SSC MTS 2024 Official Paper (Held On: 14 Oct, 2024 Shift 1) (Previous Year Paper)

SSC Multi-Tasking Staff (MTS) • 2024 • 90 questions • 90 minutes • Answer key and solutions

Take this paper as a timed mock test

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

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SESSION 1

Q1. A dishonest dealer professes to sell his goods at cost price but uses a false weight and thus gains 15%. For a kilogram he uses a weight of ____ grams.

(a) 930.43
(b) 830.43
(c) 1130.43
(d) 869.57

Q2. Find the simple interest (in Rs.) on Rs. 2500 as a sum borrowed at 6% per year rate of interest for 5 years.

(a) 750
(b) 710
(c) 790
(d) 690

Q3. The average weight of a family of five members (in kg) whose weights are 40 kg, 49 kg, 56 kg, 67 kg and 37 kg is:

(a) 51.8
(b) 50.8
(c) 49.8
(d) 48.8

Q4. Find the simple interest (in Rs.) on Rs. 3500 as a sum borrowed at 6% per year rate of interest for 3 years.

(a) 630
(b) 670
(c) 590
(d) 570

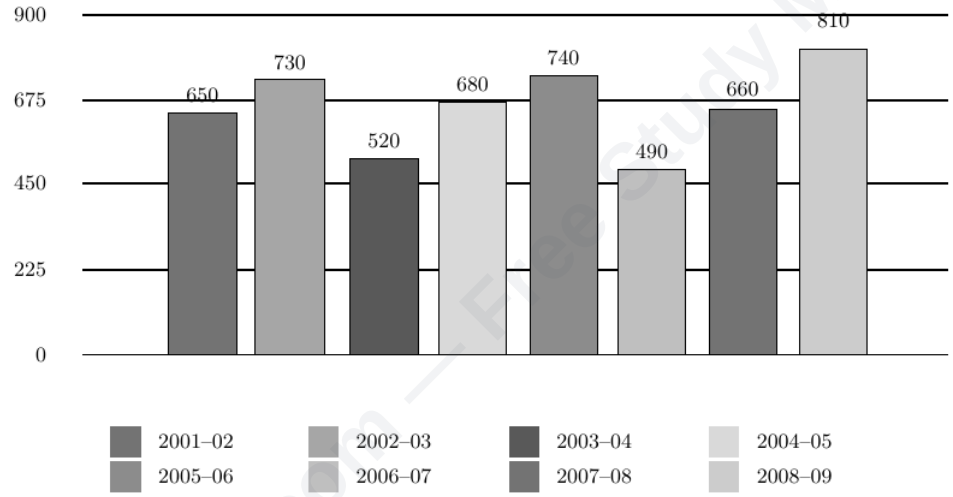
Q5. The data for the production of four products P, Q, R and S by four cities A, B, C and D is given in the table.

Type of Product	A	B	C	D
P	1500	1200	1100	1450
Q	1250	1400	1250	1500
R	1600	1150	1150	1300
S	1750	1050	1000	1250

Which product has the highest total production by all cities?

(a) P
(b) R
(c) Q
(d) S

Q6. The given bar graph shows the profit (in Rs. lakhs) made by a company from 2001-2002 to 2008-2009.



The profit in 2005-06 was approximately what percentage of the average profit over the entire period?

(a) 112.12%
(b) 124.24%
(c) 118.18%
(d) 121.21%

Q7. A mixture contains 8 kg of tea costing Rs. 295 per kilogram and 10 kg of tea costing Rs. 250 per kilogram. The average price per kilogram (in Rs.) of the mixture is:

(a) 270
(b) 259.60
(c) 250.70
(d) 273

Q8. A solid cuboid with dimensions 2 m × 4 m × 10 m is melted to form small solid cubes of side 8 cm. How many such cubes can be formed?

(a) 1,56,250
(b) 1,60,000
(c) 1,62,250
(d) 1,58,250

Q9. If two numbers are 6.25% and 25% more than a third number, respectively, then the first number is how much per cent of the second number?

(a) 95%
(b) 85%
(c) 90%
(d) 80%

Q10. A rectangular sheet of paper of length 10π cm and width 5 cm is rolled along its length (width of the sheet becomes the height of the cylinder) to form a cylinder. What would be the radius of the cylinder?

(a) 10 cm
(b) 2.6 cm
(c) 5 cm
(d) 2.5 cm

Q11. Find the value of 5 + 32 ÷ 2 + 6 × 2.5.

(a) 40
(b) 36
(c) 15
(d) 34

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Q12. In a school, the average salary of 12 teachers was Rs. 71,400. If the average salary of the teachers, principal and vice principal was Rs. 89,500, then what was the average salary of the principal and vice principal (in Rs.)?

(a) 1,76,800
(b) 2,11,000
(c) 1,98,100
(d) 1,18,900

Q13. If 2744 identical small spheres are made out of a big sphere of radius 7 cm, then what is the surface area of each small sphere?

(a) 2π cm²
(b) 3π cm²
(c) π cm²
(d) 4π cm²

Q14. The ratio of the number of boys and girls in a hostel is 5 : 7. If 40% of boys and 50% of girls are getting scholarships for their studies, what is the percentage of hostel students who are not getting any scholarships?

(a) 59 1/8 % %
(b) 54 1/6 %
(c) 35 1/7 %
(d) 45 1/5 %

Q15. Raman paid Rs. 18,656 for a mobile phone, after a single discount of 12%. If Raman is given successive discounts of 4% and 8%, then how much Raman would pay?

(a) Rs. 17,238.84
(b) Rs. 13,728.84
(c) Rs. 18,723.84
(d) Rs. 17,283.84

Q16. Find the average of the prime numbers lying between 68 and 91.

(a) 76
(b) 77
(c) 78
(d) 79

Q17. The simple interest on a certain sum for 4 years at 23% per annum is Rs. 11,960 less than the simple interest on the same sum for 8 years. Find the sum.

(a) Rs. 12,000
(b) Rs. 12,500
(c) Rs. 13,500
(d) Rs. 13,000

Q18. Two trains of lengths 125 m and 175 m respectively are running in the same direction at 40 km/h and 22 km/h respectively. How much time will they take to pass each other completely?

(a) 55 sec
(b) 1 min
(c) 50 sec
(d) 12 4/5 sec

Q19. A boat can travel at a speed of 28 km/h in still water. If the speed of the stream is 4 km/h, what is the average speed (in km/h) of the boat if it travels 192 km downstream, stops there for one hour and then returns to the starting point?

(a) 25.6
(b) 24.8
(c) 36.5
(d) 28.5

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Q20. If the cost price of an article is 75% of its selling price, then the profit percent is:

(a) 33%
(b) 33 1/3 %
(c) 25 1/3 %
(d) 25%

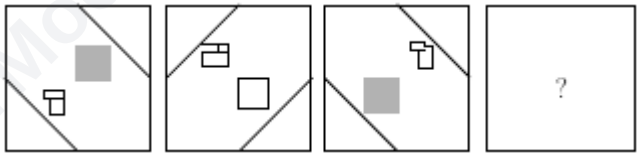
Q21. A, B, C, D, E, F and G are sitting around a circular table facing the centre (but not necessarily in the same order). F is sitting second to the left of B. F is sitting third to the left of D. B is sitting to the immediate right of E. A is sitting third to the left of E. A is sitting to the immediate right of G. What is the position of F with respect to E?

(a) Second to the left
(b) Immediate left
(c) Third to the right
(d) Immediate right

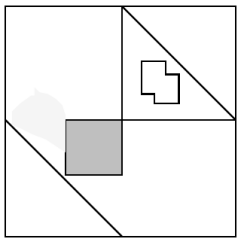
Q22. In a certain code language, 'train was late' is coded as 'ch px zt' and 'journey by train' is coded as 'fk zt bu'. How is 'train' coded in the given language?

(a) zt
(b) ch
(c) bu
(d) px

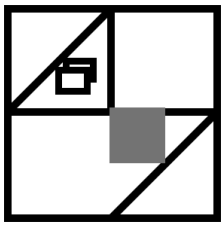
Q23. Select the figure from the options that can replace the question mark (?) and logically complete the series.



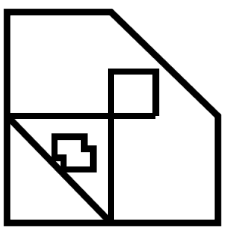
(a)



(b)

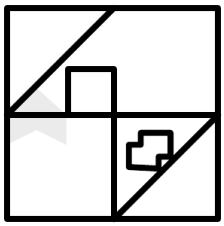


(c)



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(d)



Q24. What will come in place of the question mark (?) in the following equation if '+' and 'x' are interchanged and '-' and '÷' are interchanged?

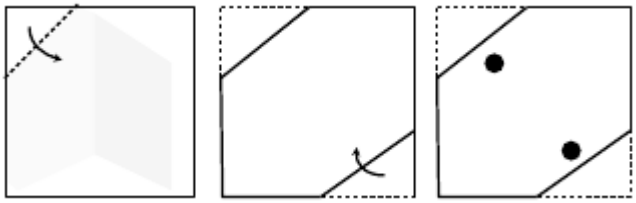
55 × 16 - 4 ÷ 7 + 3 = ?

(a) 28
(b) 12
(c) 38
(d) 17

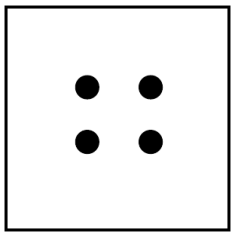
Q25. In a certain code language, 'solve the puzzle' is written as 'sp di cy' and 'puzzle is tricky' is coded as 'qp vt di'. How is 'puzzle' coded in the given language?

(a) di
(b) sp
(c) cy
(d) qp

Q26. A square sheet of paper is folded along the dotted line successively along the directions shown and is then punched in the last. How would the paper



(a)

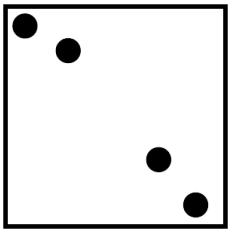


(b)

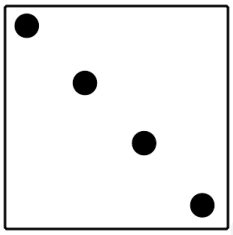


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(c)



(d)



Q27. HLQC is related to KOTF in a certain way based on the English alphabetical order. In the same way, WTAN is related to ZWDQ. To which of the following is FXCM related, following the same logic?

(a) GZFQ
(b) HZEO
(c) IAFP
(d) IAEO

Q28. What should come in place of the question mark (?) in the following series?

97, 88, 85, 76, 73, ?, 61

(a) 72
(b) 64
(c) 65
(d) 70

Q29. In a certain code language, 'GULF' is coded as '7391' and 'FANS' is coded as '2438'. What is the code for 'F' in the given code language?

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

Q30. EJGL is related to INKP in a certain way based on the English alphabetical order. In the same way, KPMR is related to OTQW. To which of the following is NSPU related, following the same logic?

(a) RWTY
(b) RWYT
(c) WRYT
(d) WRTY

Q31. P, Q, R, S, T, U and V are sitting around a circular table, facing towards the centre (but not necessarily in the same order).

P is an immediate neighbour of both T and U.

S is sitting second to the right of P.

Immediate neighbours of R are U and Q.

S is not an immediate neighbour of U.

Who is sitting to the immediate left of Q?

(a) R
(b) V

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(c) U
(d) S

Q32. 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 statement(s).

Statements: All cocktails are mocktails.

Some cocktails are juices.

