

Time taken by 8 men = 174 days

Time taken by 10 boys = 174 days

Formula Used:

Total Work = Efficiency × Time; Days = Total Work ÷ Combined Efficiency

Person	Days	Total Work	Efficiency
8 Men	174	174	1
10 Boys	174	1	

Calculations:

=> Efficiency of 1 man = 1 ÷ 8 = 0.125 units/day

=> Efficiency of 1 boy = 1 ÷ 10 = 0.1 units/day

=> Combined Efficiency of 12 men and 14 boys = (12 × 0.125) + (14 × 0.1)

=> Combined Efficiency = 1.5 + 1.4 = 2.9 units/day

=> Number of days required = 174 ÷ 2.9 = 60 days

Therefore The correct answer is 60 days.

Additional Information

M-D-H Formula

The relationship between men (M), days (D), and hours (H) is given by (M1 × D1 × H1) / W1 = (M2 × D2 × H2) / W2.

Efficiency Conversion

In 'Or' type questions, always equate the efficiencies: 8 Men = 10 Boys => 1 Man = 1.25 Boys, then convert the final group into a single unit.

Inverse Proportion

Number of people is inversely proportional to the time taken to complete a constant work; more workers lead to fewer days.

Q64. Answer: (c) 50 years

Shortcut Trick

Coach's Age = New Average + (Initial Number of Players × Increase in Average)

New Average = 24 + 2 = 26 years

Coach's Age = 26 + (12 × 2)

Coach's Age = 26 + 24 = 50 years

Therefore The correct answer is 50 years.

Alternate Method

Given:

Initial Average Age of 12 players = 24 years

Number of players = 12

New Average Age (including coach) = 24 + 2 = 26 years

Total members including coach = 12 + 1 = 13

Calculations:

=> Total age of 12 players = 12 × 24 = 288 years

=> Total age including the coach = 13 × 26 = 338 years

=> Age of the coach = 338 − 288

=> Age of the coach = 50 years

Therefore The correct answer is 50 years.

Additional Information

Basic Average Formula

Average = (Sum of all observations) ÷ (Total number of observations).

Net Change in Average

When a new member is added: Value of new member = Old Average + (New total count × Increase in average).

Sum of Observations

Sum = Average × Count. This is the primary method to find missing values in groups.

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Q65. Answer: (d) 1

Given:

If A + 1/A = -1

Calculation:

=> A + 1/A = -1

The above equation can be written as:

=> (A^2+ 1)/A = -1

=> A^2 + 1 = - A

=> A2 = - A - 1 ----(1)

Now, multiply the above equation by x on both sides.

=> A^3 = - A^2 - A ----(2)

Substitute equation (1) in equation (2),

=> A^3 = -A - (-1 - A)

=> A^3 = -A + 1 + A

=> A^3 = 1

It can be written as:

=> A^3 - 1 = 0

The required expression can be written as:

=> (A^6 + A^3 - 1)/(A^9 + A^3 - 1)

=> (A^6 + 0)/(A^9 + 0) = 1/(A^3)

=> 1/1 = 1

Therefore, '1' is the required answer.

Therefore Option 4 is the correct answer.

Q66. Answer: (b) 62

Shortcut Trick

Expand the given equation to find the variable components: $2x^2 + 6x + 5 = 16$.

Isolate the quadratic terms: $2x^2 + 6x = 11$.

Multiply the isolated terms by 2 to match the target expression: $4x^2 + 12x = 22$.

Add the constant 40 to the result: 22 + 40 = 62.

Therefore The correct answer is 62.

Alternate Method

Given: $(x + 1)^2 + (x + 2)^2 = 16$

Method Used: Expansion using Algebraic Identity $(a + b)^2 = a^2 + 2ab + b^2$ and substitution.

