SSC CHSL Tier-1 2022: Official Paper (Held On: 13 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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ENGLISH LANGUAGE

Q1. 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)

(24, 12, 4)

(35, 5, 14)

(a) (28, 8, 6)
(b) (42, 6, 22)
(c) (56, 8, 16)
(d) (36, 4, 18)

Q2. Select the option that is related to the third term on the same basis as the second term is related to the first term.

Electric current : Ampere :: Thermodynamic Temperature : ?

(a) Mole
(b) Kelvin
(c) Pascal
(d) Candela

Q3. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

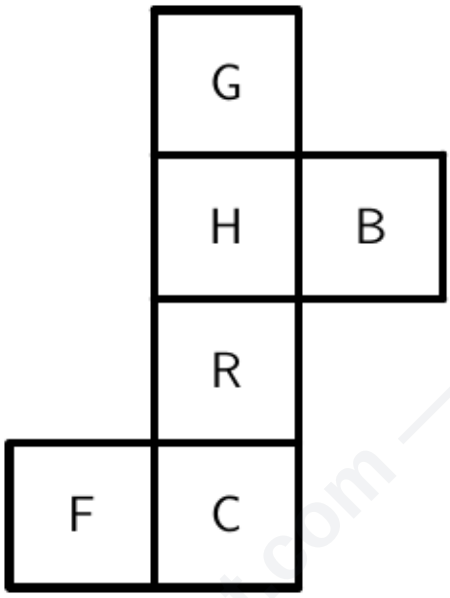
_vu_uvuw_vu_

(a) uwuw
(b) uvuw
(c) wwww
(d) vvuu

Q4. Out of the given letter clusters, three are similar in a certain manner. However, one option is NOT like the other three. Select the option which is different from the rest.

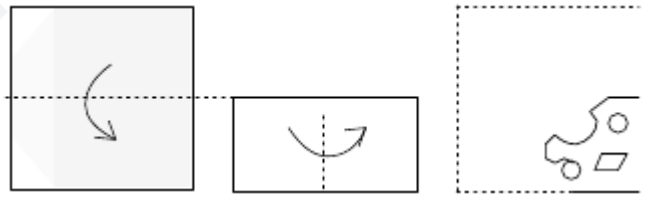
(a) EIO
(b) IOU
(c) EID
(d) AEI

Q5. A cube is made by folding the given sheet. In the cube so formed, which letter will be on the face opposite to the face showing 'B'?

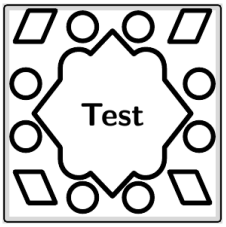


(a) F
(b) G
(c) C
(d) R

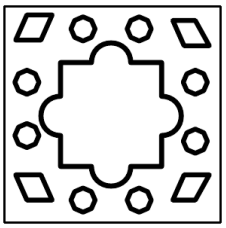
Q6. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



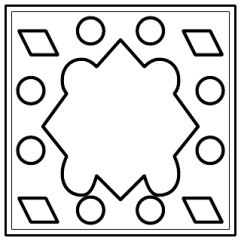
(a)



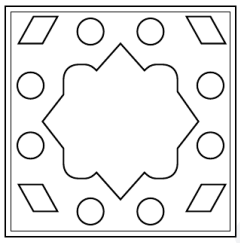
(b)



(c)



(d)



Q7. In a certain code language, 'DRAMA' is written as '32' and ‘PLAY’ is written as ‘50’. How will 'THEATRE' be written in that language?

(a) 72
(b) 77
(c) 70
(d) 82

Q8. By interchanging which two signs the given equation will be correct?

12 ÷ 16 – 8 + 14 × 2 = 38

(a) – and ÷
(b) × and ÷
(c) ÷ and +
(d) • and ×

Q9. In the following question, select the missing number from the given series.

46, 51, 76, 201, 826, ?

(a) 3757
(b) 3951
(c) 4853
(d) 3631

Q10. In a certain code language, 'STADIUM' is coded as 'TSADIMU'. What is the code for the word 'CRICKET' in that language?

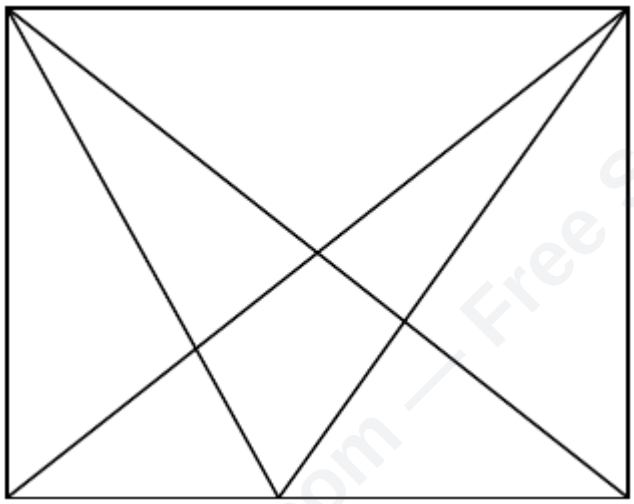
(a) RCICKET
(b) RCICKTE
(c) RCIKCTE
(d) RCIKCET

Q11. Pointing towards a picture, Ram said, "The woman in the picture is the wife of the only son of the mother of my father's sister". How is the woman related to Ram?

(a) Wife
(b) Mother
(c) Sister
(d) Daughter

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Q12. How many triangles are there in the given figure?



(a) 21
(b) 23
(c) 20
(d) 22

Q13. Four words have been given, out of which three are alike in some manner and one is different. Select the odd word.

(a) Laptop
(b) File
(c) Refrigerator
(d) Television

Q14. Select the option in which the numbers share the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(57, 100, 314)

(69, 80, 298)

(a) (72, 111, 356)
(b) (83, 120, 406)
(c) (34, 107, 141)
(d) (41, 108, 288)

Q15. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statement I: Ibrahim is taller than Rakesh who is taller than Shyam.

Statement II: Shyam is shorter than David.

Conclusion I: Ibrahim is taller than Shyam.

Conclusion II: David is taller than Ibrahim.

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

Q16. 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.

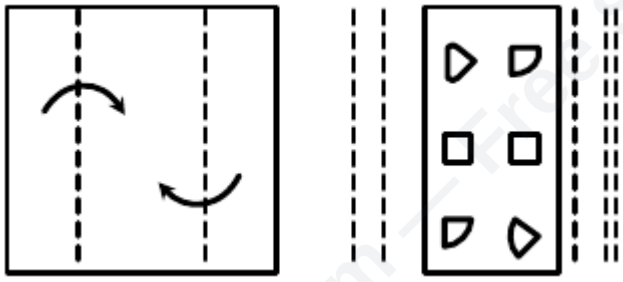
Stable : Horse :: Hangar : ?

(a) Animals

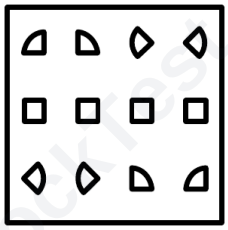
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(b) Aeroplane
(c) Fish
(d) Grains

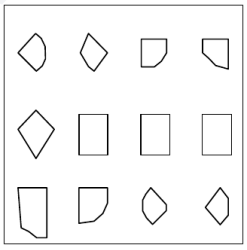
Q17. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



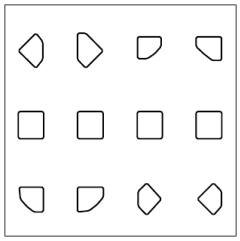
(a)



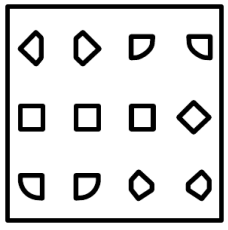
(b)



(c)



(d)



Q18. In the following question, select the related letters from the given alternatives.

BCO : OBC :: MPK : ?

(a) PMK
(b) PKM
(c) KMP
(d) LMM

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Q19. Select the option that is related to the third number in the same way as the first number is related to the second number and fifth number is related to sixth number.

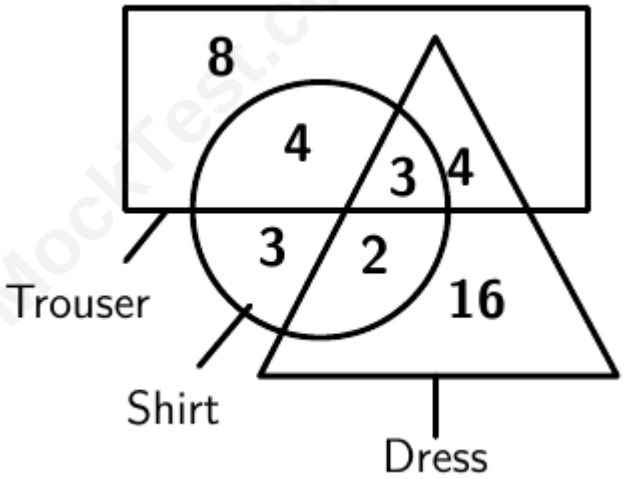
56 : 30 :: 88 : ? :: 39 : 27

(a) 64
(b) 48
(c) 60
(d) 52

Q20. If 14 A 7 B 3 = 5 and 16 A 4 B 3 = 7, then 39 A 3 B 17 = ?

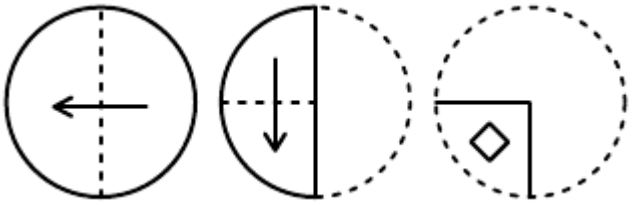
(a) 28
(b) 30
(c) 34
(d) 22

Q21. How many dresses are trousers?

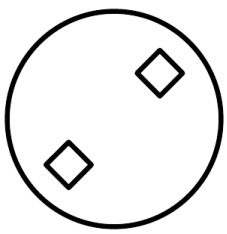


(a) 5
(b) 7
(c) 4
(d) 3

Q22. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?

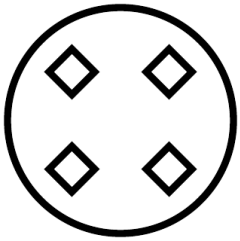


(a)

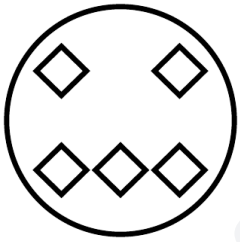


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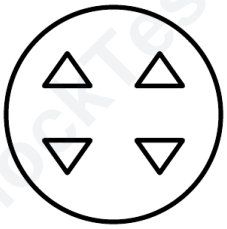
(b)



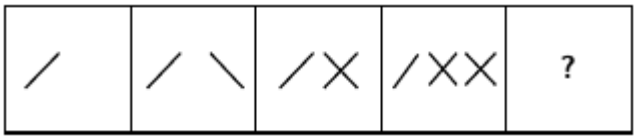
(c)



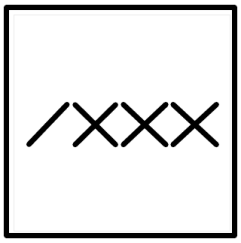
(d)



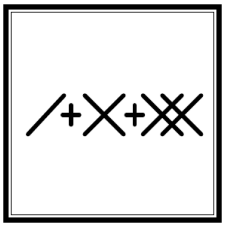
Q23. Select the figure that will come next in the following figure series.



(a)



(b)

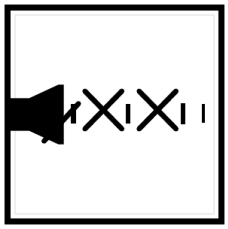


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(c)



(d)



Q24. Select the correct alternative to indicate the arrangement of the following terms in a logical and meaningful order in terms of area (km^2).

1. Atlantic Ocean
2. Pacific Ocean
3. Southern Ocean
4. Arctic Ocean
5. Indian Ocean

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

Q25. 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)

(510, 727, 1329)

(1726, 2195, 3373)

(a) (127, 1002, 342)
(b) (1730, 2197, 62)
(c) (23, 215, 123)
(d) (1726, 998, 341)

GENERAL INTELLIGENCE

Q26. Shri Jatin Goswami received several honours for his contribution to _____.

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

Q27. The Nobel Prize for Physics 2022 has been given in the field of _____.

(a) Atomic Science
(b) Nuclear Physics
(c) Gravitational force
(d) Quantum Mechanics

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Q28. Who among the following launched Toyota's pilot project on Flexi-Fuel Strong Hybrid Electric Vehicles (FFV-SHEV) in October 2022?

(a) Amit Shah
(b) Nitin Gadkari
(c) Piyush Goyal
(d) Narendra Singh Tomar

Q29. The first English factory was set up on the banks of the river _____ in 1651.

(a) Son
(b) Yamuna
(c) Ganga
(d) Hugli

Q30. Which of the following is NOT one of the objectives of the NITI Aayog?

(a) To develop mechanisms to formulate credible plans at the village level
(b) To design and print new currency notes and to bring them in circulation
(c) To pay special attention to the sections of our society that may be at risk of not benefiting adequately from economic progress.
(d) To evolve a shared vision of national development priorities

Q31. When was the Treaty of Purandar signed between Shivaji and Jai Singh I?

(a) 1665
(b) 1655
(c) 1675
(d) 1685

Q32. Which of the following was the host to ICC U19 Cricket World Cup 2022?

(a) Bangladesh
(b) Australia
(c) West Indies
(d) India

Q33. _____ has been re-elected as the President of International Solar Alliance in October 2022.

(a) Nepal
(b) France
(c) India
(d) United Kingdoms

Q34. Which of the following is a tributary of Indus?

(a) Zaskar
(b) Son
(c) Chambal
(d) Yamuna

Q35. Chhau dance is a popular dance of which region of India?