Conclusion (I): Some mocktails are juices.

Conclusion (II): Some juices are not cocktails.

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

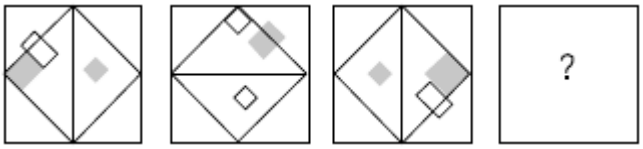
Q33. Which two numbers should be interchanged to make the following equation correct?

36 ÷ 2 + 4 × 8 - 11 × 3 + 28 = 49

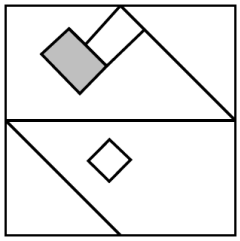
(Note : Interchange should be done of the entire number and not individual digits of a given number.)

(a) 36 and 28
(b) 4 and 3
(c) 2 and 4
(d) 2 and 3

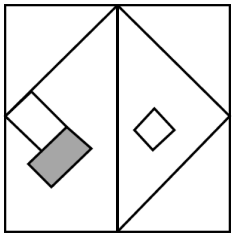
Q34. Identify the figure given in the options that when put in place of the question mark (?) will logically complete the series.



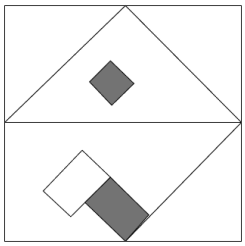
(a)



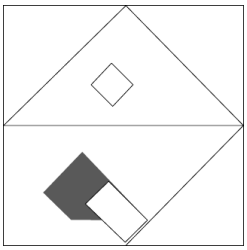
(b)



(c)



(d)

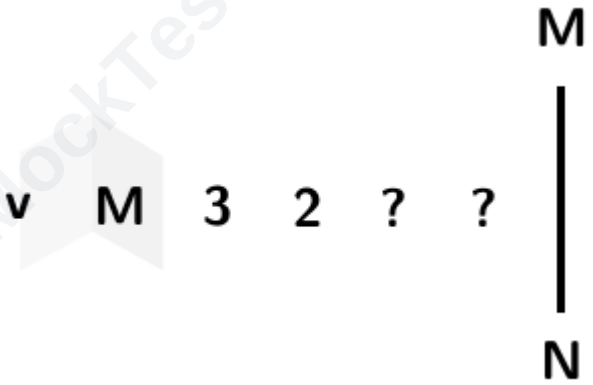


Q35. What should come in place of the question mark (?) in the given series based on the English alphabetical order?

RVQ, OSN, LPK, IMH, ?

(a) FJE
(b) EFJ
(c) EJF
(d) JEF

Q36. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



(a)



(b)



(c)



(d)



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Q37. 3 is related to 24 following a certain logic. Following the same logic, 4 is related to 60. To which of the following is 6 related, following the same logic?

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

(a) 216
(b) 230
(c) 210
(d) 236

Q38. 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.

Statements:

All carrots are onions.

No onion is a tomato.

Conclusions:

(i) No carrot is a tomato.

(ii) All onions are carrots.

(a) Neither conclusion I nor II follows.
(b) Only conclusion II follows.
(c) Both conclusions I and II follow.
(d) Only conclusion I follows.

Q39. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their 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.)

(18, 3, 54)

(21, 4, 84)

(a) (4,8,39)
(b) (8,7,58)
(c) (14,2,28)
(d) (3,11,53)

Q40. In a certain code language, ‘spin fast slow’ is written as ‘mm nn oo’ and ‘fast skid slip’ is coded as ‘nn rr tt’ and ‘slip slow jump’ is coded as ‘rr mm zz’. How is ‘jump’ coded in the given language?

(a) rr
(b) zz
(c) mm
(d) nn

SESSION 2

Q41. If four resistances of 4 ohm each are connected in parallel, what will be their effective resistance?

(a) 4 ohm
(b) 1 ohm
(c) 10 ohm
(d) 16 ohm

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Q42. Bhavnath Mahadev fair is held every year in which of the following places?

(a) Jabalpur
(b) Chennai
(c) Agra
(d) Junagarh

Q43. As per the 2001 Census, what is the specific age, for a person to be called literate?

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

Q44. A section of an active fault that has produced earthquakes in the past but is now quiet and is believed that the fault segment is capable of producing earthquake on some other basis is known as:

(a) Hypocenter
(b) Seismic Gap
(c) Epicenter
(d) Seismic Wave

Q45. When was the Wildlife Protection Act passed?

(a) 1972
(b) 1955
(c) 1980
(d) 1951

Q46. In July 2023, Tribhuvaneshwar Saran Singh Deo was appointed as Deputy Chief Minister of which of the following states?

(a) West Bengal
(b) Jharkhand
(c) Chhattisgarh
(d) Odisha

Q47. The Mahananda River rising in the _____ is a tributary of Ganga.

(a) Chota Nagpur Plateau
(b) Darjeeling Hills
(c) Kaimur hills
(d) Nanda Devi Peak

Q48. Which of the following is a traditional game of India?

(a) Volleyball
(b) Kabbadi
(c) Basketball
(d) Football

Q49. A group of natural substances with variable phenolic structures, which are found in fruits, vegetables, and grains is called:

(a) Hopanoids
(b) Pectins
(c) Resins
(d) Flavonoids

Q50. The Moplah Uprising, an organised opposition of Muslim cultivators, occurred in which modern state of India?

(a) Punjab
(b) Kerala
(c) Tamil Nadu

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(d) Bihar

Q51. What is the major purpose of the Salal Dam located on Chenab River in Jammu and Kashmir?

(a) Hydroelectricity
(b) Drinking
(c) Irrigation
(d) Navigation

Q52. Who amongst the following stated the Grameen model of microfinance?

(a) Prof. Abhijit Banerjee
(b) Prof. Muhammad Yunus
(c) Prof. Amartya Sen
(d) Dr. Manmohan Singh

Q53. In February 2023, there have been protests in Punjab to release a group of Sikh prisoners who have been in jail for more than 30 years since militancy was wiped out in Punjab in the 1990s. What are these prisoners called?

(a) Bandi Singhs
(b) Babbar Bandis
(c) Khalsa Tigers
(d) Qaid Sikhs

Q54. Who is the author of the book called 'Beneath the Surface: My Story'?

(a) Kobe Bright
(b) Michael Phelps
(c) Milkha Singh
(d) Tiger Woods

Q55. The state religion of Bangladesh is:

(a) Christianity
(b) Hinduism
(c) Buddhism
(d) Islam

Q56. Which of the following was authored by Harisenacharya?

(a) Rajatarangini
(b) Brihatkatha Kosh
(c) Brihat Katha Manjari
(d) Lilavati

Q57. Who among the following was 'Senani' in the Rig Vedic period?

(a) A war hero
(b) A tax officer
(c) A spy
(d) A priest

Q58. Which among the following is considered the first experiment of Satyagraha by Gandhiji in India?

(a) Kheda
(b) Champaran
(c) Rowlatt Satyagraha
(d) Ahmedabad

Q59. Who became the first folk artist from India to walk the Cannes red carpet in 2022?

(a) Mame Khan
(b) Swaroop Khan
(c) Sartaj Khan

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(d) Sarwar Khan

Q60. Sonal Mansingh is a famous proponent of which of the following dance forms?

(a) Mohiniyattam
(b) Manipuri
(c) Odissi
(d) Kathak

Q61. The union list from the Seventh Schedule of the Indian Constitution consists of how many subjects as of May 2024?

(a) Ninety three
(b) Ninety five
(c) Ninety nine
(d) Hundred

Q62. Anita Sharma, Sangeet Natak Akademi Award winner, is an exponent of _____ dance form.

(a) Odissi
(b) Mohiniyattam
(c) Sattriya
(d) Kathakali

Q63. In weight lifting, when an athlete misses all three attempts in the snatch or the clean and jerk, failing to post a total, it is known as _____.

(a) Bombing-out
(b) Take-off
(c) Delivery
(d) Attempt

Q64. Which of the following statements about Viharas is/are correct?

a) Viharas consist of a verandas, cell and hall around the walls of the hall.

b) Ajanta cave and Nashik cave are important parts of Vihara architecture.

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

Q65. Which of the following phyla contains Leech?

(a) Platyhelminthes
(b) Coelenterata
(c) Nematoda
(d) Annelida

Q66. Select the most appropriate synonym of the word in bold in the given sentence.

He was so enraged at the article about him that he sued the newspaper.

(a) Generated
(b) Determined
(c) Angered
(d) Enhanced

Q67. Recognise the sentence with the correct transitive verb form of break.

A. The cyclone broke the window.

B. The window broke.

C. The cyclone caused the braking of window.

D. The cyclone caused the broken window.

(a) C

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(b) A
(c) B
(d) D

Q68. Identify the INCORRECLTY spelt word in the given sentence.

BBC Media has shown exponenteal growth in their revenue this year

(a) exponenteal
(b) revenue
(c) media
(d) year

Q69. Select the most appropriate option to fill in the blank.

Leisure activities are activities that people _____ in during their free time while they are not working.

(a) encourage
(b) engage
(c) evaluate
(d) exempt

Q70. Select the option that has used the correct tense.

(a) By the time we arrive at the party, they had been waiting for over an hour.
(b) By the time we arrived at the party, they had been waiting for over an hour.
(c) By the time we arrives at the party, they had been waiting for over an hour.
(d) By the time we arriving at the party, they had been waiting for over an hour.

Q71. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

It is a common perception / that the rich sometimes / despise poor.

(a) No error
(b) that the rich sometimes
(c) despise poor.
(d) It is a common perception

Q72. Select the most appropriate ANTONYM of the given word.

Searing

(a) Mocking
(b) Pressing
(c) Freezing
(d) Thrilling

Q73. Select the most appropriate option to fill in the blank.

Prem is an excellent chess player. He is the _____ student of the class too.

(a) most intelligent
(b) intelligently
(c) intelligent
(d) more intelligent

Q74. Select the most appropriate ANTONYM of the given word.

Boisterous

(a) Noisy
(b) Benevolent
(c) Buoyant
(d) Quiet

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Q75. Select the option that can be used as a one-word substitute for the highlighted group of words in the given sentence.

The minister went to visit the monuments set up for people who were buried in other countries.

(a) graves
(b) cemetery
(c) cenotaphs
(d) coffins

Q76. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

Sushil, who recently joined our school / was awarded the Gold Cup / as he worked hardly / throughout the year.

(a) throughout the year.
(b) Sushil, who recently joined our school
(c) was awarded the Gold Cup
(d) as he worked hardly

Q77. Select the most appropriate idiom that can substitute the underlined words in the given sentence.

His sudden resignation left the company in a very difficult situation and to have to make a hard decision as they scrambled to find a replacement.

(a) in the dark
(b) with a silver lining
(c) between a rock and a hard place
(d) on cloud nine

Q78. Select the correct spelling of the underlined word in the given sentence.

The weather was absolutley perfect for the outdoor event.

(a) absolutely
(b) absolutley
(c) absoluttley
(d) absolutly

Q79. Select the most appropriate meaning of the given idiom.

An open book

(a) someone who gives advice based on theory not practice
(b) a helpful person
(c) a person of whom her mother is extremely proud
(d) a person or thing that is easy to learn about and understand

Q80. Select the most appropriate ANTONYM of the given word.

