SSC MTS 2024 Official Paper (Held On 15 Oct, 2024 Shift 1) (Previous Year Paper)

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

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SESSION 1

Q1. If the average marks of three batches of 40, 50 and 60 students, respectively, is 50, 60 and 75, then the average marks of all the students is:

(a) 70.00
(b) 65.50
(c) 63.33
(d) 61.25

Q2. A person sees another person snatching a chain from a lady, at a distance of 300 metres. He starts running and catches the thief by running at 10 km/h after running a total distance of 1.5 km. The speed at which the thief was running was:

(a) 8.5 km/h
(b) 9 km/h
(c) 9.5 km/h
(d) 8 km/h

Q3. The greatest possible length of a scale that can exactly measure a cloth of lengths 250 cm, 420 cm and 710 cm is:

(a) 71 cm
(b) 10 cm
(c) 460 cm
(d) 170 cm

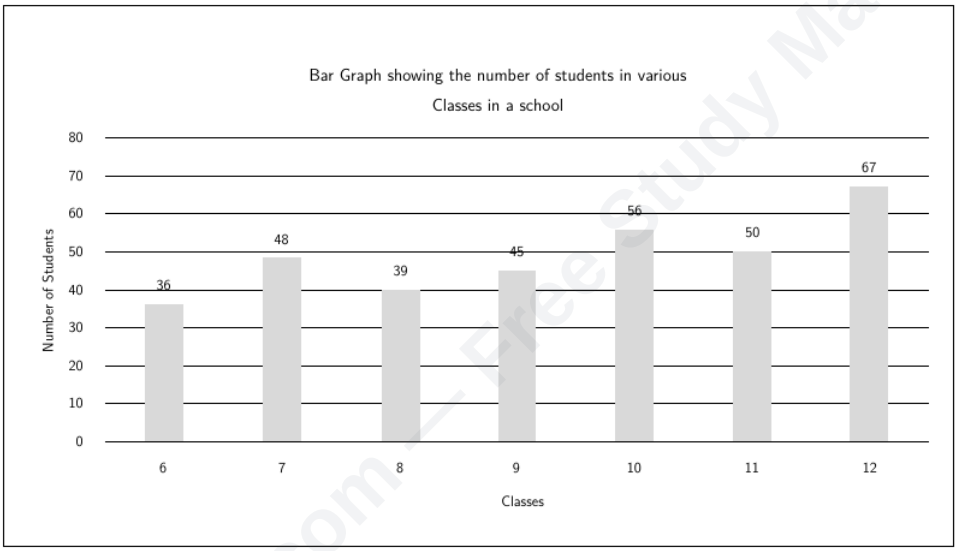
Q4. The batting average of a cricket player for 40 innings is 60 runs. His highest score in an innings exceeds his lowest score by 110 runs. If these two innings are excluded, the average score of the remaining 38 innings is 58 runs. Find his highest score.

(a) 290
(b) 153
(c) 220
(d) 310

Q5. Find the simple interest (in Rs.) on Rs. 2000 as a sum borrowed at 7% per year rate of interest for 3 years.

(a) 460
(b) 380
(c) 360
(d) 420

Q6. The bar graph below shows the number of students in various classes in a school. Study the graph below and answer the following question:



What is the ratio of the average number of students in classes 8, 9, 11, and 12 to the average number of students in classes 6, 7, 8, 9, 10 and 12?

(a) 194 : 201
(b) 121 : 291
(c) 201 : 194
(d) 291 : 101

Q7. A wholesale dealer announced during the festival season that they are offering 'buy 4 shirts, get one free', then find the net discount percentage given by the dealer.

(a) 10%
(b) 20%
(c) 15%
(d) 5%

Q8. A runner runs 300 metres race in 36 seconds. The runner's speed in km/h is:

(a) 48
(b) 24
(c) 30
(d) 36

Q9. The volume of a right circular cylinder is 2425.5 cm^3 and its base area is 346.5 cm^2. What is the curved surface area of the cylinder (in cm^2)?

(a) 462
(b) 284
(c) 364
(d) 588

Q10. Consider the cost of services A and B by companies C, D, E and F in the given table.