=> $(x^2 + 2x + 1) + (x^2 + 4x + 4) = 16$

=> $2x^2 + 6x + 5 = 16$

=> $2x^2 + 6x = 16 - 5$

=> $2x^2 + 6x = 11$

To find the value of $4x^2 + 12x + 40$, we multiply the above equation by 2:

=> $2 \times (2x^2 + 6x) = 2 \times 11$

=> $4x^2 + 12x = 22$

Now, add 40 to both sides of the expression:

=> $(4x^2 + 12x) + 40 = 22 + 40$

=> $4x^2 + 12x + 40 = 62$

Therefore The correct answer is 62.

Additional Information

Standard Algebraic Identities

Basic square expansions like $(a + b)^2 = a^2 + 2ab + b^2$ and $(a - b)^2 = a^2 - 2ab + b^2$ are fundamental for simplifying polynomial expressions.

Quadratic Polynomial Evaluation

When asked to find the value of a higher-degree expression based on a lower-degree equation, look for common multiples or factors between the coefficients.

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Nature of Roots

For a quadratic equation $ax^2 + bx + c = 0$, the Discriminant ($D = b^2 - 4ac$) determines if the roots are real, equal, or imaginary.

Q67. Answer: (b) 36 m/s

Shortcut Trick

Speed of the first train (S1) = 360 ÷ 30 = 12 m/s.

Relative Speed in opposite direction = (360 + 360) ÷ 15 = 720 ÷ 15 = 48 m/s.

Speed of the second train (S2) = Relative Speed − S1 = 48 − 12 = 36 m/s.

Therefore The correct answer is 36 m/s.

Alternate Method

Given:

Length of Train 1 (L1) = 360 m

Time to cross electric pole = 30 sec

Length of Train 2 (L2) = 360 m

Time to cross each other in opposite direction = 15 sec

Formula Used:

Speed = Distance ÷ Time

Relative Speed (Opposite) = S1 + S2

Calculations:

=> Speed of Train 1 (S1) = L1 ÷ Time to cross pole

=> S1 = 360 ÷ 30 = 12 m/s

=> Total Distance while crossing each other = L1 + L2 = 360 + 360 = 720 m

=> Relative Speed = Total Distance ÷ Time to cross each other

=> S1 + S2 = 720 ÷ 15

=> 12 + S2 = 48

=> S2 = 48 − 12 = 36 m/s

Therefore The correct answer is 36 m/s.

Additional Information

Relative Speed Concepts

When moving in the opposite direction, Relative Speed = S1 + S2. When moving in the same direction, Relative Speed = |S1 − S2|.

Crossing Distance

The distance covered to cross a stationary point (pole, person) is the train length. To cross another object with length (train, bridge), the distance is (L1 + L2).

Unit Conversion

To convert km/h to m/s, multiply by 5/18. To convert m/s to km/h, multiply by 18/5.

Q68. Answer: (a) Rs. 360

Shortcut Trick

Total difference in percentage = Gain% − (−Loss%) = 13% + 15% = 28%

According to the question, 28% of Cost Price (CP) = Rs. 84

Then, 1% of CP = 84 ÷ 28 = Rs. 3

To gain 20% profit, required Selling Price (SP) = 120% of CP

Required SP = 120 × 3 = Rs. 360

Therefore The correct answer is Rs. 360.

Alternate Method

Given: Initial Loss = 15%, Hypothetical Gain = 13%, Difference in SP = Rs. 84.

Formula Used: Selling Price = CP × (100 ± Profit or Loss%)/100

=> Let the Cost Price (CP) of the article be 100 units.

=> Case 1: 15% Loss → SP1 = 100 − 15 = 85 units.

=> Case 2: 13% Gain → SP2 = 100 + 13 = 113 units.

=> Difference = SP2 − SP1 = 113 − 85 = 28 units.

=> 28 units = Rs. 84

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=> 1 unit = 84 ÷ 28 = Rs. 3

=> CP = 100 units = 100 × 3 = Rs. 300

=> Required SP for 20% gain = 300 × (120/100) = 300 × 1.2

=> Required SP = Rs. 360

Therefore The correct answer is Rs. 360.