Meticulous

(a) Persevering
(b) Exemplary
(c) Determined
(d) Regardless

Q81. Parts of the following sentence have been given as options. Select the option that contains an error.

I have never seen so beautiful a landscape than this one.

(a) I have never seen
(b) so beautiful
(c) a landscape
(d) than this one

Q82. Select the option that can be used as a one-word substitute for the given group of words.

A post without any remuneration

(a) Illegible
(b) Bigot

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(c) Effeminate
(d) Honorary

Q83. Select the most appropriate synonym of the given word.

Corroborate

(a) Suggest
(b) Support
(c) Contend
(d) Elaborate

Q84. Select the option that can be used as a one-word substitute for the given phrase.

Belonging or pertaining to an individual from birth

(a) Congregational
(b) Congenital
(c) Congruent
(d) Congenial

Q85. Select the INCORRECTLY spelt word.

(a) Damaged
(b) Fantastic
(c) Expensive
(d) Forgetfull

Directions

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

Though people are becoming health-conscious these days, (1) _____ simple lifestyle habits they are prone to fatal diseases. (2) ___ a new study published in 'The Journal of the American College of Cardiology,' (3) ___ food more sparingly is linked to a lower risk of heart disease, heart failure, and ischemic heart disease. A significant risk factor for cardiovascular disease, high blood pressure, is demonstrated to be correlated (4) ___ high sodium intake. As per the research, a person's individual sodium intake over time may be predicted by how (5) _____ they salt their food. It is found that people who do not put a little additional salt to their food very often had a much lower risk of heart disease even regardless of lifestyle factors and pre-existing disease.

Q86. Select the most appropriate option to fill in blank number 1.

(a) for
(b) because of
(c) because
(d) but

Q87. Select the most appropriate option to fill in blank number 2.

(a) According with
(b) Accordingly
(c) In according with
(d) According to

Q88. Select the most appropriate option to fill in blank number 3.

(a) salt
(b) salted
(c) salting
(d) salt with

Q89. Select the most appropriate option to fill in blank number 4.

(a) in
(b) of
(c) with

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(d) for

Q90. Select the most appropriate option to fill in blank number 5.

(a) soundly
(b) hefty
(c) burly
(d) frequently

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (d) 869.57

Given:
Gain percentage = 15%
Actual weight = 1000 grams
Formula used:
False Weight = (Actual Weight × 100)/(100 + Gain Percentage)
Calculation:
False Weight = (1000 × 100)/(100 + 15)
=> 100000/115 = 869.57 grams
Therefore The dealer uses a false weight of approximately 869.57 grams.

Q2. Answer: (a) 750

Given:
Principal (P) = Rs. 2500
Rate of Interest (R) = 6% per year
Time (T) = 5 years
Formula Used:
Simple Interest (SI) = (P × R × T) / 100
Calculation:
SI = (Rs. 2500 × 6 × 5) / 100
=> SI = (Rs. 2500 × 30) / 100
=> SI = Rs. 75000 / 100
=> SI = Rs. 750
The simple interest on Rs. 2500 at 6% per year for 5 years is Rs. 750.

Q3. Answer: (c) 49.8

Given:
Weights of family members: 40 kg, 49 kg, 56 kg, 67 kg, 37 kg.
Formula Used:

Average weight = Sum of weights / Number of members
Calculation:
Sum of weights = 40 + 49 + 56 + 67 + 37
Sum of weights = 249
Number of members = 5
Average weight = 249 / 5
Average weight = 49.8 kg
The average weight of the family is 49.8 kg.

Q4. Answer: (a) 630

Given:
Principal (P) = Rs. 3500
Rate of Interest (R) = 6% per year
Time (T) = 3 years
Formula Used:
Simple Interest (SI) = (P × R × T) / 100
Calculation:
Simple Interest (SI) = (3500 × 6 × 3) / 100
=> SI = 630
The simple interest on Rs. 3500 at 6% per year for 3 years is Rs. 630.

Q5. Answer: (c) Q

Given:
The production data for four products (P, Q, R, S) by four cities (A, B, C, D) is provided.
Formula used:
Total production of a product = Sum of production across all cities
Calculation:
Total production of P = 1500 + 1200 + 1100 + 1450 = 5250
Total production of Q = 1250 + 1400 + 1250 + 1500 = 5400
Total production of R = 1600 + 1150 + 1150 + 1300 = 5200
Total production of S = 1750 + 1050 + 1000 + 1250 = 5050
Therefore The product with the highest total production is Q with 5400 units.

Q6. Answer: (a) 112.12%

Given:
Profits (in Rs. lakhs) from 2001-02 to 2008-09:
650, 730, 520, 680, 740, 490, 660, 810
Profit in 2005-06 = 740
Formula used:
Average Profit = (Sum of all profits)/(Number of years)
Percentage = (Profit in 2005-06)/(Average Profit) × 100
Calculation:
Average Profit = (650 + 730 + 520 + 680 + 740 + 490 + 660 + 810)/8 = 5280/8 = 660
=> Percentage = 740/660 × 100 = 112.12%
Therefore The required percentage is 112.12%.

Q7. Answer: (a) 270

Shortcut Trick
Ratio of quantity = 8 : 10 = 4 : 5
Assume base average price = 250
Deviation of tea 1 from base = 295 − 250 = 45
Total extra value = 45 × 4 = 180
Average increase = 180 ÷ (4 + 5) = 20

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Average price = 250 + 20 = 270
Therefore The correct answer is 270.
Alternate Method
Given:
Quantity 1 = 8 kg, Price 1 = Rs. 295/kg
Quantity 2 = 10 kg, Price 2 = Rs. 250/kg
Formula used:
Average Price = (Total Cost) ÷ (Total Quantity)
Rs. 295
Rs. 250
x
8 kg
10 kg
Average Price = Rs. 270
=> Total cost of tea 1 = 8 × 295 = Rs. 2360
=> Total cost of tea 2 = 10 × 250 = Rs. 2500
=> Total cost of mixture = 2360 + 2500 = Rs. 4860
=> Total quantity of mixture = 8 + 10 = 18 kg
=> Average price = 4860 ÷ 18
=> Average price = 270
Therefore The correct answer is 270.
Additional Information
Weighted Average Formula
The average of a mixture is calculated as (n1w1 + n2w2) ÷ (n1 + n2), where n is the quantity and w is the price.
Alligation Rule
Quantity of Cheaper ÷ Quantity of Dearer = (Price of Dearer − Average Price) ÷ (Average Price − Price of Cheaper).
Mixture Pricing
The average price of a mixture always lies between the lowest and the highest individual prices of its components.

Q8. Answer: (a) 1,56,250

Shortcut Trick
Convert all dimensions to centimeters: 200 cm, 400 cm, 1000 cm.
Number of cubes = (Length ÷ side) × (Breadth ÷ side) × (Height ÷ side)
Number of cubes = (200 ÷ 8) × (400 ÷ 8) × (1000 ÷ 8)
Number of cubes = 25 × 50 × 125 = 1,56,250
Therefore The correct answer is 1,56,250.
Alternate Method
Given: Dimensions of cuboid = 2 m × 4 m × 10 m, Side of small cube = 8 cm.
Formula Used: Number of cubes = Volume of cuboid ÷ Volume of one small cube
=> Length (l) = 2 m = 200 cm
=> Breadth (b) = 4 m = 400 cm
=> Height (h) = 10 m = 1000 cm
=> Volume of Cuboid = l × b × h = 200 × 400 × 1000 = 8,00,00,000 cm^3
=> Volume of Cube = $(side)^3$ = 8 × 8 × 8 = 512 cm^3
=> Number of cubes = 8,00,00,000 ÷ 512 = 1,56,250
Therefore The correct answer is 1,56,250.
Additional Information
Volume of Cuboid
The volume is given by V = Length × Breadth × Height.
Volume of Cube
The volume of a cube with side 'a' is V = a^3.
Unit Conversion

1 meter (m) = 100 centimeters (cm) | 1 m^3 = 10,00,000 cm^3.

Conservation of Volume

When a solid is melted and recast into another shape, the total volume remains constant.

Q9. Answer: (b) 85%

Given:

First number is 6.25% more than a third number.

Second number is 25% more than a third number.

Formula Used:

Percentage Increase = (Increased Value - Original Value) / Original Value × 100

Calculation:

Let the third number be x.

First number = x + 6.25% of x

First number = x + 0.0625x = 1.0625x

Second number = x + 25% of x

Second number = x + 0.25x = 1.25x

First number as a percentage of the second number:

Percentage = (First number / Second number) × 100

Percentage = (1.0625x / 1.25x) × 100

=> Percentage = (1.0625 / 1.25) × 100

=> Percentage = 0.85 × 100

=> Percentage = 85%

The first number is 85% of the second number.

The correct answer is option 2.

Q10. Answer: (c) 5 cm

Given:

Length of the rectangular sheet = 10π cm

Width of the rectangular sheet = 5 cm

Formula Used:

Radius of the cylinder, r = (Length of the rectangular sheet)/2π

Calculation:

When the sheet is rolled along its length to form a cylinder, the length of the sheet becomes the circumference of the base of the cylinder. So,

Circumference = 2πr

10π = 2πr

=> 10 = 2r

=> r = 10/2

=> r = 5 cm

The radius of the cylinder is 5 cm.

Q11. Answer: (b) 36

Given:

Expression to solve: 5 + 32 ÷ 2 + 6 × 2.5

Formula Used:

Order of operations (BODMAS/BIDMAS):

1. Brackets

2. Orders (i.e., powers and square roots, etc.)

3. Division and Multiplication (left to right)

4. Addition and Subtraction (left to right)

Calculation:

=> 5 + 32 ÷ 2 + 6 × 2.5

=> 5 + 16 + 15

=> 5 + 16 + 15 = 36

The correct answer is option 2.

Q12. Answer: (c) 1,98,100

Given:

Average salary of 12 teachers = Rs. 71,400

Average salary of teachers, principal, and vice principal = Rs. 89,500

Formula Used:

Average Salary = Total Salary / Number of People

Calculation:

Total salary of 12 teachers = 12 × 71,400

Total salary of 12 teachers = Rs. 856,800

Total salary of teachers, principal, and vice principal = 14 × 89,500

Total salary of teachers, principal, and vice principal = Rs. 1,253,000

Let the total salary of the principal and vice principal be X.

Total salary of teachers, principal, and vice principal = Total salary of 12 teachers + X

1,253,000 = 856,800 + X

=> X = 1,253,000 - 856,800

=> X = Rs. 396,200

Average salary of principal and vice principal = 396,200 / 2

=> Average salary = Rs. 198,100

The average salary of the principal and vice principal is Rs. 198,100.

Q13. Answer: (c) π cm²

Given:

Big sphere radius = 7 cm

Number of small spheres = 2744

Formula Used:

Volume of a sphere = 4/3 π r^3

Surface area of a sphere = 4 π r^2

Calculation:

Volume of the big sphere = 4/3 π $(7)^3$

Volume of the big sphere = 4/3 π (343)

Volume of the big sphere = 1372/3 π

Volume of each small sphere = 1/2744 × 1372/3 π

Volume of each small sphere = (1372 π)/(3 × 2744)

Volume of each small sphere = (1372 π)/8232

Volume of each small sphere = (1 π)/6

Let the radius of each small sphere be r cm.

Volume of each small sphere = 4/3 π r^3

=> 4/3 π r^3 = 1/6 π

=> r^3 = 1/8

=> r = 1/2

Surface area of each small sphere = 4 π r^2

Surface area of each small sphere = 4 π $(1/2)^2$

Surface area of each small sphere = 4 π × 1/4

Surface area of each small sphere = π cm²

The surface area of each small sphere is π cm².