(a) Southern India
(b) Northern India
(c) Eastern India
(d) Western India

Q36. Which Indian player is also called as Dhing Express?

(a) Dutee Chand
(b) P.T. Usha
(c) Neeraj Chopra
(d) Hima Das

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Q37. Which among the following states hosted the 9th World Ayurveda Congress & Arogya Expo in December 2022?

(a) West Bengal
(b) Goa
(c) Maharashtra
(d) Rajasthan

Q38. Who among the following wrote "The Bench"?

(a) Amitav Ghosh
(b) Meghan Markle
(c) Kalki Koechlin
(d) Samir Soni

Q39. What is the pH of normal milk?

(a) 9.1 - 9.3
(b) 8.1 - 8.3
(c) 5.4 - 5.6
(d) 6.7 - 6.9

Q40. In which of the following articles of the Indian constitution is the procedure for impeachment of the President of India mentioned?

(a) 60
(b) 59
(c) 62
(d) 61

Q41. _____ is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100.

(a) Disposable Income
(b) GDP Deflator
(c) Real Income
(d) Per Capita Income

Q42. Which among the following will host the International Cricket Council (ICC) Women's T20 World Cup 2024?

(a) Bangladesh
(b) India
(c) Sri Lanka
(d) England

Q43. Which of the following earthquake waves are surface waves?

(a) P waves
(b) L waves
(c) S waves
(d) M waves

Q44. Which among the following alloys is made up of copper and zinc?

(a) Monel Metal
(b) Magnalium
(c) Rolled Gold
(d) Dutch Metal

Q45. Which of the following is NOT a tributary of river Kaveri?

(a) Musi
(b) Bhavani
(c) Hemavati
(d) Kabini

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Q46. Which among the following glaciers is not located in Jammu & Kashmir?

(a) Bhillan
(b) Milam
(c) Thajiwas
(d) Prui

Q47. In a _____ network, all nodes are connected to a single communication line and share it for all their communication needs.

(a) ring
(b) completely connected
(c) star
(d) Multi-access bus

Q48. If unemployment continues for long-term in a country, it is called _____ unemployment.

(a) casual
(b) technological
(c) frictional
(d) Chronic

Q49. Silicon dioxide is found mostly in which of the following?

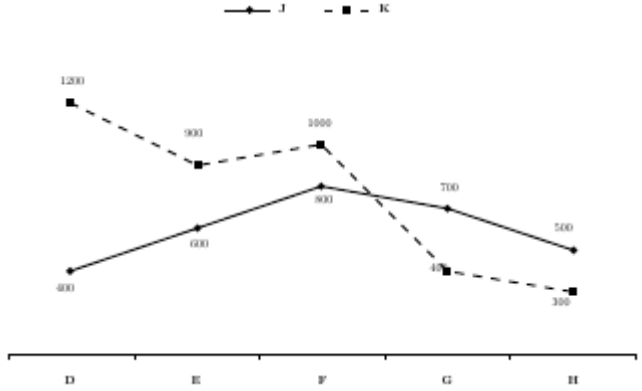
(a) Sand
(b) Sugar
(c) Salt
(d) Slaked lime

Q50. IBM 360 was developed in which of the following generations of computers?

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

QUANTITATIVE APTITUDE

Q51. The line chart given below shows the sales of two companies J and K in 5 years.



P1 = The difference between the average sales of J in years D and E and the average sales of K in years G and H
P2 = The value of average sales of K in all years.
What is the value of (P2 - P1)?

(a) 520
(b) 760
(c) 670
(d) 610

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Q52. The length, width and height of a cuboidal box are 18 cm, 12 cm and 10 cm, respectively. What is the total surface area of the box?

(a) 1000 cm²
(b) 1048 cm²
(c) 1032 cm²
(d) 1120 cm²

Q53. The speed of a train including stoppages is 75 kmph and excluding stoppages, the speed of the train is 90 kmph. For how many minutes does the train stop per hour?

(a) 10 minutes
(b) 15 minutes
(c) 20 minutes
(d) 11 minutes

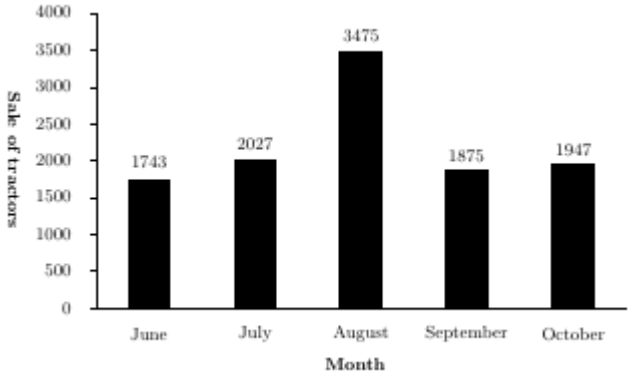
Q54. In Δ PQR, angle P = 46° and angle R = 64°. If Δ PQR is similar to Δ ABC and in correspondence, then what is the value of angle B?

(a) 70°
(b) 90°
(c) 100°
(d) 110°

Q55. The length of the base of a triangle is 10 cm and its altitude from the same base is 8 cm. What is the area of the triangle?

(a) 30 cm²
(b) 40 cm²
(c) 50 cm²
(d) 80 cm²

Q56. The following bar graph shows the sales of tractors by a showroom in different months. What was the approximate percentage decline from August to September ?



(a) 33%
(b) 51%
(c) 46%
(d) 55%

Q57. What is the expansion of $(a - 4)^3$?

(a) $a^3 - 12a^2 + 48a + 64$
(b) a3 + 12a2 + 48a + 64
(c) a3 - 12a2 + 48a - 64
(d) a3 + 12a2 + 48a - 64

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Q58. The average age of a husband, the wife, and the child 2 years ago was 28 years and the average age of the husband and the child 5 years ago was 21 years. What is the present age of the wife?

(a) 38 years
(b) 40 years
(c) 36 years
(d) 42 years

Q59. Δ ABC is a right angled triangle. angle A = 90 degree, AB = 4 cm, BC = 5 cm. What is the value of cos B + cot C?

(a) 17/20
(b) 29/20
(c) 23/20
(d) 31/20

Q60. 20 percent of marked price is equal to 50 percent of cost price. If no discount is given, then what will be the profit percentage?

(a) 120 percent
(b) 150 percent
(c) 125 percent
(d) 100 percent

Q61. Which of the following is a value of θ, when $\cos^2 \theta - 2 + \cos \theta = 0$?

(a) 60°
(b) 90°
(c) 30°
(d) 0°

Q62. If $y+1/y=3$, then what is the value of $1/(y^3)+y^3$?

(a) 12
(b) 27
(c) 24
(d) 18

Q63. The table given below shows the saving and expenditure of 5 companies.

Companies	Saving	Expenditure
P	150	50
Q	400	200
R	300	150
S	150	100
T	200	500

Income = Expenditure + Savings

What is the average income of all 5 companies?

(a) 440
(b) 360
(c) 480
(d) 390

Q64. What is the value of (1665 ÷ 37) + (42 × 5)?

(a) 295
(b) 270
(c) 255
(d) 285

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Q65. A trader sells an article at 20 percent profit. If he buys it at half of the cost price and sells at the same selling price as before, then what will be the profit percentage?

(a) 240 percent
(b) 40 percent
(c) 140 percent
(d) 60 percent

Q66. Point D, E and F all lie on the circumference of a circle with centre O. If angle DEF = 48°, then what is a possible value of angle DOF?

(a) 84°
(b) 96°
(c) 90°
(d) 48°

Q67. Δ MNO is similar to Δ STU. Perimeter of Δ MNO and Δ STU are 80 cm and 200 cm respectively. If ON = 25 cm, then what is the length of TU?

(a) 59 cm
(b) 61 cm
(c) 62.5 cm
(d) 60.5 cm

Q68. The table given below shows the number of girls in 7 schools.

Schools	Girls
J	450
K	1050
L	550
M	850
N	650
P	250
Q	150

What is the total number of girls in all the schools?

(a) 3850
(b) 3950
(c) 3750
(d) 3620

Q69. The population of a town increased from 100000 to 250000 in 5 years. What is the approximate compounded percent increase of population per year?

(a) 20 percent
(b) 30 percent
(c) 10 percent
(d) 40 percent

Q70. If x = 0.05 × 0.36 ÷ 0.4 + 0.055 + 1.50 ÷ 0.03, what is the value of x ?

(a) 45.9
(b) 50.1
(c) 55.1
(d) 49.9

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Q71. If tan α=1/√3 and tan β = √3 then what is the value of cos (α + β)?

(a) 0.2
(b) 0
(c) 0.5
(d) 1

Q72. 50% of A is equal to 80% of B. What is the ratio of A to B?

(a) 5 : 8
(b) 5 : 4
(c) 4 : 5
(d) 8 : 5

Q73. If a+1/a=2 and b+1/b=-2, then what is the value of $a^2+1/(a^2)+b^2+1/(b^2)$?

(a) 0
(b) 2
(c) 8
(d) 4

Q74. A can do a certain work in 9 days. B is 80% more efficient than A. How many days will B and A together take to do the same work ?

(a) 45/14 Days
(b) 54/13 Days
(c) 47/14 Days
(d) 44/13 Days

Q75. A sum of Rs. 2,000 becomes Rs. 3,120 in two years at a certain rate of simple interest. What is the rate of the interest per annum ?

(a) 34% per annum
(b) 33% per annum
(c) 30% per annum
(d) 28% per annum

GENERAL AWARENESS

Q76. Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.

Many psychological, neurological

P. and different thinking skills that make them leaders rather than followers

Q. studies generally indicate that leaders truly are born with different personality traits

R. to discover if leadership truly can be a learned trait, and

S. and sociological tests have been conducted by scientists

(a) SQRP
(b) PQSR
(c) SRQP
(d) QPSR

Q77. Some parts of one or more sentences have been jumbled up, and labelled A, B, C and D. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.

They walked down the hall of

A. rocked them to sleep and played songs for them

B. had cost them seventy-five

C. thousand rupees. This house clothed and fed them

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D. their soundproofed home, which

(a) CBAD
(b) DBCA
(c) ACBD
(d) BADC

Q78. Rearrange the parts of the sentence in correct order.

The study led

P. collaborators from Bristol, Cambridge and Germany

Q. by scientists at the University of Bath and including

R. used fossils and analysed genetic differences between

S. modern snakes to reconstruct snake evolution

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

Q79. Choose the word that is opposite in meaning to the given word.

Obfuscate

(a) Clarify
(b) Bid
(c) Mend
(d) Languish

Q80. Select the most appropriate meaning of the given idiom.

Wear your heart on your sleeve

(a) To openly display one's emotions.
(b) To suspect a trick
(c) To understand
(d) To go through a heart break

Q81. Choose the correctly spelt word.

(a) DODGE
(b) BRILIANT
(c) SIEZE
(d) RECEPROCATE

Q82. Select the most appropriate one-word substitution for the given group of words.

Feeling or expressing overwhelming happiness or joyful excitement.

(a) Escalate
(b) Ecstatic
(c) Intricate
(d) Scintillating

Q83. The given sentence is in active voice. Change the voice of the sentence. Select the correct option from the sentences given in options.

Pranav painted his house.

(a) The house had been painted by Pranav.
(b) Pranav's house was painted by him.
(c) Painting of the house was done by Pranav.
(d) House painting was done by Pranav.

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

Brittle

(a) Debilitated
(b) Frail
(c) Robust
(d) Decrepit

Q85. Parts of the following sentence are given as options. Identify the part that contains a grammatical error. If there is no error, select 'No error'.

You care for him / even more than for myself, / he cried bitterly.

(a) No error
(b) he cried bitterly.
(c) even more than for myself,
(d) You care for him

Q86. Fill in the blank with an appropriate option.

How can seawater from the oceans be _____ fresh water that is suitable for people to drink?

(a) change about
(b) surrender in
(c) minced on
(d) turned into

Q87. Select the most appropriate antonym of the given word.

OPAQUE

(a) PELLUCID
(b) PARAGON
(c) GLORIFY
(d) DARK

Q88. Choose the word that can substitute the given sentence.

The art of identifying a disease from its signs and symptoms

(a) Biopsy
(b) Diagnosis
(c) Prognosis
(d) Autopsy

Q89. Select the most appropriate meaning of the given idiom.

Sea change

(a) To pursue
(b) Major transformation
(c) Jealousy
(d) Hatred

Q90. Choose the option that is the correct direct form of the sentence.

He said that he had taken French lessons on Duolingo.

(a) He said, “I have taken French lessons on Duolingo.”
(b) He said, “You took French lessons on Duolingo. “
(c) He says, “He has taken French lessons on Duolingo.”
(d) He said, “I take French lessons on Duolingo.”

Q91. Choose the incorrectly spelt word.

(a) EMINENT
(b) SPLENDID
(c) INDEPENDANT

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(d) HUMOROUS

Q92. Select the word that is closest in meaning (SYNONYM) to the word given below.

SIMPLE

(a) DECORATED
(b) COMPLEX
(c) EMBELLISHED
(d) ELEMENTARY

Q93. Parts of the following sentence are given as options. Identify the part that contains a grammatical error. If there is no error, select 'No error'.

Once I run in / the Sonoran Desert in Arizona / after a huge rain event.

(a) Once I run in
(b) the Sonoran Desert in Arizona
(c) No error
(d) after a huge rain event.

Q94. Improve the underlined part of the sentence. Choose ‘No improvement’ as an answer if the sentence is grammatically correct.

She hang up the clothes in the closet.

(a) have hung up
(b) hung up
(c) had hang up
(d) No improvement

Q95. 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 guests (has just arrived).

(a) have just arrived
(b) No correction required
(c) arrives now
(d) just arrives

Directions

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each number.

Anders couldn't get to the bank until just before it closed, so of course the (1) ____ was endless and he got (2) __ behind two women whose loud, stupid conversation put him in a murderous (3) __. He was never in the best of tempers (4) __. Anders - a book critic known for the weary, elegant savagery with which he (5) ____ almost everything he reviewed.