Additional Information

Profit and Loss on Cost Price

Profit and Loss percentages are always calculated on the Cost Price unless specified otherwise. Profit = SP − CP, Loss = CP − SP.

Combined Percentage Change

When there is a shift from a Loss to a Profit, the total percentage change is the numerical sum of the two percentages: Total % Change = Profit% + Loss%.

Marked Price and Discount

Marked Price (MP) is the price printed on the label. Discount is always calculated on MP: SP = MP × (100 − Discount%)/100.

Q69. Answer: (c) 18 cm

Given:

Two medians DM and EN of ΔDEF intersect each other at G at right angles.

EF = 20 cm and EN = 12 cm

Concept Used:

Median divides the opposite side into two equal parts.

Centroid is the intersection point of medians which divide the median into the ratio 2 : 1.

Calculation:

In ΔDEF EN is the median.

So, EG : GN = 2 : 1

EN = 12 cm

EG : GN = 8 : 4

In ΔEGM

$EM^2 = GM^2 + EG^2$

$\Rightarrow 10^2 = GM^2 + 8^2$

$\Rightarrow GM^2 = 100 - 64$

$\Rightarrow GM = 6$

Since DM is also a median

DG : GM = 2 : 1

DG = 2 × GM = 2 × 6 = 12 cm

DM = DG + GM = 12 + 6 = 18 cm

Therefore Option 3 is the correct answer.

Q70. Answer: (c) 1/√3

Given:

sec x + tan x = √3

x lies between 0° and 90°

Concept Used:

$\sec x = \sqrt{(1 + \tan^2 x)}$

Calculation:

sec x + tan x = √3

=> √(1 + tan2 x) + tan x = √3

=> √(1 + tan2 x) = √3 - tan x

Squaring both sides

$\Rightarrow [\sqrt{(1 + \tan 2 x)}]^2 = (\sqrt{3} - \tan x)^2$

$\Rightarrow 1 + \tan 2 x = 3 + \tan^2 x - 2\sqrt{3} \tan x$

$\Rightarrow 1 = 3 - 2\sqrt{3} \tan x$

$\Rightarrow 2\sqrt{3} \tan x = 2$

=> tan x = 1/√3

Therefore Option 3 is the correct answer.

Q71. Answer: (a) 490

Calculation:

Average expenditure of company J in year A and B = (400 + 300)/2 = 350

Average expenditure of company K in year C and D = (500 + 300)/2 = 400

L1 = The difference between average expenditure of company J in year A and B and the average expenditure of company K in year C and D

L1 = 400 - 350 = 50

L2 = The value of average expenditure of company K in all 5 years,

L2 = (1000 + 700 + 500 + 300 + 200)/5 = 2700/5 = 540

The value of (L2 - L1) = 540 - 50 = 490

Therefore Option 1 is the correct answer.

Q72. Answer: (a) 40 years

Shortcut Trick

Since the number of male and female employees is equal, their ratio is 1 : 1.

The overall average age is exactly the midpoint of the male average and female average.

Overall Average = (Male Average + Female Average) ÷ 2

32 = (Male Average + 24) ÷ 2

Male Average = (32 × 2) − 24 = 40

Therefore The correct answer is 40 years.

Alternate Method

Given:

Average age of female employees = 24 years

Average age of all employees = 32 years

Number of male employees = Number of female employees

Formula Used:

By the rule of alligation, Ratio = (Overall Average − Female Average) : (Male Average − Overall Average)

Male (M)

Female (24)

Avg: 32

32 − 24 = 8

M − 32

Ratio = 1 : 1

Calculations:

=> Let the average age of male employees be M.

=> Since the number of male and female employees is equal, their ratio is 1 : 1.

=> Male ratio : Female ratio = (32 − 24) : (M − 32)

=> 1 : 1 = 8 : (M − 32)

=> 1 ÷ 1 = 8 ÷ (M − 32)

=> M − 32 = 8

=> M = 32 + 8 = 40

Therefore The correct answer is 40 years.