Company	Service	
A	B	
C	100	120
D	90	110
E	88	115
F	104	108

How much more percentage cost is charged for service B as compared to the cost of service A by company E?

(a) 30.68%

(b) 30.33%
(c) 38.06%
(d) 36.08%

Q11. An investment grows by 15% in the first month, 20% in the second month, and then decreases by 10% in the third month. If the initial investment was Rs. 5000, then the final amount (in Rs.) is:

(a) 6,420
(b) 6,602
(c) 6,340
(d) 6,210

Q12. Vipul, Ashima, and Priya invested a total of Rs. 21,000 at 3%, 6%, and 5% per annum, respectively, on simple interest. If at the end of the year, all three persons received an equal amount of interest, then the amount (in Rs.) invested by Ashima is:

(a) 5,000
(b) 3,000
(c) 2,000
(d) 4,000

Q13. When a class of 40 students took a science test, 25 students had an average score of 80, and the remaining students had an average score of 90. What was the average score of the whole class?

(a) 82.75
(b) 80.75
(c) 81.75
(d) 83.75

Q14. Find the simple interest (in Rs.) on Rs. 3000 as a sum borrowed at 8% per year rate of interest for 6 years.

(a) 1400
(b) 1480
(c) 1440
(d) 1380

Q15. In an amusement park, all rides are equally priced, and the entry ticket for the park costs an additional Rs. 180. Rohan had 15 rides and paid a total of Rs. 1,380 for his visit to the park. How much (in Rs.) in all would Rohan have to pay for his visit to the amusement park if he had opted for 20 rides?

(a) 1840
(b) 1760
(c) 1800
(d) 1780

Q16. If the diagonal of a rectangle is 16 cm long and its perimeter is 48 cm long, find the area of the rectangle.

(a) 148 cm^2
(b) 120 cm^2
(c) 160 cm^2
(d) 140 cm^2

Q17. The average age of 14 students and their teacher is 18 years. If the teacher's age is excluded, the average reduces by 1 year. What is the teacher's age?

(a) 32
(b) 35
(c) 37
(d) 34

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Q18. The cost price of 25 balls is the same as the selling price of 20 balls. Find the profit percentage.

(a) 18%
(b) 25%
(c) 15%
(d) 16.66%

Q19. A dishonest shopkeeper promises to sell his goods at cost price. However, he uses a weight that actually weighs 19% less than what is written on it. Find his profit percentage.

(a) 2337/81%
(b) 2438/81%
(c) 2237/81%
(d) 2574/81%

Q20. The radius and the height of a right circular cone are in the ratio of 7 : 24 and its volume is 1232 cm^3. Find the total surface area of the cone. (Use $\pi = 22/7$)

(a) 704 cm^2
(b) 826 cm^2
(c) 862 cm^2
(d) 628 cm^2

Q21. 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 its constituent digits. E.g. 13 – Operations on 13 such as adding/deleting/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)

(9, 63, 7)

(27, 189, 21)

(a) (45, 315, 35)
(b) (45, 315, 33)
(c) (45, 310, 35)
(d) (40, 315, 35)

Q22. VOJP is related to SLGM in a certain way based on the English alphabetical order. In the same way, XQLR is related to UNIO. To which of the following is ZSNT related following the same logic?

(a) WPQK
(b) WPKQ
(c) PWKQ
(d) PWQK

Q23. Which two numbers should be interchanged to make the following equation correct?

$(15 \div 3) \times 11 + 48 - 21 \times 2 + 8 = 57$

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

(a) 15 and 21
(b) 21 and 8
(c) 11 and 8
(d) 15 and 48

Q24. In a certain code language, 'MANAGE' is coded as 'IKEREQ' and 'RACE' is coded as 'IGEV'. What is the code for 'SYMPHONY' in the given code language?