Q96. Select the most appropriate option to fill in the blank No. 1.

(a) queue
(b) progression
(c) passage
(d) chain

Q97. Select the most appropriate option to fill in the blank No. 2.

(a) stuck
(b) struck
(c) stamped
(d) fastened

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Q98. Select the most appropriate option to fill in the blank No. 3.

(a) wrath
(b) quality
(c) temperament
(d) temper

Q99. Select the most appropriate option to fill in the blank No. 4.

(a) somewhat
(b) always
(c) whenever
(d) anyway

Q100. Select the most appropriate option to fill in the blank No. 5.

(a) transferred
(b) incorporated
(c) conditioned
(d) dispatched

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (d) (36, 4, 18)

The logic followed here is:
Logic: (1st number ÷ 2nd number) × 2 = 3rd number.
Now,
For, (24, 12, 4)
→ (24 ÷ 12) × 2
→ 2 × 2 = 4.
For, (35, 5, 14)
→ (35 ÷ 5) × 2
→ 7 × 2 = 14.
Similarly, for (36, 4, 18)
→ (36 ÷ 4) × 2
→ 9 × 2 = 18.
Hence, the correct answer is "Option 4".

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Q2. Answer: (b) Kelvin

The logic followed here is:

→ Second word denotes the S.I unit of the first word.

Let's check,

Physical Quantity	S.I Unit
Electric Current	Ampere
Thermodynamic Temperature	Kelvin

Electric current : Ampere → "Ampere" is the unit of measurement for electric current.

Similarly,

Thermodynamic Temperature : Kelvin → "Kelvin" is the unit of measurement for Thermodynamic Temperature.

Hence, the correct answer is " Kelvin ".

Q3. Answer: (a) uwuw

The logic followed here is:

Given Sequence: _ v u _ u v u w _ v u _

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

Option 1) uwuw → u v u w / u v u w / u v u w

Here, 'Option 1' followed a pattern.

Option 2) uvuw → u v u v u v u w u v u w

Option 3) wwww → w v u w u v u w w v u w

Option 4) vvuu → v v u v u v u w u v u u

Hence, the correct answer is "Option 1".

Q4. Answer: (c) EID

The pattern followed here is:

→ All the letters of the given term are vowel.

Let's check each option,

1) EIO:

→ All three letters are vowel.

2) IOU:

→ All three letters are vowel.

3) EID:

→ Here, D is not a Vowel.

4) AEI:

→ All three letters are vowel.

Here, we can see that only Option 3 doesn't follow the pattern.

Hence, the correct answer is " EID ".

Q5. Answer: (a) F

From the given open Dice:

G and R is the opposite sides.

H and C is the opposite sides.

B and F is the opposite sides.

So, the face of 'B' is opposite to the face showing 'F'.

Hence, the correct answer is "Option 1".

Q6. Answer: (d) [figure]

When the paper is unfolded, the image appears as follows:

Hence, the correct answer is " Option 4 ".

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Q7. Answer: (c) 70

The logic followed here is:

→ The words are coded as: (Sum of the positional values of each letter) - (Number of letters in the word).

Let's check as per the logic used,

DRAMA:

→ (4 + 18 + 1 + 13 + 1) - (5)

→ (37) - (5) = 32.

PLAY:

→ (16 + 12 + 1 + 25) - (4)

→ (54) - (4) = 50.

Similarly,

THEATRE:

→ (20 + 8 + 5 + 1 + 20 + 18 + 5) - (7)

→ (77) - (7) = 70.

Hence, the correct answer is " 70 ".

Q8. Answer: (a) – and ÷

BODMAS Table:

Given equation: 12 ÷ 16 – 8 + 14 × 2 = 38

Let's check each option by interchanging the signs,

1) – and ÷

→ 12 – 16 ÷ 8 + 14 × 2 = 38

→ 12 – 2 + 28 = 38

→ 10 + 28 = 38

→ 38 = 38

→ LHS = RHS.

2) × and ÷

→ 12 × 16 – 8 + 14 ÷ 2 = 38

→ 192 - 8 + 7 = 38

→ 184 + 7 = 38

→ 191 ≠ 38

→ LHS ≠ RHS.

3) ÷ and +

→ 12 + 16 – 8 ÷ 14 × 2 = 38

→ 12 + 16 – 8/7 = 38

→ 28 – 8/7 = 38

→ 188/7 ≠ 38

→ LHS ≠ RHS.

4) + and ×

→ 12 ÷ 16 – 8 × 14 + 2 = 38

→ 3/4 - 112 + 2 = 38

→ 3/4 - 110 ≠ 38

→ LHS ≠ RHS.

Here, we can see that Only option 1 satisfies the equation.

Hence, the correct answer is " – and ÷ ".

Q9. Answer: (b) 3951

The logic followed here is:

So, '3951' will complete the series.

Hence, the correct answer is "Option 2".

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Q10. Answer: (b) RCICKTE

The logic followed here is:

'STADIUM' is coded as 'TSADIMU'.

Similarly, for 'CRICKET'

'CRICKET' is coded as 'RCICKTE'.

Hence, the correct answer is "Option 2".

Q11. Answer: (b) Mother

Family Chart:

Given: Pointing towards a picture, Ram said, "The woman in the picture is the wife of the only son of the mother of my father's sister".

So, the woman is 'Mother' of Ram.

Hence, the correct answer is "Option 2".

Q12. Answer: (b) 23

The triangles are:

So, there are '23' triangles in the given figure.

Hence, the correct answer is "Option 2".

Q13. Answer: (b) File

The logic used here is →

Laptop	Electronic Device
File	Not an Electronic Device
Refrigerator	Electronic Device
Television	Electronic Device

Here, we can see that File is alike from the others.

Hence, the correct answer is " File ".

Q14. Answer: (b) (83, 120, 406)

The logic followed here is:

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

Now,

For, (57, 100, 314)

→ (57 + 100) × 2

→ 157 × 2 = 314.

For, (69, 80, 298)

→ (69 + 80) × 2

→ 149 × 2 = 298.

Similarly, for (83, 120, 406)

→ (83 + 120) × 2

→ 203 × 2 = 406.

Hence, the correct answer is "Option 2".

Q15. Answer: (a) Only I follows

Given:

Statement I: Ibrahim is taller than Rakesh who is taller than Shyam → Ibrahim > Rakesh > Shyam

Statement II: Shyam is shorter than David → David > Shyam

Conclusions:

1) Ibrahim is taller than Shyam → True (From Statement I Ibrahim is taller than Rakesh who is taller than Shyam → Ibrahim > Rakesh > Shyam. So, Ibrahim is taller than Shyam).

2) David is taller than Ibrahim → False (No conclusive height comparison of David and Ibrahim is given).

Here, we can see that only conclusion I follows.

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

Q16. Answer: (b) Aeroplane

The logic followed here is:

→ The first word denotes the place where the second word is kept.

Stable	Horse
Hangar	Aeroplane

For, Stable : Horse → A stable is a place where a horse is kept.

Similarly,

Hangar : Aeroplane → A Hangar is a place where a Aeroplane is kept.

Hence, the correct answer is " Aeroplane ".

Q17. Answer: (c) [figure]

When the paper is unfolded, the image appears as:

Hence, the correct answer is " Option 3 ".

Q18. Answer: (c) KMP

The logic followed here is:

→ BCO: OBC

Similarly,

→ MPK:?

Hence, the correct answer is " KMP ".

Q19. Answer: (a) 64

The logic used here is:

→ Second number is the multiple of the digits of the first number.

Let's check,

56: 30

→ 56 => 5 × 6 = 30.

39: 27

→ 39 => 3 × 9 = 27.

Similarly,

88: ?

→ 88 => 8 × 8 = 64.

Hence, the correct answer is " 64 ".

Q20. Answer: (b) 30

The logic followed here is:

→ A indicates division and B indicates addition.

Let's check as per the logic,

14 A 7 B 3 = 5:

→ 14 ÷ 7 + 3 = 5

→ 2 + 3 = 5.

16 A 4 B 3 = 7:

→ 16 ÷ 4 + 3 = 7

→ 4 + 3 = 7.

Similarly,

39 A 3 B 17 =?:

→ 39 ÷ 3 + 17 =?

→ 13 + 17 = 30.

Hence, the correct answer is " 30 ".

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Q21. Answer: (b) 7

According to the given Venn diagram:

The shaded area shows the "total number of dresses are trousers".

So, the total number of dresses are trousers = 3 + 4 = 7.

Hence, the correct answer is "7".

Q22. Answer: (b) [figure]

When the paper is unfolded, the image appears as follows:

Hence, the correct answer is " Option 2 ".

Q23. Answer: (d) [figure]

The logic followed here is:

Logic: The line is increasing by +1 in each image.

Hence, the correct answer is "Option 4".

Q24. Answer: (d) 4, 3, 5, 1, 2

The logic followed here is:

→ The oceans are arranged in increasing order in terms of their area.

The correct order as per the logic is,

4) Arctic Ocean (14,056,000 Sq.km)

3) Southern Ocean (20,327,000 Sq.km)

5) Indian Ocean (68,556,000 Sq.km)

1) Atlantic Ocean (76,762,000 Sq.km)

2) Pacific Ocean (155,557,000 Sq.km)

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

Q25. Answer: (d) (1726, 998, 341)

The logic followed here is:

Logic: $x^3 - 2$ = number.

Now,

for (510, 727, 1329)

→ 510 => $8^3 - 2 = 510$.

→ 727 => $9^3 - 2 = 727$.

→ 1329 => $11^3 - 2 = 1329$.

for (1726, 2195, 3373)

→ 1726 => $12^3 - 2 = 1728$.

→ 2195 => $13^3 - 2 = 2197$.

→ 3373 => $15^3 - 2 = 3373$.

Similarly, for (1726, 998, 341)

→ 1726 => $12^3 - 2 = 1726$.

→ 998 => $10^3 - 2 = 998$.

→ 341 => $7^3 - 2 = 341$.

Hence, the correct answer is "Option 4".

Q26. Answer: (c) Sattriya Dance

The correct answer is Option 3.

Key Points

• The Government of India awarded him the fourth highest civilian honour of the Padma Shri, in 2008, for his contributions to Sattriya dance.

• Sattriya dance is a classical dance form that originated in the Indian state of Assam.

• It is one of the eight major classical dance forms of India.

• Sattriya dance is closely associated with the Sattras, which are Vaishnavite monasteries in Assam.

Additional Information

• Bharatanatyam is one of the oldest classical dance forms of India and originated in the southern state of Tamil Nadu.

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• It is a highly expressive and intricate dance style that combines graceful movements, intricate footwork, hand gestures (mudras), facial expressions, and storytelling.

• Kathak is a classical dance form of India that originated in the northern regions, particularly in the states of Uttar Pradesh and Rajasthan.

• It is known for its rhythmic footwork, intricate gestures, fast spins, and expressive storytelling.

• Kathak has both Hindu and Muslim influences, as it evolved as a blend of the Hindu temple traditions and the Persian and Mughal court dance traditions.

• The word "Kathak" is derived from the Sanskrit word "katha," which means story. Thus, Kathak is often referred to as the "dance of storytelling" because it emphasizes narrative elements through mime, facial expressions, and body movements.

• Manipuri dance is one of the classical dance forms of India, originating from the northeastern state of Manipur.

• It is known for its grace, fluidity, and devotion to the theme of Radha and Krishna, the divine lovers from Hindu mythology.

• Manipuri dance is deeply rooted in the religious and cultural traditions of Manipur and has a rich history that dates back centuries.

Q27. Answer: (d) Quantum Mechanics

The correct answer is Option 4.

Key Points

• The Nobel Prize in Physics 2022 was awarded jointly to Alain Aspect, John F. Clauser and Anton Zeilinger "for experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science"

• The Nobel Prize is a set of prestigious international awards given annually in several categories, including Physics, Chemistry, Physiology or Medicine, Literature, Peace, and Economic Sciences.

• The prizes were established by the will of Alfred Nobel, a Swedish inventor, engineer, and industrialist, in 1895.

• Nobel's will specified that the prizes should be awarded to individuals who have made significant contributions in their respective fields, thereby benefiting humanity.

Additional Information

• Here are some key points about the Nobel Prize:

• Categories: The Nobel Prizes are awarded in the following categories:

• Physics: Recognizes outstanding contributions to the field of physics.

• Chemistry: Honors exceptional achievements in the field of chemistry.

• Physiology or Medicine: Acknowledges advancements in medical research and healthcare.

• Literature: Awards remarkable literary work.

• Peace: Recognizes efforts to promote peace and resolve conflicts.

• Economic Sciences: Added later in 1968 by the Swedish central bank and named the "Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel." It is awarded for notable contributions to the field of economics.

• Selection Process: The Nobel Prizes are awarded based on the decisions made by various committees and organizations. Each category has a specific organization responsible for the selection process. For example, the Nobel Prize in Physics is awarded by the Royal Swedish Academy of Sciences, while the Nobel Peace Prize is awarded by the Norwegian Nobel Committee.

• Nomination and Laureates: The nomination process involves a rigorous selection of candidates. Nominations are typically invited from qualified individuals and organizations, such as university professors, previous laureates, and members of international organizations. The nominations are then reviewed, evaluated, and shortlisted by experts in each respective field. Finally, the laureates are chosen by the responsible committees or organizations.

• Recognition and Ceremony: Nobel laureates receive a diploma, a gold medal, and a cash prize. The Nobel Prize ceremony takes place annually on December 10th in Stockholm, Sweden, except for the Nobel Peace Prize, which is awarded in Oslo, Norway. The laureates are invited to give lectures and participate in various events, contributing to the exchange of knowledge and ideas.

• Significance and Impact: The Nobel Prize is considered one of the highest honors in their respective fields. Winning a Nobel Prize brings global recognition and often leads to increased opportunities for further research, collaboration, and funding. The prizes have had a significant impact on advancing scientific, literary, and peace-related endeavors.