Additional Information

Weighted Average

When combining two different groups with averages A1 and A2, and count n1 and n2, the overall average is computed as A_(mix) = (n1A1 + n2A2) ÷ (n1 + n2).

Alligation Rule

Alligation provides a direct ratio in which two quantities must be mixed to produce a desired overall average. The crossing difference yields the quantity ratio: n1 : n2 = (A2 − A_(mix)) : (A_(mix) − A1).

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Q73. Answer: (a) 24/13

Given:

angle B = 90 degree

AB = 12 cm

BC = 5 cm

Concept Used:

Pythagoras Theorem

Hypotenuse² = Base² + Perpendicular²

cos A = Base/Hypotenuse

sin C = Perpendicular/Hypotenuse

Calculation:

Apply Pythagoras Theorem

AC2 = BC2 + AB2

=> $AC^2 = 5^2 + 12^2$

=> $AC^2 = 25 + 144$

=> AC = 13

cos A = Base/Hypotenuse = 12/13

sin C = Perpendicular/Hypotenuse = 12/13

=> cos A + sin C = 12/13 + 12/13

=> 24/13

Therefore Option 1 is the correct answer.

Q74. Answer: (d) 1/10

Given:

(15 ÷ 5 × 3 - 12 × 12 ÷ 6 + 15 ÷ 5 × 6)/(18 ÷ 3 × 5 - 12 ÷ 6 × 5 + 18 ÷ 9 × 5)

Concept used:

Calculation:

(15 ÷ 5 × 3 - 12 × 12 ÷ 6 + 15 ÷ 5 × 6)/(18 ÷ 3 × 5 - 12 ÷ 6 × 5 + 18 ÷ 9 × 5)

(9 - 24+ 18)/(30 - 10 + 10)

3/30

1/10

Therefore Option 4 is the correct answer.

Q75. Answer: (b) 24 cm

Given:

PX is a tangent drawn from point X.

O is the centre of the circle.

Radius of this circle is 10 cm and OX = 26 cm.

Concept Used:

When a tangent is drawn from an external point to a circle, it forms a right angle with the radius drawn to the point of tangency.

Pythagoras theorem

Hypotenuse² = Base² + Perpendicular²

Calculation:

Here PX is the tangent makes 90° angle with the radius.

In triangle OPX,

OP = 10 cm

OX = 26 cm

Apply Pythagoras theorem

Hypotenuse2 = Base2 + Perpendicular2

262 = 102 + Perpendicular2

Perpendicular² = 262 - 102

Perpendicular2 = 676 - 100

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Perpendicular2 = 576

Perpendicular = 24 cm

PX = 24 cm

Therefore Option 2 is the correct answer.

Q76. Answer: (c) Dismantle

The solution is in Hindi. Read it online.

Q77. Answer: (a) Trnuk

The solution is in Hindi. Read it online.

Q78. Answer: (b) Irritate

The solution is in Hindi. Read it online.

Q79. Answer: (b) Make an audience laugh uncontrollably

The solution is in Hindi. Read it online.

Q80. Answer: (d) Crusade

The solution is in Hindi. Read it online.

Q81. Answer: (b) The cursor must be placed at the start of the line.

The correct answer is 'Option 2'.

Key Points

• The cursor must be placed at the start of the line: This sentence is spelled correctly. Every word is written as it should be.

• The cursor must be plased at the strat of the line: This sentence contains two spelling errors. "Plased" should be "placed" and "strat" should be "start".

• The cursor must be plased at the start of the line: This sentence contains one spelling error. "Plased" should be "placed".

• The cursur must be placed at the start of the line: This sentence contains one spelling error. "Cursur" should be "cursor".

Therefore, the sentence with no spelling error is: "The cursor must be placed at the start of the line".

Q82. Answer: (c) In bodily form

The solution is in Hindi. Read it online.