Q14. Answer: (b) 54 1/6 %

Shortcut Trick

Let the number of boys be 50 and girls be 70, making the total number of students 120.

Boys without scholarships = 60% of 50 = 30.

Girls without scholarships = 50% of 70 = 35.

Total students without scholarships = 30 + 35 = 65.

Required percentage = (65 ÷ 120) × 100 = 325 ÷ 6 = 54 ¹/6%.

Therefore The correct answer is 54 ¹/6%.

Alternate Method

Given:

Ratio of Boys to Girls = 5 : 7

Boys getting scholarships = 40%

Girls getting scholarships = 50%

Formula Used:

Percentage = (Favorable Value ÷ Total Value) × 100

Calculations:

Let the number of boys be 5x and the number of girls be 7x.

=> Total students = 5x + 7x = 12x

Since 40% of boys get scholarships, those who do not get scholarships = (100 − 40)% = 60%

=> Number of boys without scholarships = 60% of 5x = (60 ÷ 100) × 5x = 3x

Since 50% of girls get scholarships, those who do not get scholarships = (100 − 50)% = 50%

=> Number of girls without scholarships = 50% of 7x = (50 ÷ 100) × 7x = 3.5x

=> Total students without scholarships = 3x + 3.5x = 6.5x

=> Required percentage = (6.5x ÷ 12x) × 100

=> (65 ÷ 120) × 100 = 1300 ÷ 24 = 325 ÷ 6 = 54 ¹/6%

Therefore The correct answer is 54 ¹/6%.

Additional Information

Percentage Base Assumption

When working with ratios and percentages, assuming bases as multiples of 10 or 100 eliminates decimals and speeds up calculations significantly.

Complementary Percentage

If a certain percentage (P%) satisfies a condition, the remaining (100 − P)% does not. Directly calculating the required part saves an extra subtraction step.

Weighted Average

The combined percentage of multiple groups is essentially their weighted average: Combined % = (n1p1 + n2p2) ÷ (n1 + n2).

Q15. Answer: (c) Rs. 18,723.84

Given:

Raman paid Rs. 18,656 for a mobile phone after a single discount of 12%.

Formula Used:

1. Discounted Price = Original Price × (1 - Discount Rate)

2. Successive Discounts: Effective Discount = (1 - (1 - d1) × (1 - d2))

Calculation:

Let the original price of the mobile phone be P.

After a single discount of 12%, Raman paid Rs. 18,656.

So, Rs. 18,656 = P × (1 - 0.12)

=> P = Rs. 18,656 / 0.88

=> P = Rs. 21,200

Now, applying successive discounts of 4% and 8%:

First discount: Effective Price = P × (1 - 0.04)

=> Effective Price = Rs. 21,200 × 0.96

=> Effective Price = Rs. 20,352

Second discount: Final Price = Effective Price × (1 - 0.08)

=> Final Price = Rs. 20,352 × 0.92

=> Final Price = Rs. 18,723.84

The amount Raman would pay after successive discounts is Rs. 18,723.84.

Q16. Answer: (d) 79

Shortcut Trick

Identify prime numbers between 68 and 91: 71, 73, 79, 83, 89.

Total items (n) = 5. Assume base average = 80.

Net deviation = (71 − 80) + (73 − 80) + (79 − 80) + (83 − 80) + (89 − 80)

Net deviation = −9 − 7 − 1 + 3 + 9 = −5.

Average = 80 + (−5 ÷ 5) = 80 − 1 = 79.

Therefore The correct answer is 79.

Alternate Method

Given: Range for prime numbers is from 68 to 91.

Formula Used: Average = (Sum of all observations) ÷ (Total number of observations)

Identify all prime numbers between 68 and 91:

=> 71, 73, 79, 83, and 89.

=> Total count of prime numbers = 5.

=> Sum = 71 + 73 + 79 + 83 + 89.

=> Sum = 395.

=> Average = 395 ÷ 5.

=> Average = 79.

Therefore The correct answer is 79.

Additional Information

Prime Numbers

A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself. The only even prime number is 2.

Testing for Primality

To check if a number n is prime, test for divisibility by all prime numbers less than or equal to √n.

Average of a Set

The arithmetic mean is always located between the smallest and largest values of the data set. For a symmetric distribution, the average equals the median.

Q17. Answer: (d) Rs. 13,000

Shortcut Trick

Interest rate is 23% per annum.

Difference in time periods = 8 − 4 = 4 years.

Difference in interest percentage = 23% × 4 = 92%.

92% of the Sum = Rs. 11,960.

Sum = (11,960 ÷ 92) × 100 = 130 × 100 = Rs. 13,000.

Therefore The correct answer is Rs. 13,000.

Alternate Method

Given:

Rate (R) = 23% per annum

Time 1 (T1) = 4 years

Time 2 (T2) = 8 years

Difference in Simple Interest (SI2 − SI1) = Rs. 11,960

Formula Used:

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

Year 0 (P)

Year 4

Year 8

SI1 (92%)

SI2 (184%)

Diff = Rs. 11,960

Let the Sum (Principal) be P.

=> SI1 = (P × 23 × 4) ÷ 100 = 92P/100
=> SI2 = (P × 23 × 8) ÷ 100 = 184P/100
=> SI2 − SI1 = 11,960
=> (184P ÷ 100) − (92P ÷ 100) = 11,960
=> 92P ÷ 100 = 11,960
=> P = (11,960 × 100) ÷ 92
=> P = 130 × 100
=> P = Rs. 13,000
Therefore The correct answer is Rs. 13,000.
Additional Information
Amount in Simple Interest
The total amount A = P + SI = P(1 + RT/100), where P is the principal, R is rate, and T is time.
Principal Constant Property
In simple interest, the principal remains the same every year, and the interest earned each year is constant.
Rate and Time Proportionality
SI is directly proportional to the product of Rate and Time; doubling either results in doubling the interest.

Q18. Answer: (b) 1 min

Given:
Length of first train = 125 m
Length of second train = 175 m
Speed of first train = 40 km/h
Speed of second train = 22 km/h
Formula Used:
Time taken to pass each other completely = Total distance / Relative speed
Calculation:
Total distance = Length of first train + Length of second train
Total distance = 125 m + 175 m
Total distance = 300 m
Relative speed = Speed of first train - Speed of second train
Relative speed = 40 km/h - 22 km/h = 18 km/h
Convert relative speed into m/s:
Relative speed = 18 × (1000 / 3600) m/s
Relative speed = 5 m/s
Time taken to pass each other completely = Total distance / Relative speed
=> Time = 300 / 5
=> Time = 60 seconds = 1 min
The correct answer is option 2.

Q19. Answer: (a) 25.6

Given:
Speed of the boat in still water = 28 km/h
Speed of the stream = 4 km/h
Distance travelled downstream = 192 km
Stopping time = 1 hour
Formula Used:
Average speed = Total distance travelled / Total time taken
Calculation:
Speed downstream = (Speed of boat in still water + Speed of stream) = 28 + 4 = 32 km/h
Speed upstream = (Speed of boat in still water - Speed of stream) = 28 - 4 = 24 km/h
Time taken to travel downstream = Distance / Speed = 192 / 32
Time taken to travel downstream = 6 hours

Time taken to travel upstream = Distance / Speed = 192 / 24
Time taken to travel upstream = 8 hours
Total distance travelled = 192 km (downstream) + 192 km (upstream) = 192 + 192 = 384 km
Total time taken = Time taken to travel downstream + Stopping time + Time taken to travel upstream
Total time taken = 6 + 1 + 8
Total time taken = 15 hours
Average speed = Total distance travelled / Total time taken
Average speed = 384 / 15
=> Average speed = 25.6 km/h
The average speed of the boat is 25.6 km/h.

Q20. Answer: (b) 33 1/3 %

Given:
Cost Price (CP) = 75% of Selling Price (SP)
Formula Used:
Profit Percent = ((SP - CP)/CP) × 100
Calculation:
Let the Selling Price (SP) be 100 units.
Cost Price (CP) = 75% of SP
CP = 75% of 100 = 75
Profit = SP - CP
Profit = 100 - 75 = 25
Profit Percent = (25/75) × 100
Profit Percent = (1/3) × 100
Profit Percent = 33 1/3 %
The correct answer is option 2.

Q21. Answer: (b) Immediate left

Given:
A, B, C, D, E, F and G are sitting around a circular table facing the centre
1) F is sitting second to the left of B.
2) F is sitting third to the left of D.
3) B is sitting to the immediate right of E.
4) A is sitting third to the left of E.
5) A is sitting to the immediate right of G.
The final sitting arrangement is:
So, F is sits Immediate left of E.
Hence, the correct answer is "Option (2)".

Q22. Answer: (a) zt

According to the given information,
Here, we can see that the code for 'train' is 'zt'.
Hence, the correct answer is "Option (1)".

Q23. Answer: (d) [figure]

The image that replaces the question mark (?) in the following series is as shown below:-
• The figure rotates in a clockwise direction.
• The square becomes black and white alternate.
Hence, the correct answer is "Option 4".

Q24. Answer: (c) 38

Given Equation: 55 × 16 - 4 ÷ 7 + 3 = ?
BODMAS Rule:

Sign	•	•
Interchanged	×	÷

Now replacing the sign from left to right using BODMAS Rule, we get:
=> 55 + 16 ÷ 4 - 7 × 3
=> 55 + 4 - 21
=> 59 - 21
=> 38
Hence, the correct option is "Option 3".

Q25. Answer: (a) di

According to the given information,
Here, we can see that the code for 'puzzle' is 'di'.
Hence, the correct answer is "Option (1)".

Q26. Answer: (c) [figure]

The figure which will look like the paper when unfolded is shown below:
Thus, option Figure 3 will look like the paper when unfolded.
Hence, "Option 3" is the correct answer.

Q27. Answer: (c) IAFP

The logic followed here is:
HLQC is related to KOTF
And,
WTAN is related to ZWDQ
Similarly,
FXCM is related to
Hence, "Option 3" is the correct answer.

Q28. Answer: (b) 64

The logic follows here:
Hence, the correct answer is "Option (2)".

Q29. Answer: (c) 3

According to the given information,
Here, we can see that the code for 'F' is '3'.
Hence, the correct answer is "Option (3)".

Q30. Answer: (a) RWTY

The logic followed here is:
EJGL is related to INKP
And,
KPMR is related to OTQW
Similarly,
NSPU is related to
Hence, "Option 1" is the correct answer.

Q31. Answer: (b) V

Given:
P, Q, R, S, T, U and V are sitting around a circular table, facing towards the centre (but not necessarily in the same order).
1) S is sitting second to the right of P.
2) P is an immediate neighbour of both T and U.
3) S is not an immediate neighbour of U.
4) Immediate neighbours of R are U and Q.

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The final arrangement is:

So, 'V' is sitting to the immediate left of Q

Hence, the correct answer is "Option (2)".

Q32. Answer: (b) Only conclusion I follows

Draw the possible Venn diagram as per the statements.

Conclusions:

I. Some mocktails are juices → True (because all cocktails are mocktails and some cocktails are juices so, some cocktails are also juices)

II. Some juices are not cocktails → False (because It may be possible but not defined)

So, 'Only conclusion I follows'.

Hence, "Option (2)" is the correct answer.