Q28. Answer: (b) Nitin Gadkari

The correct answer is Option 2.

Key Points

• Union Minister for Road Transport and Highways Shri Nitin Gadkari Launched Toyota's first of its kind pilot project on Flexi-Fuel Strong Hybrid Electric Vehicles (FFV-SHEV) in India today which would run on 100% petrol as well as 20 to 100% blended ethanol and electric power.

• Amit Shah is the Union home minister of the current government. A close associate of Prime Minister Narendra Modi, Amit Shah

was the party president before JP Nadda.

• Piyush Vedprakash Goyal (born 13 June 1964) is an Indian politician and chartered accountant serving as a cabinet minister in the Government of India, having portfolios such as Minister of Textiles, Minister of Commerce and Industry and Minister of Consumer Affairs, Food and Public Distribution.

• Narendra Singh Tomar is an Indian politician and a member of the 17th Lok Sabha. He is the incumbent Minister of Agriculture & Farmers Welfare

Q29. Answer: (d) Hugli

The correct answer is Option 4.

Key Points

• The first English factory was set up on the banks of the river Hooghly in 1651.

• The Hooghly River, also spelled Hugli or Hugly, is a distributary of the Ganges River in West Bengal, India.

• It flows southward for about 260 kilometers (160 miles) from its origin near the city of Baharampur until it joins the Bay of Bengal.

• The river passes through the cities of Kolkata (formerly Calcutta) and Howrah, forming the main waterway for the Kolkata Port.

• The Hooghly River has historical and economic significance as it played a crucial role in the development of trade and commerce during the colonial period in India.

• It was an important route for the transportation of goods and was lined with numerous ports and factories, including the first English factory established by the British East India Company in 1651.

• Today, the Hooghly River continues to be a vital waterway for transportation and is also a popular tourist attraction, known for its scenic beauty and iconic landmarks such as the Howrah Bridge.

Q30. Answer: (b) To design and print new currency notes and to bring them in circulation

The correct answer is Option 2.

Key Points

• The design and printing of currency notes and their circulation is not one of the objectives of the NITI Aayog (National Institution for Transforming India).

• The NITI Aayog is a policy think tank of the Government of India that primarily focuses on strategic and long-term planning for the country's development.

• It acts as a platform for cooperative federalism, fostering the involvement of states in policy formulation and implementation.

• The responsibility for the design, printing, and circulation of currency notes in India lies with the Reserve Bank of India (RBI), which is the central banking institution of the country.

• The RBI is responsible for formulating and implementing monetary policy, issuing currency notes, and regulating the overall banking and financial system in India.

Additional Information

• The NITI Aayog, or the National Institution for Transforming India, is a policy think tank of the Government of India.

• It was established on January 1, 2015, to replace the erstwhile Planning Commission.

• The NITI Aayog's primary objective is to provide strategic and long-term policy inputs to the central and state governments to foster sustainable and inclusive development across various sectors of the Indian economy.

• The key functions and objectives of the NITI Aayog include:

• Formulating strategic and long-term development plans: The NITI Aayog formulates and recommends strategic plans, medium-term and long-term development frameworks, and policies for various sectors of the economy.

• Cooperative federalism: The NITI Aayog promotes cooperative federalism by fostering the involvement of state governments in policy formulation and implementation, ensuring their active participation and contribution in the planning process.

• Policy research and innovation: The NITI Aayog conducts research, analysis, and evidence-based policy studies on various social and economic issues to identify challenges, suggest innovative solutions, and provide policy recommendations to the government.

• Monitoring and evaluation: The NITI Aayog monitors and evaluates the implementation of policies and programs, assesses their outcomes, and suggests mid-course corrections, if required, to achieve desired development goals.

• International cooperation: The NITI Aayog facilitates international cooperation and exchange of best practices in policy planning and development with other countries and international organizations.

• Collaborative platforms: The NITI Aayog provides a platform for collaboration and dialogue among various stakeholders, including government agencies, experts, academicians, industry representatives, and civil society organizations, to foster participative and inclusive policy-making.

• It's important to note that the NITI Aayog's role is primarily advisory in nature, and the responsibility for implementing policies and executing projects lies with the respective ministries and departments of the central and state governments.

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Q31. Answer: (a) 1665

The correct answer is 1665

Key Points

• The Treaty of Purandar, 1665 was signed between the Jai Singh I and Chhatrapati Shivaji Maharaj.

• This treaty was signed on 11th June 1665.

• Raja Jai Singh was signed on behalf of the Mughal Emperor Aurangzeb.

• Shivaji agreed to surrender 23 forts to the Emperor while the Emperor recognized Shivaji's authority over 12 forts including Rajgarh and its revenue.

• Shivaji promised to supply for imperial service 5000 soldiers under his son Shambhaji and the Emperor agreed to assign a suitable jagir for their maintenance.

• Shivaji declined to accept any mansab but promised to fight on behalf of the emperor whenever demanded.

• There were some secret clauses in the treaty as well, which provided for Shivaji's participation in the war against Bijapur on behalf of the Emperor.

Additional Information:

• Jai Singh, I became the King of Amber and Head of the Kachwaha Rajput at the age of 10.

• Raja Jai Singh is the descendant of Raja Man Singh, and he is one of the famous nav-ratnas of Emperor Akbar.

• The fort of Amer (or Amber) near Jaipur, Rajasthan is used to be their capital.

• Shivaji is the founder of the Maratha Kingdom in India.

• In 1674, he was formally crowned as the Chhatrapati (Monarch) of his realm at Raigad.

• Shivaji established a competent and progressive civil rule with the help of a disciplined military and well-structured administrative organisations.

Q32. Answer: (c) West Indies

The correct answer is West Indies.

Key Points:

• The 2022 ICC Under-19 Cricket World Cup was held in West Indies in January and February 2022.

• Sixteen teams took part in it.

• It was the fourteenth edition of the Under-19 Cricket World Cup, and the first that was held in the West Indies.

Important Points:

• India win the 2022 U19 World Cup title, by beating England by 4 wickets.

• India clinched record-extending fifth U19 World Cup title in Antigua.

Additional Information

• The ICC Under-19 Cricket World Cup is an international cricket tournament organised by the International Cricket Council (ICC) contested by national under-19 teams.

• It was first contested in 1988, as the Youth World Cup.

• India, the most successful team at U19 World Cups, has won titles in 2000, 2008, 2012 and 2018 previously.

Q33. Answer: (c) India

The correct answer is India

Key Points:

• India and France have been re-elected as President and Co-President of the International Solar Alliance (ISA).

• Union Power & Renewable Energy Minister R K Singh has been re-elected as the President of the International Solar Alliance while France Minister of State for Development Chrysoula Zacharopoulou has been re-elected as Co-President.

• ISA's 5th Assembly began in New Delhi on 17th Oct 2022.

Additional Information:

• The International Solar Alliance strives to develop and deploy cost-effective and transformational energy solutions powered by the sun to help member countries develop low-carbon growth trajectories.

• It particularly focuses on delivering impact in countries categorized as Least Developed Countries (LDCs) and the Small Island Developing States (SIDS).

• Currently, the ISA has 9 comprehensive programs, each focusing on a distinct application.

• The ISA was conceived as a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solutions.

• It was conceptualized on the sidelines of the 21st Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Paris in 2015.

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• With the amendment of its Framework Agreement in 2020, all member states of the United Nations are now eligible to join the ISA.

• ISA HQ: Gurugram

Q34. Answer: (a) Zaskar

The correct answer is Zaskar

Key Points:

• The Indus River originates at the confluence of the Sind river & the Gar river, which is Mansarovar Lake in Tibet.

• This river takes a lengthy and tortuous course and passes through the Kashmir region.

• It is the longest river in the subcontinent.

• While it is about 3500 km long, 1500 km of it flows through Jammu and Kashmir.

• The river banks are flanked by steep hills that have pine and deodar vegetation.

• The Indus River flows in between the Ladakh range and the Zanskar range.

• Indus has numerous tributaries, the principal among them are the Gilgit river, Gumal river, and Kabul river.

Name of 16 tributaries of the Indus River:

• Astor river

• Nagar river

• Dras river

• Balram river

• Ghizar river

• Gar river

• Gumal river

• Gilgit river

• Kurram river

• Kabul river

• Shigar river

• Panjnad river

• Sohan river

• Shyok river

• Zanskar river

• Tanubal river

Additional InformationSon:

Son river originates from the Amarkantak plateau in the Anuppur district of Madhya Pradesh.

• It flows through Madhya Pradesh, Chhatisgarh, Uttar Pradesh, and Jharkhand and finally joins Ganga in Bihar near Patna.

• Ghaghra, Johilla, Chhoti Mahanadi, Gopad, Rihand, Kanhar, and North Koel are the tributaries of the Son river.

• The Bansagar Dam in Madhya Pradesh is also on the Son river.

• Indrapuri Dam has situated on the Son river in Dehri in the Rohtas district of Bihar.

• It is 1,407 meters (4,616 ft) long and the fourth-longest barrage in the world.

• The construction of the Indrapuri Dam was Started in the 1960s and was commissioned in 1968.

Chambal:

• Chambal originates from the Singar Chouri peak of Janapao Hills in the Mhow Indore district of Madhya Pradesh.

• The Chambal River is a tributary of the Yamuna River in central India, and thus forms part of the greater Gangetic drainage system.

• In Rajasthan, it enters in Chittorgarh district near Chaurasigarh from Mandsor District in Madhya Pradesh.

• The river flows north-northeast through Madhya Pradesh, running for a time through Rajasthan, then forming the boundary between Rajasthan and Madhya Pradesh before turning southeast to join the Yamuna in Uttar Pradesh.

Q35. Answer: (c) Eastern India

The correct answer is Eastern India

• Chau or Chhau is a semi-classical Indian dance with martial, tribal, and folk origins from Orissa, Jharkhand, and West Bengal.

• There are three subtypes of this dance form:

• Purulia Chhau - West Bengal

• Mayurbanj Chhau - Odisha

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• Seraikella Chhau - Jharkhand
• Chhau Dance is a popular form of tribal dance in India that incorporates elements of martial arts into its movements.
• Differences between the three are dependent on their regions of origin.
• This Dance originates in the Purulia district in West Bengal and draws inspiration from martial arts and combative training.
• This form of dance is a means to portray stories to the audience, which is why elaborate masks and headgear associated with battle and war are worn during the performance.
• It enacts episodes from epics including the Mahabharata and Ramayana, local folklore, and abstract themes.
• Over a century old, this dance form was widely endorsed by patrons belonging to the royal families, rich landlords, and British governors in the region.
• These performances are predominantly put up during the Gajan Festival, which takes place to honor Lord Shiva.

List of Classical Dances in India	State of Origin
Bharatnatyam	Tamil Nadu
Kathak	Uttar Pradesh
Kuchipudi	Andhra Pradesh
Odissi	Odisha
Kathakali	Kerala
Sattriya	Assam
Manipuri	Manipur
Mohiniyattam	Kerala

Q36. Answer: (d) Hima Das

The correct answer is Hima Das.

Key Points:

• Hima Das nicknamed the Dhing Express, is an Indian sprinter from Assam of India.
• She awarded from Arjuna award in 2018.
• Asian Games in 2018, Hima Das won a silver medal in the 4×400-metre mixed relay
• Hima Das won gold in the 400 meters at the IAAF World U20 Championships, clocking 51.46 seconds.

Additional Information: Nickname of Important Indian Sportsperson:

SN	Nickname	Sport person
1	Flying Sikh	Milkha Singh
2	Haryana Hurricane	Kapil Dev
3	Hockey Wizard	Dhyan Chand
4	Payyoli Express	P. T. Usha
5	Prince of Kolkata	Saurav Ganguly
6	Master Blaster	Sachin Tendulkar
7	Little Master	Sunil Gavaskar
8	Turbanator	Harbhajan Singh
9	Mysore Express	Javagal Srinath
10	Meethoileima	Mary Kom

Q37. Answer: (b) Goa

The correct answer is Goa.

Key Points:

• Goa will host the 9th World Ayurveda Congress & Arogya Expo from December 8-11, 2022.
• ‘Ayurveda for One Health’ is the focal theme of the event.

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• It will be organized by the World Ayurveda Foundation, an initiative by Vijnana Bharati.

• Seven plenary sessions, 16 themes for oral presentation, a string of associated events, and public outreach programs will dominate the proceedings of the conclave.

Additional Information:

• Ministry of AYUSH celebrates Ayurveda Day every year on Dhanvantari Jayanti and this year it will be celebrated on 23 October.

• The Ministry of Ayush, a ministry of the Government of India, is responsible for developing education, research, and propagation of traditional medicine systems in India.

• Founded: 9 November 2014

• Officeholder: Sarbananda Sonowal (Union Minister)

Goa:

• Founded: 30 May 1987

• Capital: Panaji

• Governor: P.S. Sreedharan Pillai

• Chief minister: Pramod Sawant

Q38. Answer: (b) Meghan Markle

Correct Answer Meghan Markle

Key Points

• "The Bench" is a children's book written by Meghan, The Duchess of Sussex.

• It was published in June 2021.

• The book is illustrated by Christian Robinson and tells the story of a father-son relationship as seen through the eyes of a mother.

• "Together: Our Community Cookbook" (2018): Meghan wrote the foreword for this cookbook, which was created by a group of women affected by the Grenfell Tower fire in London.

• The book features recipes and stories from the Hubb Community Kitchen.

Additional InformationAmitav Ghosh:

• The Circle of Reason is the first novel by Indian writer Amitav Ghosh. It was published in 1986.

• Sea of Poppies (2008) is a novel by Indian novelist Amitav Ghosh which was shortlisted for the Man Booker Prize in 2008.

• The Shadow Lines (1988) is a Sahitya Akademi Award-winning novel by Indian writer Amitav Ghosh.

Kalki Koechlin:

• Actor Kalki Koechlin is making her debut as an author with an illustrated non-fiction book on motherhood.