Q83. Answer: (a) PRQS

The correct answer is 'Option 1'.

Key Points

• Here's an explanation of each part:

• P - "The shape of an egg has been highly regarded for its evolution" - This part serves as a good opening statement because it introduces the main subject: the shape of an egg.

• R - "As large enough to incubate an embryo, small enough to exit" - This is a description that elaborates on the qualities of the egg's shape mentioned in part P.

• Q - "The body in the most efficient way, not roll away once laid" - This continues the description started in part R, adding more qualities of the egg's shape.

• S - "Is structurally sound enough to bear weight and be the beginning of life for so many species" - This concluding part sums up why the shape of the egg has been highly regarded for its evolution, tying the sentence together neatly.

Therefore, the correct sentence arrangement is: 'PRQS' i.e. "The shape of an egg, as large enough to incubate an embryo, small enough to exit the body in the most efficient way, not roll away once laid, has been highly regarded for its evolution, is structurally sound enough to bear weight and be the beginning of life for so many species."

Q84. Answer: (b) He said that he would go to Indonesia the next day.

The correct answer is 'Option 2'.

Key Points

• When converting direct speech into indirect or reported speech, certain rules need to be followed.

• For instance, verb tenses usually shift back in reported speech.

• The present tense becomes the past tense, future tense changes to conditional tense.

• He said that he would go to Indonesia the next day: This option correctly converts "will go" to "would go" and "tomorrow" to "the next day".

• It is a correct transformation of the direct speech into indirect speech.

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Therefore, the correct answer is: 'He said that he would go to Indonesia the next day.'

Additional Information

• Given this, let's analyze the options:

• He said that he would go to Indonesia tomorrow: This option incorrectly retains "tomorrow". In reported speech, "tomorrow" should become "the next day".

• He said that he would be going to Indonesia the next day: While this sentence is grammatically correct, it is a slightly more elaborate way of expressing the future in the past. The simpler form ("would go") is usually preferred.

• He said he would go to Indonesia by tomorrow: This option changes the meaning of the original sentence. "By tomorrow" implies he will go sometime before or at the designated time (tomorrow), which is not what the original sentence says.

Q85. Answer: (d) makes

The solution is in Hindi. Read it online.

Q86. Answer: (c) Venial

The solution is in Hindi. Read it online.

Q87. Answer: (d) If you doesn't have

The correct answer is 'Option 4'.

Key Points

• The sentence "If you doesn't have a doctor, contact your public health authority." has an error in the subject-verb agreement.

• The error is in part 4: "If you doesn't have".

• In English, the verb has to agree with the subject in number.

• The subject "you" requires the verb "do", not "does".

• "Does" is used with third-person singular subjects (he, she, it).

• Therefore, "doesn't" should be replaced with "don't" to make the sentence grammatically correct.

Therefore, the correct sentence is: "If you don't have a doctor, contact your public health authority."

Q88. Answer: (d) Panacea

The solution is in Hindi. Read it online.

Q89. Answer: (c) solely

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

Key Points

• The sentence needs a word that reflects the extent of the responsibility.

• Solely: This adverb means only and nothing more.

• When we say that we are "solely responsible" for something, it means we are the only ones responsible.

• In the context of the sentence, this is the best fit because it effectively conveys that the responsibility for our choices lies completely with us.

Therefore, the correct sentence is: I believe that we are solely responsible for our choices.

Additional Information

• Profusely: This adverb is used to describe doing something in great quantity or abundantly. In this context, it doesn't make sense to be "profusely responsible."

• Durably: This adverb means in a manner that withstands wear, pressure, or damage. It doesn't fit in this context as responsibility is not something that can be "durable."

• Ordinarily: This adverb means normally or usually. "Ordinarily responsible" doesn't make sense in this context because it would imply that we're only responsible under normal conditions, which isn't the point the sentence is trying to make.

Q90. Answer: (a) I was told to wait here by her.

The correct answer is 'Option 1'.