(a) CRSLTRCW
(b) CRSLSQCW
(c) CRSLTPCW
(d) CRSLTQCW

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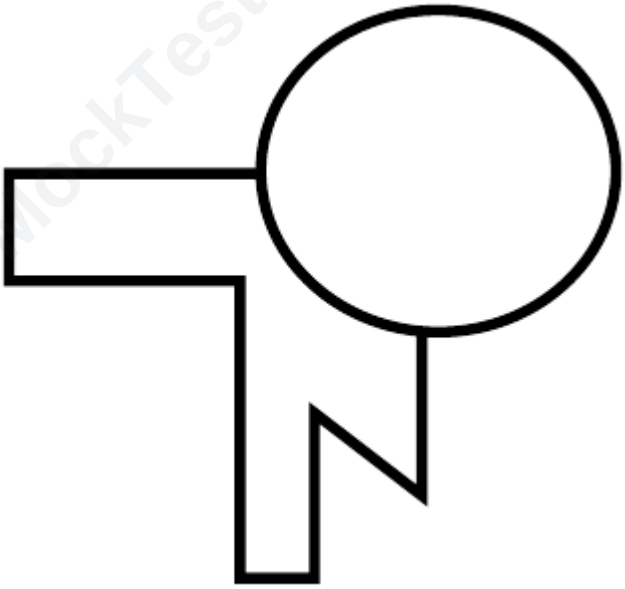
Q25. M, N, O, P, Q, R and S are sitting around a circular table facing the centre (but not necessarily in the same order). Q is an immediate neighbour of both R and P. M sits second to the left of R. O sits second to the left of M. S is not an immediate neighbour of O. The position of how many persons will remain unchanged if all persons are arranged in alphabetical order in a clockwise direction starting from 'M'?

(a) Four
(b) Seven
(c) Six
(d) Five

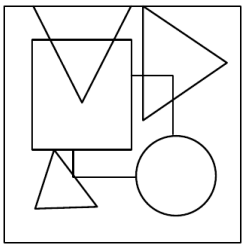
Q26. What should come in place of the question mark (?) in the following series based on the English alphabetical order?
YDY, WGT, UJO, SMJ, ?

(a) PPD
(b) PPF
(c) PPE
(d) QPE

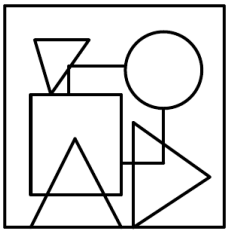
Q27. Select the option in which the given figure is embedded (rotation is NOT allowed).



(a)

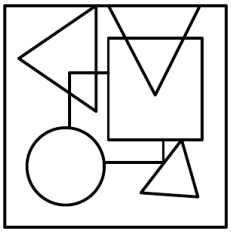


(b)

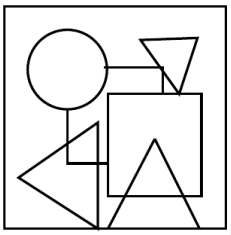


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(c)



(d)

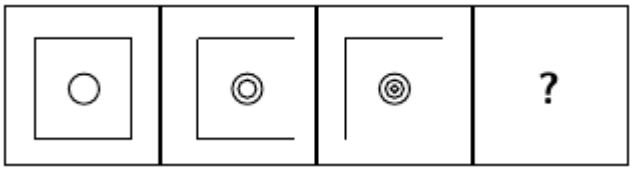


Q28. What should come in place of the question mark (?) in the given series?

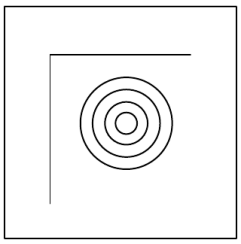
647 614 581 548 515 ?

(a) 491
(b) 505
(c) 482
(d) 402

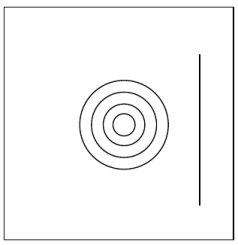
Q29. Identify the figure given in the options which when put in place of (?) will logically complete the series.



(a)

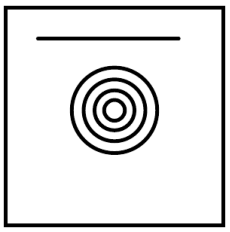


(b)

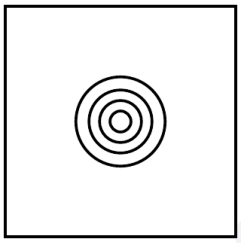


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(c)



(d)



Q30. Seven people A, B, C, D, E, F and G are sitting around a circular table, facing the centre (but not necessarily in the same order). Only three people are sitting between C and G when counted from the right of C. E is sitting third to the left of G. Exactly one person is sitting between E and F when counted from the left of E. D is sitting to the immediate left of B. How many people are sitting between A and D when counted from the left of A?