• Titled "Elephant In The Womb", the book illustrated by Valeriya Polyanychko will be published under 'Penguin's' imprint in 2021.

• Penguin Random House India (PRHI) is the published of the book.

• The book talks about pregnancy and parenting for mothers and expectant mothers.

Q39. Answer: (d) 6.7 - 6.9

The pH range of fresh milk is 6.7 - 6.9

Key Points:

• Fresh milk has a pH ranging from 6.4 to 6.9.

• Over time, the pH of milk lowers further and it becomes even more acidic as the bacteria in the milk converts the sugar lactose into lactic acid.

• pH is a determined value, similar to temperature, based on a defined scale.

• pH stands for the “potenz of hydrogen” and the numerical value of pH is determined by the molar concentration of hydrogen ions $(H+)^3$.

• The higher concentration of H+ ions is acidic nature.

Q40. Answer: (d) 61

The correct answer is Article 61.

• ARTICLE 61(Procedure For Impeachment of The President):

• When a President is to be impeached for violation of the Constitution, the charge shall be preferred by either House of Parliament.

• The President of India:

• The President of India is the head of the Indian State.

• The President of India is the first citizen of India and acts as the symbol of unity, integrity, and harmony.

• The Chief Justice of India: Chief Justice of the Republic of India and chief judge of the Supreme Court of India on top of the important officer of the Indian federal judiciary.

• The Law Commission:

• Law Commission of India is not a constitutional body but a non-statutory body, constituted by notification of Government of India.

• It is a decision-making body recognized by the Government of India and Its major purpose is to work for legal reforms.

• The Commission is recognized for a permanent tenure and works as an advisory body to the Ministry of Law and Justice and its membership primarily includes legal experts.

:Article 70 (Discharge of President Function in other contingencies):

• Parliament may make such provision as it thinks fit for the discharge of the functions of the President in any contingency not provided for in this Chapter.

Article 77:

• The President shall establish rules for the most convenient transaction of Indian government affairs and the distribution of such affairs among ministers.

Article 84:

• Qualification to be a Member of Parliament if A person will not be qualified to be elected to a seat in Parliament unless.

• Article 60 deals with the oath or affirmation by the President.

• Article 59 of the Constitution of India deals with the of the conditions of the president's office.

• Article 62 deals with time of holding an election to fill vacancy in the office of President.

Q41. Answer: (b) GDP Deflator

The correct answer is GDP Deflator.

Key Points

• The GDP deflator is an economic indicator that measures inflation or deflation in an economy.

• It is calculated by dividing the nominal GDP by the real GDP and multiplying the result by 100.

• Nominal GDP is the value of all goods and services produced in an economy, unadjusted for inflation.

• Real GDP is the value of goods and services produced in an economy, adjusted for inflation.

• The GDP deflator helps compare the economic output of different years by adjusting for changes in price levels.

Additional Information

• Disposable Income:

• Disposable income refers to the income remaining after deduction of taxes and other mandatory charges.

• It is the amount of money available for spending and saving after all deductions.

• Disposable income does not directly relate to GDP calculations or inflation adjustments.

• Real Income:

• Real income refers to the income of individuals or nations, adjusted for inflation.

• It reflects the purchasing power of income, taking into account changes in price levels.

• Real income is not a measure of inflation or deflation, but rather a measure of the true value of income in terms of goods and services.

• Per Capita Income:

• Per capita income is a measure of the average income earned per person in a certain area or region.

• It is calculated by dividing the total income of a region by its population.

• Per capita income is not directly related to inflation, deflation, or GDP calculations, but is a useful metric for comparing living standards and economic development between regions.

Q42. Answer: (a) Bangladesh

The answer is Bangladesh.

Key Points

• The 2024 ICC Women's T20 World Cup will be hosted by Bangladesh.

• The tournament is scheduled to take place between September and October 2024.

• This will be the second time that Bangladesh has hosted the ICC Women's T20 World Cup, having previously done so in 2014.

Mistake Points

• The ICC Men's T20 World Cup 2024 will be played in the West Indies and USA from 1-29 June 2024.

Additional Information

• The ICC Women's T20 World Cup is an international championship of Twenty20 International cricket for women.

• It is organized by the International Cricket Council (ICC), the governing body of international cricket.

• The inaugural tournament took place in England in 2009, coinciding with the men's T20 World Cup.

• The tournament was initially held every two years, but from 2020 onwards, it is held every year except for the years when the Women's Cricket World Cup (50-over format) is scheduled.

• The format of the tournament usually involves a round-robin group stage followed by knockout stages, leading to a final match to determine the world champion.

• Australia has been the most successful team in the tournament's history, with multiple championship titles to their name.

• The ICC Women's T20 World Cup is a major global event in women's cricket and plays a significant role in promoting and developing women's cricket worldwide.

• It provides an international platform for female cricketers and has substantially increased the visibility and popularity of women's cricket.

Q43. Answer: (b) L waves

The correct answer is L waves.

Key Points

• L waves, or Love waves, are one type of surface wave in seismic activity.

• Named after British mathematician A.E.H. Love, who first mathematically predicted their existence.

• Love waves move the ground from side to side in a horizontal plane perpendicular to the direction of propagation.

• As they travel along the Earth's surface, they cause horizontal shearing and produce entirely horizontal motion.

• L waves are the slowest of all seismic waves and therefore the last to be recorded by seismographs.

• These waves are particularly damaging to the foundations of structures due to their horizontal motion.

Additional Information

• P waves:

• P waves, or Primary waves, are body waves that travel through the interior of the Earth.

• They are the fastest seismic waves and thus the first to be detected by seismographs.

• P waves cause particles to move in the same direction as the waves, creating a push-and-pull motion.

• S waves:

• S waves, or Secondary waves, are also body waves that move through the Earth's interior.

• They are slower than P waves but faster than surface waves.

• S waves cause particles to move perpendicular to the wave direction, creating an up-and-down or side-to-side motion.

• R waves:

• Also known as the Rayleigh wave.

• It has both compressional and shear motions.

• These waves result from the interaction of P-waves and vertically polarized S-waves with the surface and can exist in any solid medium.

Q44. Answer: (d) Dutch Metal

The correct answer is Dutch Metal.

Key Points

• Dutch Metal, also known as Dutch gold or composition gold, is an alloy primarily composed of copper and zinc.

• It's an alloy of approximately 85% copper and 15% zinc.

• Despite its name, Dutch Metal doesn't contain gold.

• It's often used because of its gold-like appearance in applications such as gilding and jewellery.

Additional Information

• Monel Metal:

• This is an alloy primarily composed of nickel and copper.

• It's highly resistant to corrosion and acids, and it's used in various applications, such as marine and chemical environments.

• Magnalium:

• It's an aluminium alloy that's mixed with 1.5% to 2% magnesium.

• It's lighter than aluminium and is often used in applications where lightweight strength is needed, such as in the construction of aircraft.

• Rolled Gold:

• Also known as gold-filled, it's a hybrid material composed of a thin layer of gold that's bonded to a base of either silver or a base

metal. It's primarily used in jewellery.

Q45. Answer: (a) Musi

The correct answer is Musi.

Key Points

• The Musi river is not a tributary of the river Kaveri.
• It is a tributary of the Krishna River, which is another major river in Southern India.
• The Musi River is primarily located in the Telangana state of India.
• It passes through the city of Hyderabad and is known for its historical significance in the city's development.
• The river is infamous for causing one of the worst floods in Hyderabad's history, known as the Great Musi Flood of 1908.

Additional Information

• Bhavani:
• The Bhavani River is a significant tributary of the Kaveri River, originating from the Western Ghats in Tamil Nadu.
• It is the second-longest river in Tamil Nadu and contributes significantly to the water volume of the Kaveri River.
• Hemavati:
• The Hemavati River is another important tributary of the Kaveri River.
• It originates from the Western Ghats in Karnataka and joins the Kaveri River at Krishnarajasagara.
• Kabini:
• The Kabini River, also known as Kapila, is a significant tributary of the Kaveri River.
• It originates in Kerala and flows eastward to join the Kaveri River in Karnataka.
• The Kabini River is known for the Kabini Forest Reserve, a popular wildlife destination.

Q46. Answer: (b) Milam

The correct answer is Milam.

Key Points

• The Milam Glacier is not located in Jammu & Kashmir.
• It is found in the state of Uttarakhand, India.
• The glacier is situated on the eastern side of Nanda Devi.
• The other glaciers - Bhillan, Thajiwas, and Prui - are located in Jammu & Kashmir.

Additional Information

Glacier Name	State	Mountain Range
Gangotri Glacier	Uttarakhand	Bhagirathi Range, Himalayas
Yamunotri Glacier	Uttarakhand	Bandarpunch Range, Himalayas
Siachen Glacier	Jammu and Kashmir	Karakoram Range
Bhillan Glacier	Jammu and Kashmir	Pir Panjal Range, Himalayas
Prui Glacier	Jammu and Kashmir	Pir Panjal Range, Himalayas
Thajiwas Glacier	Jammu and Kashmir	Kashmir Valley, Himalayas
Milam Glacier	Uttarakhand	Kumaon Himalaya
Pindari Glacier	Uttarakhand	Kumaon Himalaya
Bara Shigri Glacier	Himachal Pradesh	Chandra Valley, Himalayas
Rupin Glacier	Himachal Pradesh	Dhauladhar Range, Himalayas

Q47. Answer: (d) Multi-access bus

The correct answer is Multi-access bus.

Key Points

• In a multi-access bus network, all nodes (computers, printers, etc.) are connected to a single communication line (the bus).
• This network type is called 'multi-access' because all nodes share and have access to the same communication line.
• Information sent from one node travels along the bus to all other nodes on the network.
• It is simple and less expensive to install and expand.

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• However, as the number of nodes increases, the efficiency of the network can decrease because of data collisions.

Additional Information

• Ring Topology-

• In Ring Topology each node connects to two other nodes and forms a single continuous pathway for signals through each node.

• It connects the workstations in a closed loop.

• Data is transmitted around the ring in one direction only.

• A break in the ring causes the entire network to fail.

• There is no signal loss in the Ring Topology.

• Bus Topology-

• In Bus Topology nodes are connected to a common half-duplex link called a bus or backbone.

• Each workstation is connected to the next workstation in a point-to-point fashion.

• The common implementation of this topology is Ethernet.

• This topology is used only in comparatively small networks.

• Star Topology-

• In this network, topology nodes are connected to a central hub.

• Nodes communicate across the network by passing data through the hub.

• Failure in one of the terminals does not affect any other terminal.

• This network topology is used to connect terminals to a large time-sharing host computer.

• Mesh Topology-

• In this network, topology devices are connected with many redundant interconnections between network nodes.

• Failure in one of the computers does not cause the network to break down.

• This topology is used in the critical connection of host computers.

Q48. Answer: (d) Chronic

The correct answer is Chronic.

Key Points

• Chronic Unemployment:

• Chronic unemployment refers to long-term unemployment typically caused by structural problems in the economy.

• It is not due to the usual ups and downs of the business cycle but rather persists even in good economic times.

• Those who suffer from chronic unemployment lack the skills or education needed for new jobs or live in parts of the country where jobs are scarce.

• This type of unemployment can lead to a vicious cycle of joblessness, poverty, and social issues.

• It requires concerted policy efforts to resolve, such as retraining programs, education reform, and economic development initiatives.

Additional Information

• Casual Unemployment:

• This refers to temporary unemployment which occurs when workers are laid off or lose their jobs due to seasonal changes in demand or supply in certain industries.

• Technological Unemployment:

• This type of unemployment is caused by technological changes or automation that render certain jobs obsolete.

• Workers displaced by technology need to acquire new skills to find employment in other sectors.

• Frictional Unemployment:

• This is a type of short-term unemployment that occurs when people are between jobs or are looking for their first job.

• It's a natural part of the job market as people move between roles and careers.

Q49. Answer: (a) Sand

The correct answer is Sand.

Key Points

• Sand:

• Sand is primarily made of tiny granules of quartz, which is essentially silicon dioxide (SiO2).

• Silicon dioxide is a chemical compound that is an oxide of silicon.

• It is the most abundant mineral in the Earth's crust.

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• Apart from sand, silicon dioxide is also found in quartzite, amethyst, agate, and other minerals.

• Due to its hardness and resistance to weathering, it forms the majority component of sand.

Additional Information

• Sugar:

• Sugar is a sweet crystalline substance obtained from various plants, especially sugarcane and sugar beet.

• Its chemical formula is C12H22O11, which is quite different from silicon dioxide.

• Salt:

• Salt, or sodium chloride (NaCl), is a mineral composed primarily of sodium and chlorine.

• It is different from silicon dioxide both in its chemical structure and physical properties.

• Slaked Lime:

• Slaked lime, or calcium hydroxide (Ca(OH)2), is produced when quicklime (calcium oxide, CaO) is mixed, or 'slaked', with water (H2O).

Q50. Answer: (c) Third Generation

The correct answer is Third Generation.

Key Points

• The IBM System/360 was announced and developed in the mid-1965s, during the period associated with third-generation computers.

• Third-generation computers were defined by the use of integrated circuits (ICs) or semiconductor chips, which represented a significant advancement over the previous generation's technology.

• The System/360 was a groundbreaking series of compatible mainframe computers, allowing customers to upgrade from lower-cost models to larger systems without having to rewrite their applications.

• It also introduced the 8-bit byte to the commercial world, which remains a fundamental data management unit today.

• The S/360 was not just a computer but a whole series of computers that helped to establish the concept of a computer "family".

Additional Information

• First Generation:

• These computers (late 1946s to mid-1959s) were based on vacuum tubes.

• They were large, expensive, and generated a lot of heat.

• Examples include the ENIAC and UNIVAC.

• Second Generation:

• Second generation computers (mid-1959s to mid-1965s) moved from vacuum tubes to transistors, which were smaller, faster, cheaper, and more reliable.

• IBM's 7000 series belongs to this generation.

• Fourth Generation:

• These computers (1971 to the mid-1980s) are characterized by microprocessors which contain many, sometimes millions, of ICs.