Key Points

• The given sentence is in the active voice, where the subject performs the action stated by the verb.

• In the passive voice, the subject is acted upon by the verb.

• The sentence "She told me to wait here." has "she" as the subject, "told" as the verb, and "me" as the indirect object.

• In converting to passive voice, the indirect object in the active sentence becomes the subject in the passive sentence.

• The main verb 'told' is changed to 'was told'.

• The infinitive 'to wait' remains the same in passive voice. Also, 'here' is an adverb indicating place and doesn't change in the

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passive voice.

Therefore, the correct sentence is: 'I was told to wait here by her'.

Q91. Answer: (d) too high

The correct answer is 'Option 4' i.e. 'Too high'.

Key Points

• The correct improvement for the underlined part of the sentence "The shelf is too highest for me to reach" is option 4) "too high".

• The reason being, the use of 'highest' is incorrect in this context because 'highest' is the superlative form of the adjective 'high' and is used when comparing three or more things.

• Here, the sentence is not comparing the height of the shelf with other shelves.

• Instead, the comparative adjective 'high' should be used.

• When 'too' is used before an adjective, it indicates that something is at a higher degree than is desirable, possible, or allowed, which perfectly fits in this context.

Therefore, the correct sentence is: "The shelf is too high for me to reach".

Additional Information

• Let's examine the other options:

• "Too highly" - 'Highly' is an adverb, not an adjective. Adverbs describe verbs, not nouns. Here, we need an adjective to describe the noun 'shelf', so 'highly' is incorrect.

• "More higher" - This is grammatically incorrect. The comparative form of 'high' is 'higher', so it's unnecessary and incorrect to say 'more higher'.

Q92. Answer: (d) allowed to take

The correct answer is 'Option 4'.

Key Points

• The underlined part of the sentence, "allows to take", is incorrect both in verb form and tense.

• The verb form should be "allowed", and it should be followed by the base form of the verb "to take".

• Allowed to take: This is the correct form.

• It uses the correct past tense verb "allowed" to match "weren't", and follows it with the base form of the verb "take".

Therefore, the correct sentence is: 'They weren't allowed to take their dog into the store.'

Additional Information

• Let's examine the options:

• Allowed to took: This is incorrect because "took" is the past tense of "take", but after "to", we should use the base form of the verb, which is "take".

• Allow to take: This is incorrect because it uses the base form of the verb "allow" instead of the past form "allowed", which is necessary to match the tense of "weren't".

Q93. Answer: (a) had returned

The correct answer is 'Option 1' i.e. 'Had returned'.

Key Points

• The bracketed segment in the sentence "The palace was in turmoil because Sikhandi (had return.)" is incorrect due to the wrong form of the verb 'return.'

• In this context, the past perfect tense is appropriate, given that the action of Sikhandi's return occurred before another past action (the palace being in turmoil).

• The past perfect tense requires 'had' followed by the past participle of the verb.

• For the verb 'return,' the past participle is 'returned.'

Therefore, the correct sentence is: 'The palace was in turmoil because Sikhandi had returned.'

Additional Information

• Have turned: This is incorrect as it changes the meaning of the sentence. The verb 'turn' does not convey the same idea as 'return.' Moreover, 'have turned' is present perfect tense, which is not appropriate in this past context.

• Was return: This is incorrect as the form 'was return' is not grammatically correct in English. If the past continuous tense were being used, the correct form would be 'was returning.' However, this tense is not appropriate for the sentence's context.

Q94. Answer: (b) No error

The correct answer is 'No error'.

Key Points

• The usage of 'analyse' is correct as it refers to examining something in great detail. In this context, it is used appropriately to describe the action being performed by scientists on the event horizons.

• The terms 'shapes' and 'behaviours of event horizons' are relevant scientific concepts when talking about the study of event horizons with the help of the Event Horizon Telescope. This adds to the correctness of the content as well as the grammatical structure.

• The sentence logically and coherently presents the information, making it free of error in context to spelling, grammar, and usage.