Q33. Answer: (a) 36 and 28

Given equation: 36 ÷ 2 + 4 × 8 - 11 × 3 + 28 = 49

Let's check each option,

1) 36 and 28

→ 28 ÷ 2 + 4 × 8 - 11 × 3 + 36 = 49

→ 14 + 32 - 33 + 36 = 49

→ 49 = 49

→ LHS = RHS => Satisfies the equation.

2) 4 and 3

→ 36 ÷ 2 + 3 × 8 - 11 × 4 + 28 = 49

→ 18 + 24 - 44 + 28 = 49

→ 26 ≠ 49

→ LHS ≠ RHS

3) 2, and 4

→ 36 ÷ 4 + 2 × 8 - 11 × 3 + 28 = 49

→ 9 + 16 - 33 + 28 = 49

→ 20 ≠ 49

→ LHS ≠ RHS

4) 2 and 3

→ 36 ÷ 3 + 4 × 8 - 11 × 2 + 28 = 49

→ 12 + 32 - 22 + 28 = 49

→ 50 = 49

→ LHS ≠ RHS

Hence, the correct answer is "Option (1)"

Q34. Answer: (d) [figure]

The image that replaces the question mark (?) in the following series is as shown below:-

• The figure rotates in a clockwise direction.

• The dark side switches the front and back.

Hence, the correct answer is "Option 4".

Q35. Answer: (a) FJE

The logic followed here is:

Hence, "Option 1" is the correct answer.

Q36. Answer: (c) [figure]

The correct mirror image of the given figure is:

Hence, the correct answer is "Option 3".

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Q37. Answer: (c) 210

The logic follows here:

(1st number)^3 - 1st number = 2nd number.

Given;

3 is related to 24

=> 3^3 - 3 = 27 - 3 = 24

And,

4 is related to 60

=> 43 - 4 = 64 - 4 = 60

Similarly,

6 related is related to

=> 63 - 6 = 216 - 6 = 210

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

Q38. Answer: (d) Only conclusion I follows.

The least possible Venn diagram for the given statements is as shown below :

Conclusions:

I. No carrot is a tomato → True (because all carrots are onions and no onion is a tomato so, also no onion is a tomato)

II. All onions are carrots → False (because It may be possible but not defined)

So, Only conclusion I follows.

Hence, the correct answer is "Option 4".

Q39. Answer: (c) (14,2,28)

The logic follows here:

1st number × 2nd number = 3rd number.

Given;

(18, 3, 54)

=> 18 × 3 = 54 = 3rd number

And,

(21, 4, 84)

=> 21 × 4 = 84 = 3rd number

Similarly, In option (3): (14,2,28)

=> 14 × 2 = 28 = 3rd number

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

Q40. Answer: (b) zz

According to the given information,

Here, we can see that the code for 'jump' is 'zz'.

Hence, the correct answer is "Option (2)".

Q41. Answer: (b) 1 ohm

The correct answer is 1 ohm.

Key Points

• When resistors are connected in parallel, the total or effective resistance (R_(total)) decreases.

• The formula for the total resistance of resistors in parallel is given by 1/R_(total) = 1/R1 + 1/R2 + 1/R3 + 1/R4.

• For four resistors of 4 ohms each in parallel, the calculation is: 1/R_(total) = 1/4 + 1/4 + 1/4 + 1/4 = 4/4.

• Thus, R_(total) = 1 ohm.

Additional Information

• Series vs Parallel Circuits:

• In series circuits, resistors are connected end-to-end, resulting in an increase in total resistance.

• In parallel circuits, resistors are connected across the same two points, resulting in a decrease in total resistance.

• Ohm's Law:

• Ohm's Law states that V = IR, where V is the voltage, I is the current, and R is the resistance.

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• This law is fundamental in analyzing electrical circuits.
• Applications of Parallel Circuits:
• Used in household electrical wiring to ensure that appliances can operate independently.
• Common in electronic devices where components need to operate at the same voltage.
• Resistor Ratings:
• Resistors are rated based on their resistance value (in ohms) and their power rating (in watts).
• It is important to choose resistors with appropriate ratings to prevent overheating and damage.

Q42. Answer: (d) Junagarh

The correct answer is Junagarh.

Key Points

• The Bhavnath Mahadev Fair is an annual event held in Junagarh, Gujarat.
• This fair takes place at the Bhavnath Mahadev Temple, located at the foothills of the Girnar mountain.
• The fair is celebrated during the Mahashivratri festival, which usually falls in February or March.
• It attracts a large number of devotees, including the Naga Sadhus, who come to take a holy dip in the Mrigi Kund.
• The event features various cultural programs, religious rituals, and a procession of decorated elephants.

Additional Information

• Girnar Mountain:
• Girnar is a collection of mountains in the Junagadh District of Gujarat, India.
• It is considered a sacred site for both Hindus and Jains.
• The mountain hosts a number of temples, the most significant being the Neminath Temple and the Amba Mata Temple.
• Mahashivratri Festival:
• Mahashivratri is a Hindu festival celebrated annually in honor of Lord Shiva.
• It signifies the convergence of divine powers and the end of darkness and ignorance.
• Devotees observe fasting, chanting, and night-long vigils during this festival.
• Naga Sadhus:
• Naga Sadhus are a sect of Hindu ascetics who renounce all material possessions.
• They are known for their austere lifestyle and participation in religious events like the Kumbh Mela.
• They usually remain unclothed and cover their bodies with ash.
• Mrigi Kund:
• Mrigi Kund is a sacred water tank located near the Bhavnath Mahadev Temple.
• It is believed that a dip in this tank during the Bhavnath Fair purifies the soul.
• The tank is also associated with various religious legends and myths.

Q43. Answer: (c) 7 years

The correct answer is 3) 7 years.

Key Points

• As per the 2001 Census of India, a person aged 7 years and above who can read and write with understanding in any language is considered literate.
• The literacy rate is calculated by considering the population aged 7 years and above.
• Literacy has been a key focus area for the Indian government to improve educational outcomes.
• The 2001 Census marked a significant improvement in literacy rates compared to previous decades.
• The Census data is used to assess the impact of educational policies and programs.

Additional Information

• Literacy Definition:
• Literacy is the ability to read and write with understanding in any language.
• It is a crucial indicator of educational development in a country.
• Importance of Literacy:
• Literacy is vital for social and economic development.
• It empowers individuals and improves quality of life.
• Literacy Programs in India:
• Numerous government initiatives aim to improve literacy rates, such as the National Literacy Mission.

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• Programs like Sarva Shiksha Abhiyan focus on universalizing elementary education.
• Data Collection in Census:
• The Census collects data on various demographic, social, and economic parameters.
• Literacy rate is one of the key statistics derived from Census data.

Q44. Answer: (b) Seismic Gap

The correct answer is Seismic Gap.

Key Points

• A seismic gap is a section of an active fault that has not experienced a recent earthquake but is believed to be capable of producing one based on historical seismic activity.
• This concept is used in earthquake prediction models to identify areas that may be at higher risk of future earthquakes.
• Seismic gaps are identified by comparing the timing and magnitude of past earthquakes along a fault line.
• Regions identified as seismic gaps often undergo detailed monitoring to better understand the potential for future seismic activity.

Additional Information

• Hypocenter: The point within the Earth where an earthquake rupture starts. It is located beneath the Earth's surface.
• Epicenter: The point on the Earth's surface directly above the hypocenter. It is the location where the earthquake is felt most strongly.
• Seismic Waves: Waves of energy that travel through the Earth as a result of an earthquake. These include primary (P) waves, secondary (S) waves, and surface waves.
• Active Fault: A fault that has had recent movements and is expected to produce earthquakes in the future. These faults are often the focus of seismic hazard assessments.

Q45. Answer: (a) 1972

The correct answer is 1972.

Key Points

• The Wildlife Protection Act was enacted by the Indian Parliament in 1972.
• The Act provides for the protection of wild animals, birds, and plants and matters connected with them, with a view to ensuring the ecological and environmental security of India.
• The Act includes provisions for the creation of protected areas such as national parks and wildlife sanctuaries to conserve wildlife.
• It also regulates hunting, trade, and commerce in wild animals, animal products, and trophies.
• The Act has been amended multiple times to make the protection measures more stringent.

Additional Information

• National Parks and Wildlife Sanctuaries:
• India has over 100 national parks and more than 500 wildlife sanctuaries.
• Kanha National Park, Jim Corbett National Park, and Kaziranga National Park are some of the prominent ones.
• Project Tiger:
• Launched in 1973, Project Tiger is a major wildlife conservation initiative.
• It aims to protect tigers and their habitats.
• Conservation Reserves:
• These are designated areas that act as buffer zones between established protected areas and human settlements.
• They help in maintaining the ecological balance.
• Important Amendments:
• The Act has been amended in 1982, 1986, 1991, 2002, and 2006 to strengthen the legal framework for wildlife protection.
• The 2002 Amendment led to the establishment of the National Board for Wildlife.

Q46. Answer: (c) Chhattisgarh

The correct answer is Chhattisgarh.

Key Points

• Tribhuvaneshwar Saran Singh Deo was appointed as the Deputy Chief Minister of Chhattisgarh in July 2023.
• This decision was made as part of the state’s political restructuring ahead of the upcoming legislative assembly elections.
• He previously served as the Health Minister and has been a significant figure in the state’s politics.
• His appointment is seen as a strategic move to strengthen the party’s position in the region.

Additional Information

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• Chhattisgarh:
• Chhattisgarh is a state located in central India, known for its rich cultural heritage and mineral resources.
• The state was formed on November 1, 2000, after being separated from Madhya Pradesh.
• Raipur is the capital city of Chhattisgarh.
• The state is divided into 28 districts and has a legislative assembly with 90 seats.
• Political Landscape:
• Chhattisgarh has a multi-party political system, with the Indian National Congress (INC) and the Bharatiya Janata Party (BJP) being the two major parties.
• The state has seen significant political activity and leadership changes over the years.
• Tribhuvaneshwar Saran Singh Deo:
• He is a prominent politician from Chhattisgarh and a member of the Indian National Congress.
• He has served in various capacities, including Health Minister and now Deputy Chief Minister.
• He is known for his contributions to the state's healthcare sector.

Q47. Answer: (b) Darjeeling Hills

The correct answer is Darjeeling Hills.

Key Points

• The Mahananda River originates from the Darjeeling Hills in the Indian state of West Bengal.
• It flows through the states of West Bengal and Bihar in India and also through parts of Bangladesh.
• The river ultimately joins the Ganga River near the town of Godagari in Bangladesh.
• The Mahananda River plays a crucial role in irrigation and agriculture in the regions it traverses.
• This river is part of the larger Ganga Basin, which is one of the most important river basins in India.

Additional Information

• Darjeeling Hills:
• Located in the eastern Himalayas, Darjeeling is known for its stunning vistas, tea gardens, and colonial architecture.
• The region is famous for the Darjeeling Himalayan Railway, a UNESCO World Heritage Site.
• It has a diverse range of flora and fauna, owing to its varying altitudes and climate.
• Ganga River Basin:
• The Ganga Basin is the most fertile and densely populated river basin in the world.
• It supports a population of around 400 million people in India.
• The Ganga River is considered sacred in Hinduism and is a lifeline for millions of people.
• Irrigation and Agriculture:
• Rivers like the Mahananda are crucial for irrigation in the agricultural sectors of West Bengal and Bihar.
• The river's water is used to grow crops such as rice, wheat, and sugarcane.
• Tributaries of the Ganga:
• The Ganga has numerous tributaries, including the Yamuna, Ghaghara, Gandak, and Kosi rivers.
• These tributaries play a vital role in maintaining the flow and health of the Ganga River.