• Personal computers, such as the IBM PC, fall into this category.

Q51. Answer: (d) 610

Calculation:

Average sales of J in years D and E = (400 + 600)/2 = 500

Average sales of K in years G and H = (400 + 300)/2 = 350

P1 = The difference between the average sales of J in years D and E and the average sales of K in years G and H

=> 500 - 350 = 150

P2 = The value of average sales of K in all years

=> (1200 + 900 + 1000 + 400 + 300)/5 = 3800/5

=> 760

The value of (P2 - P1) = 760 -150 = 610

Therefore Option 4 is the correct answer.

Q52. Answer: (c) 1032 cm²

Given:

Length = 18 cm

Width = 12 cm

Height = 10 cm

Concept Used:

The formula for the total surface area of a cuboidal box is:

Total Surface Area = 2 × (Length × Width + Length × Height + Width × Height)

Calculation:

Let's substitute the values into the formula to find the total surface area:

Total Surface Area = 2 × (18 × 12 + 18 × 10 + 12 × 10)

Total Surface Area = 2 × (216 + 180 + 120)

Total Surface Area = 2 × 516

Total Surface Area = 1032 cm²

Therefore, the total surface area of the given cuboidal box is 1032 cm².

Therefore Option 3 is the correct answer.

Q53. Answer: (a) 10 minutes

Shortcut Trick

Stoppage time per hour = [(Faster Speed − Slower Speed) ÷ Faster Speed] × 60 min

Stoppage time per hour = [(90 − 75) ÷ 90] × 60

Stoppage time per hour = (15 ÷ 90) × 60

Stoppage time per hour = (1 ÷ 6) × 60 = 10 minutes

Therefore The correct answer is 10 minutes.

Alternate Method

Given:

Speed without stoppages = 90 kmph

Speed with stoppages = 75 kmph

Without Stoppage (90 kmph)

Distance covered in 1 hr = 90 km

With Stoppage (75 kmph)

Distance covered in 1 hr = 75 km

15 km

10 min stop

Calculations:

=> Distance covered in 1 hr without stop = 90 km

=> Distance covered in 1 hr with stop = 75 km

=> Decrease in distance due to stoppage = 90 − 75 = 15 km

=> Stoppage time = Time taken to cover the lost 15 km at normal speed of 90 kmph

=> Stoppage time (in hr) = Distance ÷ Speed = 15 ÷ 90 = 1 ÷ 6 hr

=> Stoppage time (in min) = (1 ÷ 6) × 60 = 10 minutes

Therefore The correct answer is 10 minutes.

Additional Information

Direct Stoppage Time Formula

Stoppage time per hour = (Difference in Speed ÷ Speed without Stoppages) × 60 minutes.

Average Speed

Average Speed = Total Distance ÷ Total Time. It represents the uniform speed needed to cover the same distance in the same total time.

Unit Conversions

To convert kmph to m/s, multiply by 5 ÷ 18. To convert m/s to kmph, multiply by 18 ÷ 5.

Q54. Answer: (a) 70°

Given:

angle P = 46°

angle R = 64°

Δ PQR is similar to Δ ABC and in correspondence

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Concept Used:

If ΔPQR is similar to ΔABC, it means that the corresponding angles in both triangles are equal.

Calculation:

In correspondence with ΔPQR, we have ΔABC. Let's denote the corresponding angles of ΔABC as angle A, angle B, and angle C.

According to the property of similar triangles, the corresponding angles of similar triangles are equal. Therefore:

angle P = angle A

angle Q = angle B

angle R = angle C

Using the given angle measures, we have:

angle P = angle A = 46°

angle Q = angle B

angle R = angle C = 64°

To find the value of angle B, we need to determine angle Q. Since the sum of angles in a triangle is 180°, we can calculate angle Q as:

angle Q = 180° - angle P - angle R

angle Q = 180° - 46° - 64°

angle Q = 70°

Therefore, the value of angle B is 70°.

Therefore Option 1 is the correct answer.

Q55. Answer: (b) 40 cm²

Given:

Base = 10 cm

Altitude = 8 cm

Concept Used:

Area = (1/2) × base × altitude

Calculation:

Substituting these values into the formula, we get:

Area = (1/2) × 10 cm × 8 cm

Area = 5 cm × 8 cm

Area = 40 cm²

Therefore, the area of the triangle is 40 cm².

Therefore Option 2 is the correct answer.

Q56. Answer: (c) 46%

Calculation:

Approximate percentage decline from August to September = (3475 - 1875)/3475 × 100

=> 46%

Therefore Option 3 is the correct answer.

Q57. Answer: (c) a3 - 12a2 + 48a - 64

Concept Used:

$(a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$

Calculation:

In this case, a = a and b = 4. Let's substitute these values into the formula:

$(a - 4)^3 = a^3 - 3a^2(4) + 3a(4)^2 - (4)^3$

Simplifying further:

$(a - 4)^3 = a^3 - 12a^2 + 48a - 64$

Therefore, the expansion of $(a - 4)^3$ is $a^3 - 12a^2 + 48a - 64$.

Therefore Option 3 is the correct answer.

Q58. Answer: (a) 38 years

Shortcut Trick

Present average age of Husband, Wife, and Child = 28 + 2 = 30 years.

Total present age of (H + W + C) = 30 × 3 = 90 years.

Present average age of Husband and Child = 21 + 5 = 26 years.

Total present age of (H + C) = 26 × 2 = 52 years.

Present age of Wife = 90 − 52 = 38 years.

Therefore The correct answer is 38 years.

Alternate Method

Given:

Average age of (Husband + Wife + Child) 2 years ago = 28 years.

Average age of (Husband + Child) 5 years ago = 21 years.

Formula Used:

Total Age = Average Age × Number of persons

Present Age = Age (n years ago) + n

Calculations:

=> Total age of Husband, Wife, and Child 2 years ago = 28 × 3 = 84 years.

=> Present total age of (H + W + C) = 84 + (3 × 2) = 84 + 6 = 90 years.

=> Total age of Husband and Child 5 years ago = 21 × 2 = 42 years.

=> Present total age of (H + C) = 42 + (2 × 5) = 42 + 10 = 52 years.

=> Present age of Wife = Total (H + W + C) − Total (H + C)

=> Wife's age = 90 − 52 = 38 years.

Therefore The correct answer is 38 years.

Additional Information

Average Age After 'n' Years

If the current average age of a group of 'x' people is 'A', then after 'n' years, the average age will be (A + n).

Sum of Ages Change

If there are 'x' people in a group, the sum of their ages increases by (x × n) after 'n' years.

Basic Average Formula

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

Q59. Answer: (d) 31/20

Given:

ΔABC is right-angled at A

AB = 4 cm, BC = 5 cm

Calculation:

=> $CA^2 = BC^2 - AB^2$

=> CA2 = 52 - 42

=> CA = 3

Cot C = Adjacent/Opposite = CA/AB = 3/4

Cos B = Adjacent/Hypotenuse = AB/BC = 4/5

=> cos B + cot C

=> 4/5 + 3/4

=> (16 + 15)/20

=> 31/20

Therefore Option 4 is the correct answer.

Q60. Answer: (b) 150 percent

Shortcut Trick

Given: 20% of MP = 50% of CP

Ratio MP : CP = 50 : 20 = 5 : 2

When no discount is given, Selling Price (SP) = Marked Price (MP) = 5 units

Profit = SP − CP = 5 − 2 = 3 units
Profit % = (Profit ÷ CP) × 100 = (3 ÷ 2) × 100 = 150%
Therefore The correct answer is 150%.
Alternate Method
Given:
20% of Marked Price = 50% of Cost Price
Discount = 0 (implies Selling Price = Marked Price)
Formula Used:
Profit % = [(SP − CP) ÷ CP] × 100
Cost Price (CP) = 2 units
Marked Price (MP) = 5 units
Profit = 3 units (if SP=MP)
Ratio CP : MP = 2 : 5
Calculations:
=> 20% × MP = 50% × CP
=> (20 ÷ 100) × MP = (50 ÷ 100) × CP
=> 20 × MP = 50 × CP
=> MP ÷ CP = 50 ÷ 20 = 5 ÷ 2
=> Let CP = 2 units and MP = 5 units
=> Since no discount is given, SP = MP = 5 units
=> Profit = SP − CP = 5 − 2 = 3 units
=> Profit % = (3 ÷ 2) × 100
=> Profit % = 1.5 × 100 = 150%
Therefore The correct answer is 150%.
Additional Information
Relationship between MP and CP
The relationship is given by: MP ÷ CP = (100 + Profit%) ÷ (100 − Discount%).
Markup Percentage
Markup % = [(MP − CP) ÷ CP] × 100. If no discount is given, Markup % is equal to Profit %.
Selling Price Calculation
SP = MP − Discount = CP + Profit. When Discount = 0, SP becomes equal to MP.

Q61. Answer: (d) 0°

Calculation:
Let's solve the equation $\cos^2 \theta - 2 + \cos \theta = 0$ for the value of θ.
To make it easier, let's substitute cos θ with a variable, say x. The equation becomes:
$x^2 - 2 + x = 0$
Rearranging the equation:
$x^2 + x - 2 = 0$
Now, we can factorize the quadratic equation:
$(x + 2)(x - 1) = 0$
Setting each factor equal to zero:
$x + 2 = 0$ or $x - 1 = 0$
Solving for x:
$x = -2$ or $x = 1$
Since we substituted x with cos θ, we can replace x with cos θ in the solutions:
$\cos \theta = -2$ or $\cos \theta = 1$
However, the range of values for cosine is $-1 \leq \cos \theta \leq 1$. Therefore, cos θ cannot equal -2.
Hence, the value of θ that satisfies the equation $\cos^2 \theta - 2 + \cos \theta = 0$ is when cos θ equals 1.
Therefore, θ = 0° or θ = 360° (and any other angle measures that are equivalent to 0° or 360°).
Therefore Option 4 is the correct answer.

Q62. Answer: (d) 18

Shortcut Trick

If the sum of a variable and its reciprocal is k (i.e., $y + 1/y = k$), then the value of $y^3 + 1/y^3$ is always $k^3 - 3k$.

Given: $y + 1/y = 3$, so $k = 3$.

Value = $3^3 - 3(3) = 27 - 9 = 18$.

Therefore The correct answer is 18.

Alternate Method

Given: $y + 1/y = 3$

Formula Used: $(a + b)^3 = a^3 + b^3 + 3ab(a + b)$

Taking cube on both sides of the given equation:

=> $(y + 1/y)^3 = 3^3$

=> $y^3 + (1/y)^3 + 3 \times y \times (1/y) \times (y + 1/y) = 27$

=> $y^3 + 1/y^3 + 3 \times 1 \times (3) = 27$

=> $y^3 + 1/y^3 + 9 = 27$

=> $y^3 + 1/y^3 = 27 - 9$

=> $y^3 + 1/y^3 = 18$

Therefore The correct answer is 18.

Additional Information

Algebraic Reciprocal Identities

If $x + 1/x = k$, then $x^2 + 1/x^2 = k^2 - 2$ and $x^4 + 1/x^4 = (k^2 - 2)^2 - 2$.

Negative Reciprocal Case

If $x - 1/x = k$, then $x^3 - 1/x^3 = k^3 + 3k$. Note the change in sign for subtraction.

Higher Power Transformation

To find $x^5 + 1/x^5$, use the product of $(x^2 + 1/x^2)$ and $(x^3 + 1/x^3)$ then subtract $(x + 1/x)$.

Q63. Answer: (a) 440

Calculation:

Income of Company P = 150 + 50 = 200

Income of Company Q = 400 + 200 = 600

Income of Company R = 300 + 150 = 450

Income of Company S = 150 + 100 = 250

Income of Company T = 200 + 500 = 700

Average income of all 5 companies = (200 + 600 + 450 + 250 + 700)/5

=> 2200/5 = 440

Therefore Option 1 is the correct answer.

Q64. Answer: (c) 255

Concept used:

Calculation:

(1665 ÷ 37) + (42 × 5)

=> 45 + 210

=> 255

Therefore Option 3 is the correct answer.

Q65. Answer: (c) 140 percent

Given:

The trader sells an article at a 20% profit.

The trader buys the article at half of the cost price.

The selling price remains the same.

Concept used:

To find the profit percentage, we need to compare the profit with the cost price or the selling price.Let's assume the cost price of the article is C.

Calculation:

The trader sells the article at a 20% profit, which means the selling price is 120% of the cost price (C).
Selling price = Cost price + Profit
Selling price = C + 20% of C
Selling price = C + 0.2C
Selling price = 1.2C
Now, the trader buys the article at half of the cost price, which means the buying price is 50% of the cost price (C).
Buying price = 0.5C
To calculate the profit, we subtract the buying price from the selling price:
Profit = Selling price - Buying price
Profit = 1.2C - 0.5C
Profit = 0.7C
To calculate the profit percentage, we divide the profit by the buying price and multiply by 100:
Profit percentage = (Profit / Buying price) × 100
Profit percentage = (0.7C / 0.5C) × 100
Profit percentage = 1.4 × 100
Profit percentage = 140%
Therefore, when the trader buys the article at half of the cost price and sells it at the same selling price, the profit percentage is 140%.
Therefore Option 3 is the correct answer.

Q66. Answer: (b) 96°

Given:
The points D, E and F lie on a circle with centre O.
angle DEF = 48°
Concept used:
The angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.
Calculations:
According to the concept,
2angle DEF = angle DOF
=>2(48°) = angle DOF
=>angle DOF = 96°
Hence, The measure of the angle DOF = 96°.

Q67. Answer: (c) 62.5 cm

GIVEN:
The perimeters of ΔMNO = 80 cm
The perimeter of ΔSTU = 200 cm
Δ MNO is similar to Δ STU, if ON = 25 cm
CONCEPT:
Perimeter of ΔMNO/Perimeter of ΔSTU = ON/UT
CALCULATION:
Perimeter of ΔMNO/Perimeter of ΔSTU = ON/UT
=> 80/200 = 25/UT
=> UT = 25 × 200/80
=> UT = 6 2.5cm
Therefore Option 3 is the correct answer.