Therefore, the correct answer is 'Option 2'.

Additional Information

• Option 3) "The Event Horizon Telescope can" initiates the sentence appropriately, specifying the capability of the Event Horizon Telescope, and there is no error in this part.

• Option 4) "help scientists analyse the shapes" is correctly phrased, indicating assistance provided by the telescope in a scientific analysis, thus making this option error-free.

• Option 1) "and behaviours of event horizons." complements the earlier part of the sentence correctly, providing additional details on what aspects the scientists are analyzing, which is free from any error.

Q95. Answer: (b) Incipience

The solution is in Hindi. Read it online.

Q96. Answer: (a) refused

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

Key Points

• The sentence says, "for once, I put my foot down and (1) _____to apply to Best School (Harvard)."

• This suggests that the speaker made a firm decision about not applying to Harvard, which is referred to as the "Best School."

• Refused: This word means to decline or say no to something, which fits the context of the sentence because the speaker decided not to apply to Harvard. This is an appropriate choice.

Therefore, the correct sentence is: Today I have a college admission interview with a Yale alum. Yale is Second-Best School, but for once, I put my foot down and Refused to apply to Best School (Harvard). The idea of (2) ____ Charlie's younger brother at another school is a bridge entirely too far. Besides, (3) __ knows if Harvard would even take me now that Charlie's been suspended. My mom and (4) __ are in the kitchen. Because of my interview, she's steaming frozen mandu (dumplings) for me as a treat. I am having a pre-mandu appetizer of Cap'n Crunch (the best cereal known to mankind) and (5) ____ in my Moleskine notebook.

Additional Information

• Rejoiced: This word means to feel or show great joy or delight. However, it's unlikely that one would rejoice about applying or not applying to a college, and it doesn't fit the context of the sentence.

• Dwelled: This word generally means to live or stay as a permanent resident. In a metaphorical sense, it can mean to think, speak, or write at length about something. Neither of these meanings fit the context of the sentence.

• Levelled: This word can mean to make something equal or consistent, or to aim something at a particular target. Again, neither of these meanings fit the context of the sentence.

Q97. Answer: (d) being

The correct answer is 'Option 4'.

Key Points

• The sentence reads, "The idea of (2) _____ Charlie's younger brother at another school is a bridge entirely too far."

• In this context, the speaker seems to be expressing discomfort or dismay at the prospect of encountering Charlie's younger brother at another school.

• We need a word that indicates the state of encountering or existing with Charlie's younger brother at another school.

• Being: This word is used to describe a state or condition. In this case, it suggests the state or condition of encountering Charlie's younger brother at another school.

Therefore, the correct sentence is: Today I have a college admission interview with a Yale alum. Yale is Second-Best School, but for once, I put my foot down and Refused to apply to Best School (Harvard). The idea of being Charlie's younger brother at another school is a bridge entirely too far. Besides, (3) ____ knows if Harvard would even take me now that Charlie's been suspended. My mom and (4) __ are in the kitchen. Because of my interview, she's steaming frozen mandu (dumplings) for me as a treat. I am having a pre-mandu appetizer of Cap'n Crunch (the best cereal known to mankind) and (5) ____ in my Moleskine notebook.

Additional Information

• Now, let's evaluate the options:

• Been: This word would not fit the context of the sentence because "been" is used as the past participle of "be" in perfect tenses, and there is no auxiliary verb in the sentence to accompany it.

• Having been: This phrase would not fit the context as it would require an additional clause to complete the sense, which is not present in the sentence.

• Be: This word is used as the base form of the verb "be", and it is often used to describe a state of existence. However, in this context, the word "be" would create an incomplete sentence structure.

Q98. Answer: (c) who

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

Key Points

• The sentence says, "Besides, (3) _____ knows if Harvard would even take me now that Charlie's been suspended."

• In this context, we need a word that represents an unspecified person.

• Who: This word is used to refer to a person or people that is previously mentioned or easily identified.