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

Q31. In a certain code language, 'CAREER' is coded as 'EBTFGS' and 'CARING' is coded as 'EBTJPH'. How will 'CENTER' be coded in the same language?

(a) EFPUGS
(b) DGOVFT
(c) EFPVGS
(d) DFPVFT

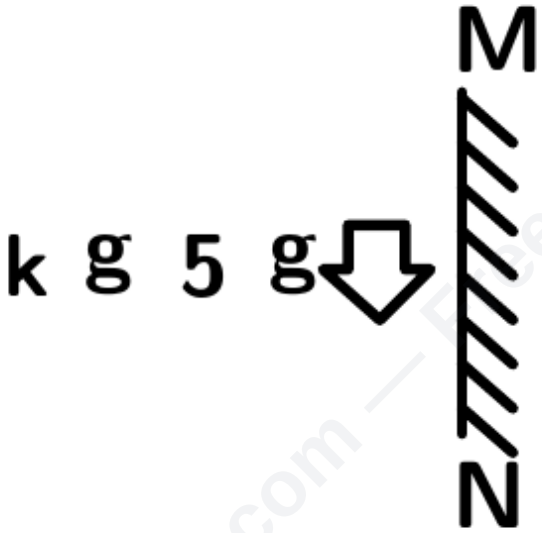
Q32. 4 is related to 32 following a certain logic. Following the same logic, 11 is related to 88. To which of the following is 6 related, following the same logic?

(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) 56
(b) 36
(c) 42
(d) 48

Q33. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.

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(a)



(b)



(c)



(d)



Q34. Read the given statement(s) 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).

Statement:

Some branches are leaves.

Some leaves are cables.

Conclusion:

(I) Atleast some cables are branches.

(II) Some cables are leaves.

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

Q35. FD7 is related to KI12 in a certain way. In the same way, PN18 is related to US23. To which of the following is AY21 related following the same logic?

(a) HF25
(b) FD25
(c) FD26
(d) HF26

Q36. In a certain code language, 'DONE' is coded as '7139' and 'TERM' is coded as '6874'. What is the code for 'E' in the given code language?

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

Q37. 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:

• No book is a copy.

• All stones are books.

Conclusions:

(I) No copy is a stone.

(II) All books are stones.

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

Q38. In a code language, 'HWCY' is coded as 'KBJH' and 'REPU' is coded as 'UJWD'. How will 'AXMQ' be coded in that language?

(a) DCTZ
(b) DBTY
(c) ECUZ
(d) CBSY

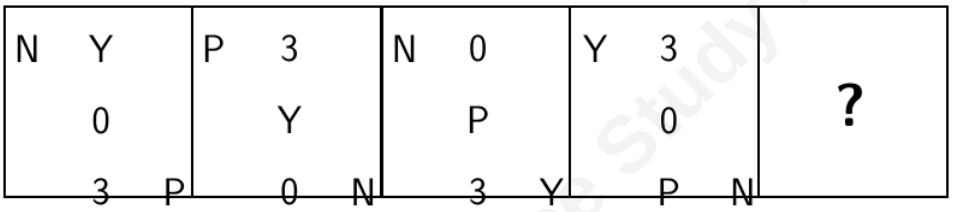
Q39. What will come in place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

$18 \div 5 + 8 \times 4 - 3 = ?$

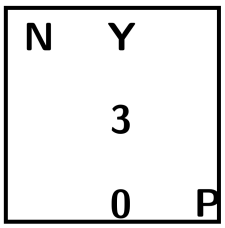
(a) 91
(b) 83
(c) 85
(d) 78

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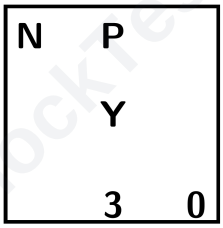
Q40. Select the figure from among the given options that can replace the question mark (?) in the following series and complete the pattern.