Q68. Answer: (b) 3950

Calculation:
Total number of girls in all schools = 450 + 1050 + 550 + 850 + 650 + 250 + 150
=> 3950
Therefore Option 2 is the correct answer.

Q69. Answer: (a) 20 percent

Shortcut Trick

The total growth factor over 5 years is 250,000 ÷ 100,000 = 2.5.

We need to find an annual rate r such that (1 + r)^5 ≈ 2.5.

Testing 20%: 1.2^5 = 1.44 × 1.44 × 1.2 ≈ 2.0736 × 1.2 ≈ 2.488.

Since 2.488 is very close to 2.5, the annual rate is approximately 20%.

Therefore The correct answer is 20%.

Alternate Method

Given: Initial population (P) = 1,00,000, Final population (A) = 2,50,000, Time (n) = 5 years.

Formula Used: $A = P \times (1 + r/100)^n$

=> 250000 = 100000 × (1 + r/100)^5

=> 250000 ÷ 100000 = (1 + r/100)^5

=> 2.5 = (1 + r/100)^5

=> (1 + r/100) = (2.5)^(1/5)

=> 1 + r/100 ≈ 1.2011

=> r/100 ≈ 0.2011

=> r ≈ 20.11%

Therefore The correct answer is 20%.

Additional Information

Compound Growth in Population

Population growth is calculated using the formula $A = P(1 + R/100)^n$, where R is the annual growth rate.

Rule of 72

To find the approximate time to double an amount, divide 72 by the annual interest rate (n ≈ 72 ÷ r).

Difference between Simple and Compound Increase

Compound increase accounts for growth on previous growth, leading to higher final values than simple percentage increases over time.

Q70. Answer: (b) 50.1

Calculation:

x = 0.05 × 0.36 ÷ 0.4 + 0.055 + 1.50 ÷ 0.03

=> x = 0.05 × 0.9 + 0.055 + 50

=> x = 0.045 + 0.055 + 50

=> x = 50.1

Therefore Option 2 is the correct answer.

Q71. Answer: (b) 0

Calculation:

tan α=1/√3

=> tan α = tan 30°

=> α = 30°

t=> an β = √3

=> tan β = tan 60°

=> β = 60°

=> cos (α + β) = cos (30+ 60)

=> cos 90° = 0

Therefore Option 2 is the correct answer.

Q72. Answer: (d) 8 : 5

Given:

50% of A is equal to 80% of B.

Calculation:

50% of A is equal to 80% of B

=> 50/100 × A = 80/100 × B

=> 5A = 8B

=> A : B = 8 : 5

Therefore Option 4 is the correct answer.

Q73. Answer: (d) 4

Shortcut Trick

If x + 1/x = 2, then x = 1; if x + 1/x = −2, then x = −1.

Given a + 1/a = 2 => a = 1.

Given b + 1/b = −2 => b = −1.

Substitute in $a^2 + 1/a^2 + b^2 + 1/b^2$:

$1^2 + 1/1^2 + (-1)^2 + 1/(-1)^2 = 1 + 1 + 1 + 1 = 4$.

Therefore The correct answer is 4.

Alternate Method

Given: a + 1/a = 2 and b + 1/b = −2

Formula Used: $(x + 1/x)^2 = x^2 + 1/x^2 + 2$

=> For the first expression, square both sides:

=> $(a + 1/a)^2 = 2^2$

=> $a^2 + 1/a^2 + 2 = 4$

=> $a^2 + 1/a^2 = 2$

=> For the second expression, square both sides:

=> $(b + 1/b)^2 = (-2)^2$

=> $b^2 + 1/b^2 + 2 = 4$

=> $b^2 + 1/b^2 = 2$

=> Required value = $(a^2 + 1/a^2) + (b^2 + 1/b^2)$

=> Value = 2 + 2 = 4.

Therefore The correct answer is 4.

Additional Information

Powers of Reciprocal Sums

If $x + 1/x = 2$, then $x^n + 1/x^n = 2$ for any positive integer n because x is always 1.

Even and Odd Powers for Negative Sums

If $x + 1/x = -2$, then $x^n + 1/x^n = 2$ when n is even, and $x^n + 1/x^n = -2$ when n is odd.

Reciprocal Property

The product of a variable and its reciprocal ($x \times 1/x$) is always 1, simplifying algebraic identities like $(x \pm 1/x)^2$.

Q74. Answer: (a) 45/14 Days

Given:

A can do a certain work in 9 days.

B is 80% more efficient than A.

Concept Used:

Total work = Time × Efficiency

Calculation:

B is 80% more efficient than A.

Efficiency ratio of A and B = 100 : 180

=> 5 : 9

A can do a certain work in 9 days.

Total work = 9 × 5 = 45 units

Total efficiency of A and B = 5 + 9 = 14

Total work completed by A and B together = 45/14 days

Therefore Option 1 is the correct answer.

Q75. Answer: (d) 28% per annum

Shortcut Trick

Total Simple Interest for 2 years = 3,120 − 2,000 = Rs. 1,120

Interest for 1 year = 1,120 ÷ 2 = Rs. 560

Rate of Interest = (Interest per year ÷ Principal) × 100

Rate % = (560 ÷ 2,000) × 100 = 28%

Therefore The correct answer is 28% per annum.

Alternate Method

Given:

Principal (P) = Rs. 2,000

Amount (A) = Rs. 3,120

Time (T) = 2 years

Formula Used:

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

Amount (A) = Principal (P) + Simple Interest (SI)

Calculations:

=> SI = A − P

=> SI = 3,120 − 2,000 = Rs. 1,120

=> 1,120 = (2,000 × R × 2) / 100

=> 1,120 = 20 × R × 2

=> 1,120 = 40 × R

=> R = 1,120 / 40

=> R = 28%

Therefore The correct answer is 28% per annum.

Additional Information

Simple Interest Concept

Simple interest is calculated only on the initial Principal amount. The interest remains constant every year if the rate and principal do not change.

Rate of Interest Calculation

The Rate of Interest (R) can be found using the formula R = (SI × 100) / (P × T), where SI is the total interest earned over time T.

Relation between Amount and Principal

The total Amount (A) at the end of the period is always the sum of the Principal (P) and the total Simple Interest (SI) earned.

Q76. Answer: (c) SRQP

Here the correct answer is SRQP.

Key Points

• The correct sequence to form a meaningful and grammatically correct sentence is: SRQP.

• The sentence can be arranged as follows:

• Many psychological, neurological,

• S. and sociological tests have been conducted by scientists

• R. to discover if leadership truly can be a learned trait, and

• Q. studies generally indicate that leaders truly are born with different personality traits

• P. and different thinking skills that make them leaders rather than followers

• This sequence forms a coherent sentence that discusses the research conducted to understand if leadership is an innate trait or can be learned.

• S: This part continuous the introduction of the idea that tests have been conducted by scientists. It sets the stage for the rest of the sentence and highlights the research conducted in the field.

• R: "to discover if leadership truly can be a learned trait, and"

This part explains the purpose of the tests mentioned in part S. Scientists conducted these tests to explore whether leadership can be acquired or learned, implying the potential influence of nurture in developing leadership skills.

• Q: "studies generally indicate that leaders truly are born with different personality traits"

This segment introduces the findings from studies. It suggests that research generally supports the notion that leaders have inherent or inborn qualities, specifically different personality traits.

• P: "and different thinking skills that make them leaders rather than followers."

The final part of the rearranged sequence elaborates on the traits mentioned in Q. It highlights that leaders possess distinct thinking skills that set them apart from followers, implying a combination of innate abilities and acquired knowledge.

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Q77. Answer: (b) DBCA

Here the correct answer is DBCA.

Key Points

• The correct sequence to form a meaningful and grammatically correct sentence is: DBCA.

• The sentence can be arranged as follows:

• They walked down the hall of

• D. their soundproofed home, which

• B. had cost them seventy-five

• C. thousand rupees. This house clothed and fed them

• A. rocked them to sleep and played songs for them

• This sequence forms a coherent sentence that describes the experience of walking down the hall of their soundproofed home.

• It starts with the mention of their soundproofed home (D), followed by the information about the cost of the house (B).

• Then, it continues by mentioning how the house provided for their basic needs (C).

• Finally, it concludes the sentence by mentioning the actions of rocking them to sleep and playing songs for them (A).

Q78. Answer: (a) QPRS

Here the correct answer is QPRS.

Key Points

• The correct sequence to form a meaningful and grammatically correct sentence is: QPRS.

• The sentence can be rearranged as follows:

• The study led

• Q. by scientists at the University of Bath and including

• P. collaborators from Bristol, Cambridge and Germany

• R. used fossils and analysed genetic differences between

• S. modern snakes to reconstruct snake evolution

• This sequence forms a coherent sentence that describes the study conducted by scientists to reconstruct snake evolution.

• It begins with the mention of the study being led (Q), followed by the information about the scientists involved, which includes collaborators from Bristol, Cambridge, and Germany (P).

• Then, it continues by mentioning the methods used in the study, which involved analyzing genetic differences between modern snakes and using fossils (R).

• Finally, it concludes the sentence by stating the purpose of the study, which was to reconstruct snake evolution (S).

Q79. Answer: (a) Clarify

The solution is in Hindi. Read it online.

Q80. Answer: (a) To openly display one's emotions.

Here the correct answer is 'To openly display one's emotions'.

Key Points

• The most appropriate meaning of the idiom "Wear your heart on your sleeve" is: To openly display one's emotions.

• The idiom "Wear your heart on your sleeve" means to openly or transparently display one's emotions or feelings, without trying to hide or conceal them. It suggests being emotionally vulnerable and not being afraid to show one's true emotions to others.

• For example:

• Sarah wears her heart on her sleeve and is not afraid to express her love and affection for others.

• John is known for wearing his heart on his sleeve, always displaying his excitement, disappointment, or sadness openly.

• This meaning is correct because the idiom derives from the literal act of wearing a heart-shaped badge or symbol on one's sleeve, which historically symbolized openly expressing one's emotions. It has come to represent a person's tendency to openly and honestly display their emotions without reservation.

• Therefore, the correct answer is Option 1.

Q81. Answer: (a) DODGE

Here the correct answer is DODGE.

Key Points

• The correctly spelled word is: DODGE.

• It means to quickly move out of the way or avoid something, often with agility or cleverness.

• For example:

• The car swerved to dodge the oncoming traffic.

• He managed to dodge the flying ball just in time.

• To summarize, the correctly spelled word is "DODGE," which means to avoid or move quickly out of the way.

• The other options, "BRILIANT," "SIEZE," and "RECEPROCATE," are misspelled versions of the words "BRILLIANT," "SEIZE," and "RECIPROCATE" with their respective meanings.

Additional Information

• Now, let's examine the other options:

• BRILIANT: This option is misspelled. The correct spelling is "BRILLIANT," which means extremely intelligent or exceptionally bright.

• For example:

• She received a brilliant score on her exam.

• The scientist made a brilliant discovery.

• SIEZE: This option is misspelled. The correct spelling is "SEIZE," which means to take hold of something firmly or forcibly.

• For example:

• The police officer seized the suspect's weapon.

• He seized the opportunity to present his idea at the meeting.

• RECEPROCATE: This option is misspelled. The correct spelling is "RECIPROCATE," which means to give or respond in kind, to return a favor, or to show mutual exchange.

• For example:

• She reciprocated his kindness by offering her assistance.

• If someone smiles at you, it's polite to reciprocate with a smile.

Q82. Answer: (b) Ecstatic

Here the correct answer is Ecstatic.

Key Points

• The most appropriate one-word substitution for the given group of words, "Feeling or expressing overwhelming happiness or joyful excitement," is: Ecstatic.

• The word "Ecstatic" accurately represents the described state of overwhelming happiness or joyful excitement. It refers to a feeling of extreme joy or delight, often accompanied by an intense emotional response.

• For example:

• She was ecstatic when she received the news of her promotion.

• The crowd erupted in ecstatic cheers as their team scored the winning goal.

• The word "Ecstatic" captures the essence of intense and overwhelming happiness, perfectly fitting the given context.

• Therefore, the correct answer is 2) Ecstatic, which best encapsulates the concept of feeling or expressing overwhelming happiness or joyful excitement.

Additional Information

• Now, let's examine the other options:

• Escalate: This option does not convey the meaning of overwhelming happiness or joyful excitement. "Escalate" means to increase in intensity, magnitude, or severity. It does not align with the context of expressing happiness or excitement.

• Intricate: This option does not capture the meaning of overwhelming happiness or joyful excitement. "Intricate" means complex, detailed, or having many interrelated parts. It does not relate to the emotional state described in the given group of words.

• Scintillating: This option does not precisely represent the meaning of overwhelming happiness or joyful excitement. "Scintillating" means sparkling, shining, or brilliantly lively. While it can connote excitement, it does not necessarily imply overwhelming happiness as the primary emotion.

Q83. Answer: (b) Pranav's house was painted by him.

Here the correct answer is Pranav's house was painted by him.

Key Points

• The given sentence is in active voice. As per the question we have to change it into passive voice.

• The format of Active voice is: Subject + V2 + Object.

• Thus, in Passive voice, the format will be: Object of the active voice (Subjective case) + was/were + V3 + by + Subject of the active voice (Objective case).

• Example:

• She built a large garden. (Active voice)

• A large garden was built by her. (Passive voice)

• Correct sentence - Pranav's house was painted by him.

• Hence, option 2 is the correct answer.

Q84. Answer: (c) Robust

Here the correct answer is Robust.

Key Points

• The word that is opposite in meaning to "Brittle" is: Robust.

• The word "Brittle" means easily breakable or fragile, lacking flexibility or resilience. It describes something that is prone to breaking or shattering under pressure.

• For example:

• The brittle glass shattered into pieces when it fell on the floor.