Q48. Answer: (b) Kabbadi

The correct answer is Kabbadi.

Key Points

• Kabbadi is a traditional team sport that originated in ancient India.
• The game is a combination of wrestling and tag, and it is primarily popular in rural areas of the Indian subcontinent.
• Kabbadi is recognized as the national sport of Bangladesh and is also played extensively in countries like Nepal, Pakistan, and Iran.
• The sport is governed by the International Kabaddi Federation (IKF) and is included in the Asian Games.

Additional Information

• Basic Rules:
• The game is played between two teams of seven players each, with each match consisting of two 20-minute halves.
• The objective is for a single player, known as a "raider," to tag members of the opposing team and return to their half without being tackled.
• Types of Kabaddi:
• There are different forms of kabaddi such as Sanjeevani, Gaminee, and Amar.

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• The most popular format in international competitions is the standard style, which is played on a rectangular court.
• Popularity:
• Kabaddi has gained international popularity through leagues such as the Pro Kabaddi League in India.
• The sport is also part of school curriculums and local tournaments across India.
• Historical Significance:
• Kabaddi is believed to have been practiced as a form of physical exercise and recreation in ancient India.
• The game has cultural and historical significance, often associated with the Mahabharata and other Indian epics.

Q49. Answer: (d) Flavonoids

The correct answer is Flavonoids.

Key Points

• Flavonoids are a diverse group of phytonutrients found in almost all fruits and vegetables.
• These compounds are known for their antioxidant properties and play a crucial role in protecting the body against various diseases.
• Flavonoids are responsible for the vibrant colors of many fruits and vegetables.
• They have been linked to numerous health benefits including improved heart health, reduced inflammation, and enhanced immune function.
• Common dietary sources of flavonoids include apples, berries, onions, tea, and dark chocolate.

Additional Information

• Types of Flavonoids:
• Flavonols: Found in onions, kale, and broccoli.
• Flavan-3-ols: Present in tea, grapes, and cocoa.
• Anthocyanins: Provide red, purple, and blue colors to berries.
• Antioxidant Properties: Flavonoids help neutralize harmful free radicals in the body, reducing oxidative stress and preventing cell damage.
• Anti-Inflammatory Effects: These compounds can inhibit the production of pro-inflammatory molecules, thus aiding in the reduction of inflammation.
• Cardiovascular Health: Regular consumption of flavonoid-rich foods is associated with lower blood pressure, improved cholesterol levels, and reduced risk of heart disease.
• Potential Cancer Prevention: Some studies suggest that flavonoids may help in protecting against certain types of cancer by inhibiting tumor growth and promoting apoptosis in cancer cells.

Q50. Answer: (b) Kerala

The correct answer is Kerala.

Key Points

• The Moplah Uprising, also known as the Mappila Rebellion, occurred in the Malabar region of Kerala in 1921.
• This rebellion was led by the Mappila Muslims of Kerala, who were primarily tenants and cultivators.
• The uprising was a reaction against British colonial rule and the oppressive practices of landlords.
• The rebellion saw widespread violence and was one of the significant peasant movements in the Indian independence struggle.
• It was part of the larger Khilafat Movement and Non-Cooperation Movement against British rule in India.

Additional Information

• Khilafat Movement:
• A pan-Islamist political campaign launched by Muslims in British India to influence the British government not to abolish the Ottoman Caliphate.
• It was led by prominent Muslim leaders like Maulana Mohammad Ali and Shaukat Ali.
• Non-Cooperation Movement:
• Launched by Mahatma Gandhi in 1920, this was a mass protest against British rule.
• It aimed at inducing the British government to grant self-governance to India.
• Malabar Region:
• Located in the northern part of Kerala, the Malabar region was historically significant due to its trading ports.
• It was a major center for the spice trade and saw various foreign influences over centuries.
• Tenant Farming:
• A system where farmers cultivate land owned by another and pay rent in the form of cash or a portion of the produce.

• In the Malabar region, the oppressive practices by landlords led to widespread discontent among tenant farmers.

Q51. Answer: (a) Hydroelectricity

The correct answer is Hydroelectricity.

Key Points

• The Salal Dam, also known as Salal Hydroelectric Power Station, is primarily used for generating hydroelectric power.

• It is located on the Chenab River in the Reasi district of Jammu and Kashmir, India.

• The dam has an installed capacity of 690 megawatts, providing significant power to the region.

• The construction of the Salal Dam was completed in two stages, with Stage I completed in 1987 and Stage II in 1995.

Additional Information

• Chenab River:

• The Chenab River is one of the major rivers in the Indian subcontinent, flowing through India and Pakistan.

• It originates from the confluence of the Chandra and Bhaga rivers in the Lahaul and Spiti districts of Himachal Pradesh, India.

• The river is a key source of irrigation and hydroelectric power in the region.

• Hydroelectric Power:

• Hydroelectric power is generated by using the energy of flowing water to turn turbines connected to generators.

• It is a renewable and clean source of energy, contributing significantly to reducing carbon emissions.

• Hydroelectric power plants can provide reliable and consistent power supply, especially in regions with abundant water resources.

• Reasi District:

• Reasi is a district in the Union Territory of Jammu and Kashmir, known for its scenic beauty and religious significance.

• The district is home to several important hydropower projects, including the Salal Dam.

• Reasi is also a popular tourist destination, attracting visitors to places like Vaishno Devi and Shiv Khori.

• Energy Infrastructure in Jammu and Kashmir:

• Jammu and Kashmir have several hydroelectric projects, contributing significantly to the region's power supply.

• These projects are crucial for meeting the energy demands of the area and for economic development.

• The region's topography and water resources make it an ideal location for hydroelectric power generation.

Q52. Answer: (b) Prof. Muhammad Yunus

The correct answer is Prof. Muhammad Yunus.

Key Points

• Prof. Muhammad Yunus is the founder of the Grameen Bank and is credited with developing the Grameen model of microfinance.

• The Grameen model focuses on providing microloans to the impoverished without requiring collateral.

• This model has been instrumental in lifting millions out of poverty, particularly in rural Bangladesh.

• Prof. Yunus was awarded the Nobel Peace Prize in 2006 for his efforts through the Grameen Bank to create economic and social development from below.

• The Grameen model has inspired similar microfinance institutions worldwide, promoting financial inclusion.

Additional Information

• Microfinance:

• Microfinance is a type of banking service provided to unemployed or low-income individuals who otherwise would not have access to financial services.

• It includes microloans, savings, insurance, and payment systems.

• Microfinance aims to support entrepreneurship and alleviate poverty.

• Grameen Bank:

• Established in 1983 by Prof. Muhammad Yunus in Bangladesh.

• The bank operates on the principle of trust, offering small loans to the impoverished without requiring collateral.

• It primarily targets women, who constitute about 97% of its borrowers.

• Nobel Peace Prize 2006:

• Prof. Muhammad Yunus and the Grameen Bank jointly won the Nobel Peace Prize in 2006.

• The prize recognized their efforts to create economic and social development from below.

• Financial Inclusion:

• Financial inclusion refers to efforts to make financial products and services accessible and affordable to all individuals and

businesses, regardless of their net worth or size.

• It is a key driver for reducing poverty and boosting prosperity.

Q53. Answer: (a) Bandi Singhs

The correct answer is Bandi Singhs.

Key Points

• Bandi Singhs is a term used to refer to Sikh prisoners who have been jailed for a long duration, specifically those who were imprisoned during the period of militancy in Punjab in the 1980s and 1990s.

• In February 2023, there were significant protests in Punjab demanding the release of these prisoners, as many have been incarcerated for over 30 years.

• The term "Bandi Singhs" translates to "Imprisoned Sikhs" in English.

• The protests highlight the ongoing tensions and demands for justice and human rights for those who have been imprisoned for extended periods.

Additional Information

• Sikh Militancy in Punjab: The period of militancy in Punjab during the 1980s and early 1990s was marked by a violent insurgency seeking an independent Sikh state, called Khalistan.

• Operation Blue Star: A military operation carried out in June 1984 to remove Sikh militants who were amassing weapons in the Golden Temple in Amritsar.

• Human Rights Concerns: The long-term imprisonment of individuals involved in the militancy has raised significant human rights concerns, including calls for fair trials and justice.

• Political Impact: The issue of Bandi Singhs continues to have a substantial political impact in Punjab, influencing public opinion and electoral politics.

• Legal Framework: The legal framework involving the imprisonment of these individuals often includes charges under the Terrorist and Disruptive Activities (Prevention) Act (TADA), which has been criticized for its stringent provisions.

Q54. Answer: (b) Michael Phelps

The correct answer is Michael Phelps.

Key Points

• Michael Phelps is a former competitive swimmer from the United States.

• He is the most decorated Olympian of all time with a total of 28 medals.

• Phelps published his autobiography, 'Beneath the Surface: My Story', which gives an insight into his life and career.

• The book covers his journey, including his struggles with mental health and his achievements in swimming.

Additional Information

• Michael Phelps' Achievements:

• Phelps has won 23 gold medals, 3 silver, and 2 bronze medals in the Olympics.

• He holds the record for the most Olympic gold medals in individual events (13).

• Mental Health Advocacy:

• Phelps has been open about his struggles with depression and anxiety.

• He is an advocate for mental health awareness and has spoken publicly about the importance of seeking help.

• Philanthropy:

• He established the Michael Phelps Foundation in 2008.

• The foundation focuses on promoting water safety, healthy living, and the pursuit of dreams.

• Other Publications:

• In addition to 'Beneath the Surface', Phelps has also published another book, 'No Limits: The Will to Succeed'.

• 'No Limits' provides a deeper look into his training regimen and mindset during his competitive years.

Q55. Answer: (d) Islam

The correct answer is Islam.

Key Points

• Islam is the state religion of Bangladesh, as declared in the Constitution of Bangladesh.

• According to the 2011 census, over 90% of the population in Bangladesh practices Islam.

• Islam was declared the state religion in the 8th amendment of the Constitution in 1988.

• Muslims in Bangladesh predominantly follow the Sunni branch of Islam.

• Islamic holidays like Eid-ul-Fitr and Eid-ul-Adha are national holidays in Bangladesh.

Additional Information

• Secularism in Bangladesh:

• Despite Islam being the state religion, Bangladesh is constitutionally a secular country.

• The Constitution assures the right to practice other religions freely.

• Religious Minorities:

• Hinduism is the second-largest religion in Bangladesh, followed by Buddhism and Christianity.

• Minority religions have their own festivals and places of worship.

• Historical Context:

• Before the partition of India in 1947, the region had a significant Hindu population.

• Post-independence from Pakistan in 1971, Bangladesh retained a significant Muslim identity.

• Islamic Culture:

• Islamic culture deeply influences the social and cultural fabric of Bangladesh.

• Islamic education and institutions play a significant role in society.

Q56. Answer: (b) Brihatkatha Kosh

The correct answer is Brihatkatha Kosh.

Key Points

• Brihatkatha Kosh was authored by Harisenacharya.

• The work is significant in the genre of Sanskrit literature.

• It is considered one of the important texts in classical Indian narratives.

• Harisenacharya's contribution through this work provides insights into the cultural and social aspects of his time.

Additional Information

• Rajatarangini

• Authored by Kalhana, it is a historical chronicle of the north-western Indian subcontinent, particularly the kings of Kashmir.

• Brihat Katha Manjari

• Written by Kshemendra, it is an abridged version of the Brihatkatha, a large collection of stories attributed to Gunadhya.