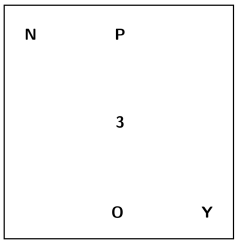
(a)



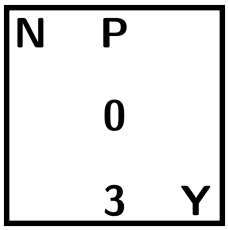
(b)



(c)



(d)



SESSION 2

Q41. In 1836, _____ became the Governor General of India.

(a) Lord Hastings
(b) Lord Curzon
(c) Earl of Auckland
(d) Robert Clive

Q42. The GV Raja Memorial Trophy, Sir Ashutosh Mukherjee Trophy and Santosh Trophy are related to which of the following sports in India?

(a) Hockey
(b) Football

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(c) Tennis
(d) Cricket

Q43. A disease like COVID-19 is a kind of:
(a) Foodborne disease
(b) Protein Deficiency disease
(c) Zoonotic disease
(d) Waterborne disease

Q44. In February 2023, who was appointed as the new Governor of Himachal Pradesh?
(a) Satyadev Narayan Arya
(b) Kalraj Mishra
(c) Bandaru Dattatreya
(d) Shiv Pratap Shukla

Q45. Who is properly known as the 'Grand Old Lady' of the Independence Movement?
(a) Usha Mehta
(b) Madam Kama
(c) Sarojini Naidu
(d) Aruna Asaf Ali

Q46. Which of the following river valleys is NOT known for coal deposits in India?
(a) Mahanadi
(b) Satluj
(c) Godavari
(d) Son

Q47. In 2023, which repository is proposed to be set up in a digital epigraphy museum, with digitisation of one lakh ancient inscriptions in the first stage?
(a) Bharat Shared Repository of Inscriptions
(b) Progressive Repository of Indigenous Folklore
(c) Amrit Repository of Numismatic Collection
(d) Indian Repository of Classical Coins

Q48. The amount of dissolved oxygen in water becomes lowest at what time of the day?
(a) In the dawn
(b) In the afternoon
(c) At night time
(d) In the evening

Q49. The percentage of sunlight energy absorbed by the green plants in a terrestrial ecosystem is about _____.
(a) 0.02
(b) 0.01
(c) 0.005
(d) 0.015

Q50. Who is the author of the novel 'Life and Death of Sambhaji' published in the year 2021?
(a) Amish Tripathi
(b) Chitra Banerjee Divakaruni
(c) Medha Deshmukh Bhaskaran
(d) Rita Banerji

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Q51. As per Census 2011, which of the following states has the highest percentage of Buddhist population in India?

(a) Arunachal Pradesh
(b) Himachal Pradesh
(c) Sikkim
(d) Karnataka

Q52. As per Article 163 of the Constitution of India, any advice tendered by Ministers to the _____ shall not be inquired into in any court.

(a) President
(b) Chief Minister
(c) Chief Justice
(d) Governor

Q53. Chitti Babu is a famous player of which of the following musical instruments?

(a) Mridangam
(b) Sarangi
(c) Veena
(d) Nadaswaran

Q54. Which of the following microfinance units were established in India at the time of independence?

(a) Grameen Model Banks
(b) Rural Cooperatives
(c) Joint Liability Groups
(d) Self Help Groups

Q55. Which of the following harvest and cultural festivals is celebrated by the Tamil community every year in January?

(a) Pongal
(b) Makaravilakku
(c) Vishu
(d) Theyyam

Q56. The temperature of -273.15°C is called _____.

(a) absolute zero temperature
(b) standard temperature
(c) zero-point energy
(d) freezing point of water

Q57. What does Age Structure represent?

(a) The number of females per 100 males in a given area at a specified time period
(b) The number of females per 1000 males in a given area at a specified time period
(c) The proportion of persons in different age groups relative to the total population
(d) A measure comparing the portion of a population composed of dependents with the portion that is in the working age group

Q58. In which of the following cities was the first successful textile mill established in India in the year 1854?

(a) Calcutta
(b) Bombay
(c) Bhopal
(d) New Delhi

Q59. In which year was the first Senior Women's National Football Championship held in India?

(a) 1950
(b) 1995
(c) 1992
(d) 2000

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Q60. The last Chalukyan King, defeated by the Rashtrakuta King Dantidurga, was _____.