• The brittle branches snapped off the tree during the storm.

• On the other hand, "Robust" is the opposite of "Brittle." It means strong, sturdy, and able to withstand pressure or difficult conditions. When something is robust, it is characterized by vigor, strength, or resilience.

• For instance:

• The robust bridge withstood the heavy load of traffic.

• His robust health allowed him to recover quickly from illness.

• To summarize, the correct opposite for "Brittle" is "Robust," as it denotes something strong, sturdy, and able to withstand pressure or difficult conditions. The other options, "Debilitated," "Frail," and "Decrepit," do not accurately represent the opposite meaning of "Brittle" but rather carry different meanings.

Additional Information

• Now, let's examine the other options:

• Debilitated: This option does not represent the opposite meaning of "Brittle." "Debilitated" means weakened, lacking strength or vitality. It does not convey the idea of being strong or sturdy.

• Frail: This option does not accurately represent the opposite meaning of "Brittle." "Frail" means weak, delicate, or easily broken. While it shares some similarities with "Brittle," it does not explicitly convey the opposite idea of being robust or strong.

• Decrepit: This option does not accurately reflect the opposite meaning of "Brittle." "Decrepit" means worn out, weakened by age, or in a state of disrepair. It does not convey the opposite idea of being strong or robust.

Q85. Answer: (c) even more than for myself,

Here the correct answer is Option 3.

Key Points

• The part that contains a grammatical error is: even more than for myself.

• The correct pronoun usage should be "even more than for me."

• The pronoun "myself" is a reflexive pronoun, which is used when the subject and object of a sentence are the same person.

• However, in this case, the subject is "You" (referring to the person being addressed), and the object is "him." Therefore, the correct pronoun to use is the objective pronoun "me" instead of "myself."

• Example of correct pronoun usage:

• I care for him even more than for myself. (Correct)

• They invited me to the party. (Correct)

• Incorrect pronoun usage:

• I care for himself even more than for myself. (Incorrect)

• They invited myself to the party. (Incorrect)

• In the given sentence, the correct option would be 3) even more than for myself, as it contains the grammatical error in the pronoun usage.

The corrected sentence would be: "You care for him even more than for me, he cried bitterly."

Q86. Answer: (d) turned into

Here the correct answer is Turned into.

Key Points

• The phrase "turned into" is the most appropriate option to fill in the blank.

• It indicates the process of transforming or converting seawater from the oceans into fresh water that is suitable for drinking. This

phrase signifies a change in the state or composition of the water to make it usable for consumption.

• "How can seawater from the oceans be turned into fresh water that is suitable for people to drink?"

• This sentence raises the question of how the conversion of seawater to drinkable freshwater can be achieved. It implies a transformation or treatment process that removes the salt and impurities from seawater, making it safe for human consumption.

• In summary, the most appropriate option is 4) turned into, as it accurately conveys the transformation of seawater from the oceans into freshwater suitable for drinking. The other options do not align with the intended meaning and context of the sentence.

Additional Information

• Now, let's examine the other options:

• change about: This option does not convey the intended meaning of converting seawater into freshwater. "Change about" implies altering or modifying something in general, but it does not specifically address the transformation of seawater into drinkable freshwater.

• surrender in: This option does not accurately represent the process of converting seawater into freshwater. "Surrender in" conveys the act of giving up or yielding, which is unrelated to the topic of water treatment.

• minced on: This option is not relevant to the context of converting seawater into freshwater. "Minced on" means to cut or chop into small pieces, which does not pertain to the process of purifying seawater for drinking.

Q87. Answer: (a) PELLUCID

Here the correct answer is PELLUCID.

Key Points

• The most appropriate antonym of the word "OPAQUE" is: PELLUCID.

• The word "OPAQUE" means not allowing light to pass through, not transparent or clear. It describes something that is difficult or impossible to see through or understand.

• For example:

• The window was covered in an opaque film, blocking the view.

• The meaning of his statement remained opaque, leaving us confused.

• On the other hand, "PELLUCID" is the correct antonym of "OPAQUE." It means transparent, clear, or easily understood. When something is pellucid, it allows light to pass through or is easily comprehensible.

• For instance:

• The water in the crystal-clear lake was pellucid, revealing the colorful fish swimming beneath.

• The professor's explanation was pellucid, making the complex topic understandable to the students.

• To summarize, the correct antonym for "OPAQUE" is "PELLUCID," as it denotes something transparent, clear, or easily understood. The other options, "PARAGON," "GLORIFY," and "DARK," do not accurately represent the opposite meaning of "OPAQUE" but rather carry different meanings.

Additional Information

• Now, let's examine the other options:

• PARAGON: This option does not accurately represent the antonym of "OPAQUE." "Paragon" means a perfect example or a model of excellence. It does not convey the opposite meaning of being transparent or clear.

• GLORIFY: This option does not convey the opposite meaning of "OPAQUE." "Glorify" means to praise or worship, often exaggerating or embellishing the qualities or importance of someone or something. It does not represent the idea of being transparent or clear.

• DARK: This option does not accurately reflect the antonym of "OPAQUE." "Dark" describes a lack of light, absence of illumination, or a color that absorbs light. While it contrasts with "opaque" in terms of light transmission, it does not capture the opposite meaning of being transparent or clear.

Q88. Answer: (b) Diagnosis

The solution is in Hindi. Read it online.

Q89. Answer: (b) Major transformation

Here the correct answer is Major transformation.

Key Points

• The most appropriate meaning of the idiom "Sea change" is: Major transformation.

• The idiom "Sea change" refers to a significant or substantial transformation or change. It implies a profound shift or alteration in a situation, attitude, or condition. This phrase is derived from the literal concept of the sea changing, which represents a drastic and dramatic transformation.

• For example:

• After the company implemented new management strategies, there was a sea change in employee morale and productivity.

• The political landscape experienced a sea change after the election, resulting in new policies and priorities.

• The option 2) Major transformation accurately represents the meaning of the idiom "Sea change" as it emphasizes a significant change or shift. It conveys the idea of a substantial and noticeable difference.

Q90. Answer: (a) He said, “I have taken French lessons on Duolingo.”

Here the correct answer is He said, “I have taken French lessons on Duolingo.”

Key Points

• The given sentence is in indirect Speech. As per the question we have to change it to direct Speech.

• The process of transformation is as follows:

• Commas and inverted commas will be added.

• Past perfect tense 'had taken' will change into present perfect tense 'have taken'.

• 'He' will be changed into 'I'.

• In indirect speech, we report what someone said without quoting them directly. When we do this, we usually change the tense of the verb in the reported speech to reflect the new time frame.

• Therefore, as per the points mentioned above, we find that the correct answer is Option 1.

Correct Sentence: He said, “I have taken French lessons on Duolingo.”

Q91. Answer: (c) INDEPENDANT

Here the correct answer is INDEPENDANT.

Key Points

• The incorrectly spelled word is: INDEPENDANT.

• The correct spelling is "INDEPENDENT."

• EMINENT: This word is correctly spelled. It means famous, distinguished, or outstanding in a particular field.

• For example: The eminent scientist received numerous awards for her research contributions.

• SPLENDID: This word is correctly spelled. It means magnificent, excellent, or impressive.

• For example: The view from the mountaintop was absolutely splendid.

• INDEPENDANT: This is the incorrectly spelled word. The correct spelling is "INDEPENDENT." It means free from outside control, not influenced by others, or self-reliant.

• For example: She has been living independently since she moved out of her parents' house.

• HUMOROUS: This word is correctly spelled. It means funny, amusing, or causing laughter.

• For example: The comedian's humorous performance had the audience in stitches.

• In summary, the incorrectly spelled word is 3) INDEPENDANT, and the correct spelling is "INDEPENDENT." The other options, EMINENT, SPLENDID, and HUMOROUS, are spelled correctly and convey their respective meanings accurately.

Q92. Answer: (d) ELEMENTARY

The solution is in Hindi. Read it online.

Q93. Answer: (a) Once I run in

Here the correct answer is Option 1.

Key Points

• The part that contains a grammatical error is: Once I run in.

• The verb tense in the phrase "Once I run in" is incorrect.

• The correct verb tense to use in this context is the past tense, as the sentence describes a past event.

• Therefore, the corrected form should be "Once I ran in."

• Example of correct verb tense usage:

• Yesterday, I ran in the park. (Past tense)

• Last week, they played a football match. (Past tense)

• Incorrect verb tense usage:

• Yesterday, I run in the park. (Incorrect)

• Last week, they play a football match. (Incorrect)

• In the given sentence, the correct option would be 1) Once I run in, as it contains the grammatical error in the verb tense.

The corrected sentence would be: "Once I ran in the Sonoran Desert in Arizona after a huge rain event."

Q94. Answer: (b) hung up

The correct answer is 'Option 2' i.e. 'Hung up'.

Key Points

• The sentence "She hang up the clothes in the closet" contains an error in verb tense agreement.

• The verb "hang" should be in the past tense form to match the subject "she."

• The past tense form of the verb "hang" is "hung."

• Therefore, the correct sentence is: "She hung up the clothes in the closet."

Q95. Answer: (a) have just arrived

Here the correct answer is Have just arrived.

Key Points

• In the given sentence, the subject is "guests," which is a plural noun.

• To match the subject with the verb tense, the correct verb form should be plural as well.

• Therefore, "has" should be replaced with "have" to agree with the plural subject "guests."

• Example:

• Original sentence: The guests (has just arrived).

• Corrected sentence: The guests have just arrived.

• Using the correct verb form "have" ensures subject-verb agreement in number and tense.

• Option 2, "No correction required," is incorrect because the original sentence contains an error that needs correction.

• Option 3, "arrives now," is incorrect because it changes the tense and does not match the subject-verb agreement. The subject "guests" requires a plural verb form.

• Option 4, "just arrives," is incorrect because it uses the singular verb form "arrives," which does not agree with the plural subject "guests."

Q96. Answer: (a) queue

Here the correct answer is Queue.

Key Points

• The correct answer for blank No. 1 is: queue.

• In the given context, the word "queue" is the most appropriate option to fill in the blank.

• It refers to a line of people waiting for their turn, typically in a specific order. In this case, the sentence suggests that the queue (line) at the bank was endless, meaning there were many people waiting.

• Example sentence with the correct word:

• "Of course, the queue was endless, and he got stuck behind two women."

• Therefore, the correct answer for blank No. 1 is 1) queue.

Additional Information

• The other options do not convey the intended meaning in the given context:

• progression: This word does not fit the context of waiting in line or the sense of an endless line.

• passage: This word refers to a path or route and does not accurately convey the idea of waiting in a line.

• chain: This word typically refers to a series of connected links or objects and is not suitable in the context of waiting in a line.

Q97. Answer: (a) stuck

Here the correct answer is Stuck.

Key Points

• The correct answer for blank No. 2 is: stuck.

• In the given context, the word "stuck" is the most appropriate option to fill in the blank.

• It means to be unable to move or be held in a fixed position.

• In this case, Anders couldn't proceed forward in the queue because he got stuck behind two women engaged in a loud and foolish conversation.

• Example sentence with the correct word:

• "He got stuck behind two women whose loud, stupid conversation put him in a murderous rage."

• In summary, the most suitable word to fill in the blank is 1) stuck, as it accurately describes Anders' situation of being held up in the queue. The other options do not convey the intended meaning in the given context.

Additional Information

• Now, let's look at the other options:

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• struck: This word does not fit the context of being held up or unable to move. "Struck" typically refers to hitting or colliding with something.

• stamped: This word does not accurately convey the meaning of being stuck in a line. "Stamped" generally refers to marking or impressing a pattern or design on something.

• fastened: This word does not align with the context of waiting in a line or being unable to move forward. "Fastened" typically means to securely attach or close something.

Q98. Answer: (d) temper

Here the correct answer is Temper.

Key Points

• The correct answer for blank No. 3 is: temper.

• In the given context, the word "temper" is the most appropriate option to fill in the blank.

• "Temper" refers to a person's state of mind, mood, or emotional condition, particularly when it comes to their level of irritability or anger. In this case, the loud and foolish conversation of the two women behind Anders put him in a state of extreme frustration or irritation.

• Example sentence with the correct word:

• "Their loud, stupid conversation put him in a murderous temper."

• In summary, the correct word to fill in the blank is 3) temper, as it accurately describes Anders' state of frustration or irritability.

• The other options either do not fully capture the intended meaning or are not the most suitable choices in the given context.

Additional Information

• Now, let's look at the other options:

• wrath: While "wrath" also refers to intense anger or fury, it is not the most appropriate choice in this context. "Temper" is a more suitable word to describe Anders' emotional state.

• quality: This word does not accurately convey the intended meaning of Anders' emotional state. "Quality" typically refers to a characteristic or attribute of something and is unrelated to his temper or emotional reaction.

• temperament: While "temperament" is a related word, it refers more broadly to a person's overall nature or disposition rather than their specific emotional state or mood at a given moment.

Q99. Answer: (d) anyway

Here the correct answer is Anyway.

Key Points

• The most appropriate option to fill in the blank No. 4 is: anyway

• This choice is suitable because it conveys that Anders is more often than not in a bad mood. Regardless of the situation, his temperament was not good.

• Example sentence with the correct word:

• "He was never in the best of tempers anyway."

• In summary, the correct word to fill in the blank is 4) anyway. It accurately reflects the idea that Anders' temperament remains consistent and unaffected by external factors or circumstances. The other options either do not match the intended meaning or do not fit the context as effectively.

Additional Information

• Now, let's review the other options:

• somewhat: This option suggests a degree of variation or moderation in Anders' temper, which does not align with the context of the passage. The sentence implies a stronger and more consistent state of irritability.

• always: While "always" indicates a consistent characteristic, it does not capture the sense of regardless or irrespective of circumstances conveyed by the sentence.

• whenever: This option implies that Anders' temper is triggered by specific occasions or circumstances. However, the sentence does not provide any specific triggers, suggesting a more general, ongoing state of temperament.

Q100. Answer: (d) dispatched

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