• Lilavati

• A treatise on mathematics written by the Indian mathematician Bhaskara II, which deals with arithmetic, algebra, and geometry.

• Sanskrit Literature

• Is one of the oldest literatures in the world, consisting of a vast body of texts in the Sanskrit language.

• Includes a wide range of works such as epics, hymns, philosophical treatises, poetry, drama, and scientific texts.

• Important texts include the Vedas, Upanishads, Mahabharata, Ramayana, and various other Shastras.

Q57. Answer: (a) A war hero

The correct answer is Option 1.

Key Points

• In the Rig Vedic period, the term 'Senani' referred to a military leader or a war hero.

• The Senani was responsible for leading the armed forces in battles and ensuring the protection of the tribe.

• The role of Senani was crucial as warfare was a significant aspect of the Rig Vedic society.

• The Senani held a respected position in the tribal hierarchy and was often involved in planning and executing military strategies.

Additional Information

• Rig Vedic Society: The Rig Vedic society was predominantly pastoral and agrarian, with a strong emphasis on warfare and defense.

• Tribal Organization: The society was organized into tribes led by chiefs known as 'Rajas' who were supported by various officials including the Senani.

• Warfare: Warfare was common among tribes for control over resources and territory, making the role of Senani vital.

• Military Strategy: The Senani was involved in devising strategies, training warriors, and leading them into battles to protect and expand their tribe's influence.

Q58. Answer: (b) Champaran

The correct answer is Champaran.

Key Points

• The Champaran Satyagraha was the first Satyagraha movement led by Mahatma Gandhi in India.

• It took place in 1917 in the Champaran district of Bihar.
• The movement was aimed at addressing the grievances of indigo farmers who were forced to grow indigo under oppressive conditions by British planters.
• Gandhiji employed non-violent civil disobedience and mobilized the local peasants to protest against the exploitative system.
• This movement marked the beginning of Gandhiji's active involvement in the Indian independence struggle.

Additional Information

• Indigo Cultivation:
• Indigo was a significant cash crop during British rule, primarily used for dyeing textiles.
• Farmers were coerced into growing indigo on a portion of their land, often leading to severe financial losses and indebtedness.
• Non-Violent Resistance:
• Gandhiji's strategy of non-violent resistance, also known as Satyagraha, was based on the principles of truth and non-violence.
• This approach aimed to bring about social and political change through peaceful means.
• Impact of Champaran Satyagraha:
• The success of the Champaran Satyagraha boosted the confidence of Indian farmers and peasants in the effectiveness of non-violent protest.
• It also helped in highlighting the plight of the indigo farmers at a national level, garnering support for their cause.
• Subsequent Movements:
• Following the Champaran Satyagraha, Gandhiji led several other significant movements like the Kheda Satyagraha, Ahmedabad Mill Strike, and the Non-Cooperation Movement.
• These movements played crucial roles in India's fight for independence from British rule.

Q59. Answer: (a) Mame Khan

The correct answer is Mame Khan.

Key Points

• Mame Khan is a renowned Rajasthani folk singer known for his work in the Manganiyar tradition.
• He became the first Indian folk artist to walk the Cannes red carpet in May 2022.
• Mame Khan was part of the Indian delegation led by Information and Broadcasting Minister Anurag Thakur.
• His participation highlighted the rich cultural heritage of India on a global platform like Cannes.
• Mame Khan has previously contributed to several Bollywood soundtracks and international music festivals.

Additional Information

• Cannes Film Festival:
• One of the most prestigious film festivals in the world, held annually in Cannes, France.
• It showcases new films of all genres, including documentaries, from around the world.
• It was founded in 1946 and is known for its Palme d'Or award.
• Manganiyar Tradition:
• A community of Muslim folk musicians from Rajasthan, known for their storytelling through music.
• Their performances often include instruments like the khartal, dholak, and kamaicha.
• They have a rich repertoire of traditional songs passed down through generations.
• Bollywood Contributions:
• Mame Khan has lent his voice to popular Bollywood films such as "Luck By Chance" and "No One Killed Jessica".
• His unique folk style has brought an authentic regional flavor to these soundtracks.
• International Recognition:
• In addition to Cannes, Mame Khan has performed at various international music festivals.
• His work has helped promote Rajasthani folk music on global stages.

Q60. Answer: (c) Odissi

The correct answer is Odissi.

Key Points

• Sonal Mansingh is one of the most renowned proponents of Odissi dance, a classical dance form from the state of Odisha, India.
• She has been instrumental in bringing Odissi dance to the forefront of the Indian classical dance scene.
• Her performances are noted for their expressive storytelling, intricate footwork, and deep emotional connect.
• Sonal Mansingh has received numerous awards and accolades for her contributions to Indian dance, including the Padma Vibhushan, India's second-highest civilian award.

Additional Information

• Odissi Dance:

• Odissi is one of the oldest surviving dance forms of India, with origins tracing back to the temples of Odisha in eastern India.

• The dance form is characterized by its fluid movements, graceful gestures, and elaborate costumes.

• Odissi traditionally depicts religious stories and spiritual ideas, particularly related to the Hindu deities Krishna and Shiva.

• Sonal Mansingh:

• Besides Odissi, she is also well-versed in Bharatnatyam, another classical Indian dance form.

• She founded the Centre for Indian Classical Dances (CICD) in New Delhi to promote and teach Indian classical dance.

• Her work extends beyond dance, as she is also an acclaimed speaker and social activist.

• Recognition and Awards:

• Sonal Mansingh was awarded the Padma Bhushan in 1992 and the Padma Vibhushan in 2003 for her contributions to the arts.

• She was nominated to the Rajya Sabha, the upper house of India's Parliament, in 2018.

• Odissi Dance Terminologies:

• Chauka: A basic stance in Odissi representing Lord Jagannath.

• Tribhangi: A posture that divides the body into three bends, a hallmark of Odissi dance.

Q61. Answer: (d) Hundred

The correct answer is Hundred.

Key Points

• The Union List is one of the three lists in the Seventh Schedule of the Indian Constitution that outlines the subjects on which the Union Government has exclusive powers to legislate.

• As of May 2024, the Union List consists of 100 subjects.

• These subjects include areas like defense, foreign affairs, atomic energy, and railways.

• The Union List is specified in Article 246 of the Indian Constitution.

• Any subject not mentioned in the Union List, State List, or Concurrent List falls under the exclusive jurisdiction of the Union Government.

Additional Information

• Seventh Schedule:

• The Seventh Schedule of the Indian Constitution divides the powers and functions between the Union and State governments through three lists: Union List, State List, and Concurrent List.

• State List:

• The State List contains subjects on which only the state governments can legislate. As of May 2024, it consists of 61 subjects.

• Concurrent List:

• The Concurrent List includes subjects on which both the Union and State governments can legislate. It contains 52 subjects as of May 2024.

• Article 246:

• Article 246 of the Indian Constitution defines the distribution of legislative powers between the Union and the States. It describes the Union List, State List, and Concurrent List.

• Residuary Powers:

• Any subject not enumerated in any of the three lists falls under the residuary powers, which are exclusively with the Union Government as per Article 248.

Q62. Answer: (c) Sattriya

The correct answer is Sattriya.

Key Points

• Anita Sharma is a renowned exponent of the Sattriya dance form, which is one of the eight classical dance forms of India.

• Sattriya originated in the state of Assam and was introduced by the Vaishnavite saint Sankardev in the 15th century.

• This dance form is traditionally performed in Sattras (monasteries) as a part of the devotional services.

• Anita Sharma has significantly contributed to the promotion and preservation of Sattriya through her performances and teachings.

Additional Information

• Odissi:

• It is one of the oldest classical dance forms of India, originating from the state of Odisha.

• Odissi is known for its sculptural poses and fluidity of movements.
• This dance form is traditionally performed to Odia music.
• Mohiniyattam:
• Mohiniyattam is a classical dance form from the state of Kerala.
• It is characterized by graceful, swaying body movements and is usually performed by women.
• This dance form is performed to the accompaniment of Carnatic music.
• Kathakali:
• Kathakali is a classical dance-drama form from Kerala.
• It is known for its elaborate costumes, intricate makeup, and face masks.
• Kathakali performances are based on themes from Hindu epics like the Ramayana and Mahabharata.
• Sattriya:
• Sattriya dance is a major Indian classical dance form that originated in the Vaishnavite monasteries of Assam.
• It was introduced by the Bhakti saint Sankardev as a medium for the propagation of the Vaishnavism.
• The dance form integrates drama, dance, and music to narrate mythological tales and is performed by male monks called Bhakats.

Q63. Answer: (a) Bombing-out

The correct answer is Bombing-out.

Key Points

• Bombing-out in weightlifting refers to an athlete failing to complete a successful lift in all three attempts of either the snatch or the clean and jerk.
• If an athlete bombs out, they do not register a total score for the competition.
• This situation is highly disappointing and can result in disqualification from the event.
• Bombing out can happen due to various reasons, including technical errors, lack of proper technique, or psychological factors.

Additional Information

• Snatch: A single, continuous movement to lift the barbell from the ground to overhead.
• Clean and Jerk: A two-part movement where the barbell is first lifted to the shoulders (clean) and then overhead (jerk).
• Red Light: An indicator used by judges to signify a failed attempt.
• White Light: An indicator used by judges to signify a successful attempt.
• Technical Error: Mistakes in the execution of the lift, which can lead to unsuccessful attempts and potentially bombing out.

Q64. Answer: (b) Both a and b

The correct answer is 2) Both a and b.

Key Points

• Viharas were ancient Buddhist monasteries consisting of a central hall, verandas, and cells for monks, typically arranged around the walls of the hall.
• Ajanta and Nashik caves are notable examples of Vihara architecture, showcasing intricate carvings and paintings.
• Viharas served as both residential and religious centers for Buddhist monks, facilitating meditation and learning.
• These structures were often rock-cut and found in regions like Maharashtra, demonstrating advanced ancient Indian rock-cut architecture.

Additional Information

• Rock-cut Architecture: This refers to structures carved directly into natural rock formations, a prominent feature in ancient Indian architecture.
• Ajanta Caves: Located in Maharashtra, these caves are famous for their exquisite murals and sculptures depicting Buddhist themes.
• Nashik Caves: Also known as Pandavleni Caves, these are a group of 24 caves carved between the 2nd century BCE and the 6th century CE, reflecting significant Buddhist influence.
• Buddhist Monastic Life: Monks resided in Viharas, where they engaged in religious study, meditation, and communal living, adhering to strict monastic codes.
• Historical Significance: Viharas played a crucial role in the spread of Buddhism, serving as centers of learning and pilgrimage during ancient times.

Q65. Answer: (d) Annelida

The correct answer is Option 4: Annelida.

Key Points

• Leeches belong to the phylum Annelida, which is characterized by segmented bodies.

• Annelids, commonly known as segmented worms, include earthworms, leeches, and polychaetes.

• Leeches are mostly found in freshwater environments, though some species live in terrestrial and marine habitats.

• The class Hirudinea includes leeches, which are known for their use in medicine, particularly for their anticoagulant properties.

Additional Information

• Phylum Annelida:

• Annelida is a large phylum of segmented worms, which includes approximately 17,000 species.

• Annelids have bilateral symmetry and a true coelom (body cavity).

• They possess a hydrostatic skeleton that aids in movement and flexibility.

• Leech Anatomy:

• Leeches have a flattened body with 34 segments.

• They possess two suckers, one at each end of their body, used for attachment and movement.

• Many leeches have specialized structures for feeding, including jaws and pharyngeal glands.