(a) Vikramaditya II
(b) Pulakesin II
(c) Kirtivarman II
(d) Vikramaditya I

Q61. The Early Vedic economy was primarily based on _____ activity.

(a) Mining Iron ore
(b) pastoral
(c) trading
(d) agricultural

Q62. Who among the following is the dance guru from Odisha credited with having revived the Odissi dance form?

(a) Vyjayanthimala
(b) Sujata Mohapatra
(c) Birju Maharaj
(d) Kelucharan Mohapatra

Q63. Which of the following awards was conferred upon the Chhau dancer Siba Prasad Das in 2022?

(a) Sangeet Natak Akademi Fellowship
(b) Padma Shri
(c) Ustad Bismillah Khan Yuva Puraskar
(d) Sangeet Natak Akademi Amrit Award

Q64. The Directive Principles of State Policy are influenced by which of the following?

(a) Gandhian philosophy
(b) Rule of Law of England
(c) American declaration of independence
(d) French declaration of human rights

Q65. Select the correct combination of famous palaces and their locations in Rajasthan.

(a) Rambagh Palace – Jodhpur
(b) Lalgarh Palace – Bikaner
(c) Umaid Bhawan Palace – Udaipur
(d) Taj Lake Palace – Jaipur

Q66. Select the most appropriate option to fill in the blank.

Please _____ with me for a while

(a) balm
(b) bear
(c) bare
(d) bar

Q67. Select the option that correctly rectifies the underlined spelling error in the given sentence.

Women and children were often employed in the textile industry during the first centuary of industrialisation.

(a) centurie
(b) century
(c) centuari
(d) centuarie

Q68. Select the most appropriate ANTONYM of the underlined word.

You seem to be mean to your seniors.

(a) apathetic
(b) modest
(c) rude

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(d) sympathetic

Q69. Select the option that will improve the underlined part of the given sentence.

Seizing the opportunity, Akhil decided to take the bull with the horns.

(a) take the bull on the horns
(b) take the bull by the horns
(c) take the bull at the horns
(d) take the bull in the horns

Q70. In the following sentence the underlined part contains as error. Alternatives to the underlined part are given as options. Select the correct alternative.

He is truest to his words.

(a) truly
(b) true
(c) most truly
(d) truer

Q71. Select the option that rectifies the spelling error in the following sentence.

In his persuit of excellence, he forgot to take care of his health.

(a) pursuit
(b) persoot
(c) persulte
(d) pursulte

Q72. 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.

Sam and Teena / had wondering / what to do this weekend.

(a) No error
(b) what to do this weekend
(c) Sam and Teena
(d) had wondering

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

The rising interest in and concern about animal welfare resulted in legislative laws and the formation of The Animal _____ Committee in many nations.

(a) Resistant
(b) Ethics
(c) Considers
(d) Customs

Q74. Select the most appropriate option to substitute the underlined segment in the given sentence.

Heba dropped of the club unexpectedly to say hello and catch up.

(a) dropped for the club unexpectedly
(b) dropped besides the club unexpectedly
(c) dropped by the club unexpectedly
(d) dropped between the club unexpectedly

Q75. Select the most appropriate ANTONYM of the underlined word in the given sentence.

Although our new boss knew he was wrong, he was too obstinate to accept that.

(a) Fearless
(b) Flexible
(c) Adamant
(d) Competent

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

The sky is covering / with dark clouds and / I hope soon it / will begin to rain.

(a) I hope soon it
(b) The sky is covering
(c) with dark clouds and
(d) will begin to rain

Q77. Select the most appropriate ANTONYM of the given word.

Procrastination

(a) Hesitance
(b) Eagerness
(c) Timidness
(d) Hawing

Q78. Identify the word that can replace the INCORRECTLY spelt word in the given sentence.

The explorer discovered a hiddden cave deep in the heart of the jungle.

(a) hiddenn
(b) hiden
(c) hiddeen
(d) hidden

Q79. The given sentence is divided into three segments. Select the option that has the segment with a grammatical error. If there is no error, select 'No error'.

The committee has careful / considered the report which you sent us / and has decided to take action.