• In this case, 'who' is used to refer to an unspecified person, fitting the context of the sentence.

Therefore, the correct sentence is: Today I have a college admission interview with a Yale alum. Yale is Second-Best School, but for once, I put my foot down and Refused to apply to Best School (Harvard). The idea of being Charlie's younger brother at another school is a bridge entirely too far. Besides, who knows if Harvard would even take me now that Charlie's been suspended. My mom and (4) ____ are in the kitchen. Because of my interview, she's steaming frozen mandu (dumplings) for me as a treat. I am having a pre-mandu appetizer of Cap'n Crunch (the best cereal known to mankind) and (5) ____ in my Moleskine notebook.

Additional Information

• Whose: This word is a possessive form of 'who' and is used to relate a person to something that they own or possess. This does not fit the context of the sentence.

• Which: This word is used as a relative pronoun to refer to something previously mentioned when introducing a clause giving further information. It does not fit the context of the sentence as we are referring to an unknown person, not a thing or a specified group of people or things.

• Whom: This word is a formal term and is used as the object of a verb or preposition to refer to a person or people that is previously mentioned or easily identified. However, it does not fit the context of the sentence as it is not being used as an object.

Q99. Answer: (b) I

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

Key Points

• The sentence reads, "My mom and (4) _____ are in the kitchen."

• In this context, we need a pronoun that can stand alongside "my mom" as the subject of the sentence.

• The pronoun needs to be in the subject form because it is doing the action (being in the kitchen).

• I: This is a subject pronoun and can be used as a subject in a sentence. It fits perfectly into this context.

Therefore, the correct sentence is: Today I have a college admission interview with a Yale alum. Yale is Second-Best School, but for once, I put my foot down and Refused to apply to Best School (Harvard). The idea of being Charlie's younger brother at another school is a bridge entirely too far. Besides, who knows if Harvard would even take me now that Charlie's been suspended. My mom and I are in the kitchen. Because of my interview, she's steaming frozen mandu (dumplings) for me as a treat. I am having a pre-mandu appetizer of Cap'n Crunch (the best cereal known to mankind) and (5) _____ in my Moleskine notebook.

Additional Information

• Let's evaluate the options:

• Me: This is an object pronoun and cannot be used as a subject in a sentence.

• Am: This is a form of the verb "be" and cannot be used as a subject in a sentence.

• Myself: This is a reflexive pronoun and is used when the subject and object of the verb are the same person. It does not fit in this context.

Q100. Answer: (d) writing

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

Key Points

• The sentence reads, "I am having a pre-mandu appetizer of Cap'n Crunch (the best cereal known to mankind) and (5) _____ in my Moleskine notebook."

• In this context, the writer is likely doing something with their Moleskine notebook.

• Given the typical uses for a Moleskine notebook, which is a brand of notebook often used for writing, drawing, or taking notes, the activity is probably either reading or writing.

• Writing: This is the process of marking down thoughts, ideas, or information. This is a common use for a notebook, making it the

most likely answer.

Therefore, the correct sentence is: Today I have a college admission interview with a Yale alum. Yale is Second-Best School, but for once, I put my foot down and Refused to apply to Best School (Harvard). The idea of being Charlie's younger brother at another school is a bridge entirely too far. Besides, who knows if Harvard would even take me now that Charlie's been suspended. My mom and I are in the kitchen. Because of my interview, she's steaming frozen mandu (dumplings) for me as a treat. I am having a pre-mandu appetizer of Cap'n Crunch (the best cereal known to mankind) and writing in my Moleskine notebook.

Additional Information

• Let's evaluate the options:

• Sieving: This is the process of separating or sifting materials. This doesn't make sense in the context of a notebook.

• Visualising: This involves forming a mental image or visualization. While it's possible to do this with a notebook, it's not as likely as the other options.

• Reading: This would make sense if the narrator was reading something they had previously written in their Moleskine notebook. However, it's less likely because people usually write in notebooks, not read from them.

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