• Medical Use of Leeches:

• Leeches have been used in medicine for centuries, primarily for bloodletting and to stimulate circulation.

• Their saliva contains anticoagulants, anesthetics, and vasodilators, making them useful in modern microsurgery and reconstructive surgery.

• Reproduction in Annelids:

• Most annelids reproduce sexually, and some species are hermaphroditic (possessing both male and female reproductive organs).

• Leeches typically lay eggs in cocoons, which are deposited in the environment.

Q66. Answer: (c) Angered

The solution is in Hindi. Read it online.

Q67. Answer: (b) A

The correct option is: 2) A

Key Points

• Option A: "The cyclone broke the window." This sentence correctly uses the transitive verb "broke," where "the cyclone" is the subject, "broke" is the transitive verb, and "the window" is the object of the verb. A transitive verb requires an object to complete its meaning, and here the window is the object that is being affected by the action of the verb "broke."

• Option B: "The window broke." This sentence uses the intransitive form of "break" because it does not have an object. The verb "broke" in this sentence is used intransitively to describe the window itself breaking, without any external agent causing the action. Therefore, this is not the correct choice when looking for a transitive verb form.

• Option C: "The cyclone caused the braking of window." This sentence attempts to use "braking" in a way that isn't grammatically correct in the context of the verb "break." The phrase "caused the braking" is awkward and unnatural, making this option incorrect.

• Option D: "The cyclone caused the broken window." This sentence uses a passive structure ("broken window"), which is not an example of a transitive verb. The phrase "caused the broken window" incorrectly uses the past participle form "broken" as an adjective, but it doesn't reflect the transitive verb "break."

Thus, Option A is the correct answer because it uses "broke" as a transitive verb with an object, which is the requirement in this case.

Q68. Answer: (a) exponenteal

The solution is in Hindi. Read it online.

Q69. Answer: (b) engage

The solution is in Hindi. Read it online.

Q70. Answer: (b) By the time we arrived at the party, they had been waiting for over an hour.

The correct option is: 2) By the time we arrived at the party, they had been waiting for over an hour.

Key Points

• Option 2 is grammatically correct because it uses the correct tense sequence.

• The phrase "By the time we arrived" uses the past simple tense, which is appropriate for an action that is completed before

another action in the past.

• The phrase "they had been waiting" uses the past perfect continuous tense, indicating that their waiting started earlier and continued until the time we arrived.

• This combination of past simple and past perfect continuous is the correct way to show the sequence of events.

Therefore, the correct answer is: By the time we arrived at the party, they had been waiting for over an hour.

Additional Information

• Why the other options are incorrect:

• Option 1: "By the time we arrive at the party, they had been waiting for over an hour."

• This option incorrectly uses the present tense "arrive" instead of the past tense "arrived." Since the sentence talks about an event that happens before another event in the past, the past tense "arrived" is required.

• Option 3: "By the time we arrives at the party, they had been waiting for over an hour."

• This option incorrectly uses "arrives", which is the present tense form for a singular subject (e.g., "he/she arrives"). Since the subject "we" is plural, the correct form should be "arrived" (past tense).

• Option 4: "By the time we arriving at the party, they had been waiting for over an hour."

• This option incorrectly uses "arriving", which is the present participle form. To show a completed action in the past, the correct form is "arrived" (past simple).

Q71. Answer: (c) despise poor.

The correct answer is Option 3.

Key Points

• The primary issue in the sentence is the omission of the article "the" before the term "poor."

• When referring to a specific group of people in a general sense, such as "the poor," an article is necessary.

• The correct phrase should be "despise the poor," ensuring grammatical correctness and clarity.

Therefore, the correct answer is Option 3.

Correct Sentence: "It is a common perception that the rich sometimes despise the poor."

Q72. Answer: (c) Freezing

The solution is in Hindi. Read it online.

Q73. Answer: (a) most intelligent

The correct option is: 1) most intelligent.

Key Points

• The sentence is structured to convey that Prem is not just intelligent but the most intelligent in the entire class.

• This means that out of all the students, Prem stands out as the one with the highest degree of intelligence.

• When we are comparing more than two things or expressing the extreme degree of a particular quality, we use the superlative form of the adjective.

• Example: Among all the athletes, John is the most skilled.

• Similarly, in this question, "Most intelligent" indicates that Prem is at the highest level of intelligence compared to all other students in the class.

Hence, the correct answer is: Prem is an excellent chess player. He is the most intelligent student of the class too.

Additional Information

• Why Other Options Are Incorrect:

• Option 2: intelligently – This is an adverb, and it modifies a verb, adjective, or another adverb. The sentence needs an adjective to describe Prem, not an adverb. So "intelligently" would not be grammatically appropriate.

• Option 3: intelligent – This is the positive form of the adjective. It only describes Prem as being intelligent but doesn't convey the idea that he is the best or most intelligent in comparison to others. It lacks the superlative quality that is essential for the intended meaning.

• Option 4: more intelligent – This is the comparative form, used to compare two things or people. The sentence, however, is not comparing Prem to one other person but rather stating that Prem is the top student among all others. So, the comparative form is inappropriate here.

Q74. Answer: (d) Quiet

The solution is in Hindi. Read it online.

Q75. Answer: (c) cenotaphs

The solution is in Hindi. Read it online.

Q76. Answer: (d) as he worked hardly

The correct answer is Option 4.

Key Points

• The primary issue in the sentence is the misuse of the word "hardly" instead of "hard."

• The word "hardly" means "barely" or "almost not," which is not the intended meaning in this context.

• The correct word should be "hard," to indicate that Sushil put in a lot of effort throughout the year.

Therefore, the correct answer is Option 4.

Correct Sentence: "Sushil, who recently joined our school, was awarded the Gold Cup as he worked hard throughout the year.

Q77. Answer: (c) between a rock and a hard place

The solution is in Hindi. Read it online.

Q78. Answer: (a) absolutely

The solution is in Hindi. Read it online.

Q79. Answer: (d) a person or thing that is easy to learn about and understand

The solution is in Hindi. Read it online.

Q80. Answer: (d) Regardless

The solution is in Hindi. Read it online.

Q81. Answer: (d) than this one

The correct answer is Option 4.

Key Points

• The primary issue in the sentence is the use of the word "than" instead of "as."

• The correct comparative structure to use here is "as...as" for positive comparisons.

• The correct phrase should be "so beautiful a landscape as this one," ensuring grammatical correctness and clarity.

Therefore, the correct answer is Option 4.

Correct Sentence: "I have never seen so beautiful a landscape as this one.

Q82. Answer: (d) Honorary

The solution is in Hindi. Read it online.

Q83. Answer: (b) Support

The solution is in Hindi. Read it online.

Q84. Answer: (b) Congenital

The solution is in Hindi. Read it online.

Q85. Answer: (d) Forgetfull

The solution is in Hindi. Read it online.

Q86. Answer: (b) because of

The correct option is: 2) because of.

Key Points

• "Because of" is the correct choice here because it introduces the reason or cause for the people being prone to fatal diseases.

• The sentence implies that despite becoming health-conscious, people are still at risk because of their simple lifestyle habits.

• The phrase "because of" indicates the cause of the problem (fatal diseases), which is linked to their lifestyle habits.

The correct sentence is: "Though people are becoming health-conscious these days, because of simple lifestyle habits they are prone to fatal diseases."

Additional Information

Why the other options are incorrect:

• Option 1: "for" – The preposition "for" would not work here because it does not express causality in the correct way. "For" typically indicates a purpose or intended outcome but does not serve as a cause, so it doesn't fit the meaning in this context.

• Option 3: "because" – The word "because" would be incorrect in this sentence because it is typically used to introduce a clause,

not a noun phrase. Since the phrase following the blank ("simple lifestyle habits") is a noun phrase, "because of" is needed rather than just "because".

• Option 4: "but" – "But" is used to show contrast, but the sentence is not contrasting two opposing ideas. Instead, it is explaining the cause (lifestyle habits) for the result (being prone to fatal diseases). Therefore, "but" would not fit logically in this context.

Q87. Answer: (d) According to

The correct answer is: 4) According to.

Key Points

• The sentence in the paragraph requires a phrase to introduce the source of the information being referred to.

• The phrase "According to" is grammatically correct for introducing a source, such as a study or research article.

• In this case, it is used to introduce the new study published in The Journal of the American College of Cardiology, which provides evidence for the connection between food consumption and the lower risk of heart disease.

The correct sentence is: According to a new study published in 'The Journal of the American College of Cardiology,'

Additional Information

Why the other options are incorrect:

• Option 1: "According with" – This phrase is incorrect because "according" must be followed by "to," not "with." Therefore, "according with" is grammatically wrong.

• Option 2: "Accordingly" – "Accordingly" is an adverb that indicates a result or consequence, which is not the intended meaning here. The sentence needs to refer to the source of the study, so "according to" is the appropriate choice.

• Option 3: "In according with" – This is also grammatically incorrect. The correct phrase is "according to," which is the standard expression used to reference a source.

Q88. Answer: (c) salting

The correct option is: 3) salting.

Key Points

• The blank requires a noun that describes the action of adding salt to food.

• The gerund form "salting" is the appropriate choice here because it functions as a noun to refer to the action or process of salting food more sparingly.

The correct sentence is: "Salting food more sparingly is linked to a lower risk of heart disease, heart failure, and ischemic heart disease."

Additional Information

Why the other options are incorrect:

• Option 1: "salt" – This is the base form of the verb and does not work as a noun in this context. The sentence needs a noun (gerund) to describe the action.

• Option 2: "salted" – This is the past participle of "salt" and would typically be used to describe something already salted (an adjective). It does not fit grammatically here, as the sentence requires a noun for the action of salting.

• Option 4: "salt with" – This is a prepositional phrase, which is not needed here. The sentence requires a noun (gerund) to represent the action of salting, not a verb phrase.

Q89. Answer: (c) with

The correct option is: 3) with.

Key Points

• The correct preposition to use with "correlated" is "with."

• The phrase "correlated with" is commonly used to indicate that two things are related or associated with each other.

• In this case, high blood pressure is correlated with high sodium intake, meaning there is a relationship between the two.

The correct sentence is: "A significant risk factor for cardiovascular disease, high blood pressure, is demonstrated to be correlated with high sodium intake."

Additional Information

Why the other options are incorrect:

• Option 1: "in" – The preposition "in" is typically used to indicate location or a condition, but it is not used with "correlated" in this context. "In" would not correctly show the relationship between high blood pressure and sodium intake.

• Option 2: "of" – "Of" is generally used to show possession or association, but it does not fit with the verb "correlated" in this context. We don't say something is "correlated of" something else.

• Option 4: "for" – The preposition "for" is used to indicate purpose or intention, but it is not used in the expression "correlated for." This would be grammatically incorrect in this context.

Q90. Answer: (d) frequently

The correct option is: 4) frequently.

Key Points

• "Frequently" is the most appropriate word to fill in the blank, as it indicates how often the person salts their food.

• The sentence talks about how a person's sodium intake is predicted by the frequency of salting food, so "frequently" fits perfectly to convey the idea of doing something often.

The sentence would read: "As per the research, a person's individual sodium intake over time may be predicted by how frequently they salt their food."

Additional Information

Why the other options are incorrect:

• Option 1: "soundly" – "Soundly" means in a healthy or secure manner, which doesn't fit the context of salting food.

• Option 2: "hefty" – "Hefty" means large, heavy, or substantial, which does not relate to the frequency of salting food.

• Option 3: "burly" – "Burly" means strong and muscular, which is irrelevant to the concept of salting food.

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