(a) and has decided to take action.
(b) No error
(c) considered the report which you sent us
(d) The committee has careful

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

Like a bat out of hell

(a) Very fast and wildly
(b) In a bad situation
(c) Defeated
(d) Impossible

Q81. Select the most appropriate synonym of the underlined word.

Her austere lifestyle reflected her minimalist approach to living.

(a) Luxurious
(b) Stern
(c) Happy
(d) Ascetic

Q82. 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.

This is the best novel / I have read, / in a very long time.

(a) This is the best novel
(b) No error
(c) in a very long time
(d) I have read

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Q83. Select the most appropriate option to fill in the blank.

_____ we gave them was some homemade ice cream.

(a) Which
(b) When
(c) While
(d) What

Q84. Select the most appropriate meaning of the given idiom.

at top of your lungs

(a) extremely loudly
(b) extremely silly
(c) pretend superiority
(d) exhausted

Q85. In the following sentence the underlined part contains as error. Alternatives to the underlined part are given as options. Select the correct alternative.

He was studying in the dimmer light.

(a) dim
(b) more dim
(c) dimmest
(d) most dim

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.

Language is a powerful device that (1)_____ communication and interaction between individuals. It serves as a crucial tool for expressing thoughts, emotions, and ideas. (2)_____ richness of language can be observed in various forms, including spoken and written interaction. People employ language to convey their intentions, share knowledge, and build relationships. It is a fundamental aspect of human interaction and plays a vital role in shaping societies and cultures. Without language, cooperation would be (3)_____, as it serves as the foundation for collaboration and understanding among diverse communities. Furthermore, language is dynamic and stationary, evolving over time to adapt to changing environments. New words are (4)_____ into the vocabulary, reflecting advancements in technology, science and culture. The ability to modify and adapt language is a key aspect of linguistic competence. (5)_____, the importance of language cannot be underestimated. It is a fundamental tool for human expression and interaction, facilitating the exchange of ideas and the formation of connections among people.

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

(a) delays
(b) qualifies
(c) experiences
(d) facilitates

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

(a) A
(b) An
(c) No article
(d) The

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

(a) challenger
(b) challenging
(c) challenge
(d) challenges

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

(a) integral
(b) integration
(c) integrity
(d) integrated

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

(a) In order to
(b) In conclusive
(c) In spite of
(d) In any case

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) 63.33

Given:
Batch 1: 40 students with average marks = 50
Batch 2: 50 students with average marks = 60
Batch 3: 60 students with average marks = 75
Formula Used:
Average marks of all students = (Total marks of all students) / (Total number of students)
Calculation:
Total marks of Batch 1 = 40 × 50 = 2000
Total marks of Batch 2 = 50 × 60 = 3000
Total marks of Batch 3 = 60 × 75 = 4500
Total marks of all students = 2000 + 3000 + 4500 = 9500
Total number of students = 40 + 50 + 60 = 150
Average marks of all students = 9500 / 150
Average marks of all students = 63.33
The average marks of all the students is 63.33.

Q2. Answer: (d) 8 km/h

Given:
Distance from which the person sees the thief = 300 metres
Speed of the person running = 10 km/h
Total distance run by the person = 1.5 km
Formula Used:
Time = Distance / Speed

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Relative speed = Speed of person - Speed of thief
Calculation:
Time taken by the person to catch the thief:
Time taken by the person = Total distance run / Speed of the person
Time taken by the person = 1.5 km / 10 km/h
Time taken by the person = 0.15 hours
The thief was initially 300 metres (0.3 km) ahead:
Relative speed = Distance / Time
Relative speed = 0.3 km / 0.15 hours
Relative speed = 2 km/h
Speed of the thief = Speed of the person - Relative speed
Speed of the thief = 10 km/h - 2 km/h
Speed of the thief = 8 km/h
The speed at which the thief was running was 8 km/h.

Q3. Answer: (b) 10 cm

Given:
Lengths of cloth: 250 cm, 420 cm, and 710 cm.
Formula Used:
Greatest common divisor (GCD) of the lengths.
Calculation:
Prime factorization of 250 = 2×5^3
Prime factorization of 420 = $2^2 \times 3 \times 5 \times 7$
Prime factorization of 710 = $2 \times 5 \times 71$
Common factors: 2 and 5
GCD of 250, 420 and 710 = $2 \times 5 = 10$
The greatest possible length of the scale is 10 cm.

Q4. Answer: (b) 153

Given:
The batting average of a cricket player for 40 innings = 60 runs.
His highest score exceeds his lowest score by 110 runs.
If these two innings are excluded, the average score of the remaining 38 innings = 58 runs.
Formula Used:
Average score = Total runs / Number of innings
Calculation:
Total runs for 40 innings = $60 \times 40 = 2400$
Total runs for 38 innings = $58 \times 38 = 2204$
Let the lowest score be L and the highest score be H.
According to the problem,
L + H = 2400 - 2204 = 196
Also, given that,
H = L + 110
Substitute H in the first equation:
L + (L + 110) = 196
L = 43
Now, H = L + 110
H = 43 + 110
H = 153
The highest score is 153.

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Q5. Answer: (d) 420

Given:
Principal (P) = Rs. 2000
Rate of interest (R) = 7% per year
Time (T) = 3 years
Formula Used:
Simple Interest (SI) = (P × R × T) / 100
Calculation:
SI = (2000 × 7 × 3) / 100
=> SI = (42000) / 100
=> SI = Rs. 420
The simple interest on Rs. 2000 at 7% per year for 3 years is Rs. 420.

Q6. Answer: (c) 201 : 194

Given:
Number of students in each class:
Class 6: 36
Class 7: 48
Class 8: 39
Class 9: 45
Class 10: 56
Class 11: 50
Class 12: 67
Calculations:
Average number of students in classes 8, 9, 11, and 12:
Sum = 39 + 45 + 50 + 67 = 201
Average = 201 / 4 = 50.25
Average number of students in classes 6, 7, 8, 9, 10, and 12:
Sum = 36 + 48 + 39 + 45 + 56 + 67 = 291
Average = 291 / 6 = 48.5
Ratio of the two averages:
Ratio = 50.25 / 48.5 = 5025 / 4850
Ratio = 201 / 194
Therefore The ratio is 201 : 194.

Q7. Answer: (b) 20%

Shortcut Trick
In 'Buy X Get Y Free' schemes, the net discount is calculated on the total items received by the customer.
Discount % = [Free Items ÷ Total Items (Paid + Free)] × 100
Here, Paid items = 4 and Free items = 1 => Total items = 5
Discount % = (1 ÷ 5) × 100 = 20%
Therefore The correct answer is 20%.
Alternate Method
Given:
Offer = Buy 4 shirts, get 1 free.
Formula Used:
Discount = Marked Price (MP) − Selling Price (SP)
Discount % = (Discount ÷ Total Marked Price) × 100
Calculations:
Let the Marked Price (MP) of 1 shirt be Rs. 100.
=> Total shirts given to the customer = 4 + 1 = 5 shirts.
=> Total MP of 5 shirts = 5 × 100 = Rs. 500.

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=> Since 1 shirt is free, the customer pays for only 4 shirts.
=> Selling Price (SP) for the customer = 4 × 100 = Rs. 400.
=> Total Discount offered = MP − SP = 500 − 400 = Rs. 100.
=> Net Discount Percentage = (100 ÷ 500) × 100
=> Net Discount Percentage = (1 ÷ 5) × 100 = 20%
Therefore The correct answer is 20%.
Additional Information
Successive Discounts
When two discounts x% and y% are given successively, the single equivalent discount is [x + y − (xy ÷ 100)]%.
Marked Price and Markup
Marked Price is the price printed on the label. Markup Percentage = [(MP − CP) ÷ CP] × 100.
Relationship between CP and MP
The ratio of Cost Price (CP) to Marked Price (MP) is given by CP ÷ MP = (100 − Discount%) ÷ (100 + Profit%).

Q8. Answer: (c) 30

Given:
Distance = 300 metres
Time = 36 seconds
Formula Used:
Speed (km/h) = (Distance (m) / Time (s)) × (18 / 5)
Calculation:
Speed (km/h) = (300 / 36) × (18 / 5)
=> Speed (km/h) = (300 / 36) × 3.6
=> Speed (km/h) = 8.33 × 3.6
=> Speed (km/h) = 30
The runner's speed is 30 km/h.

Q9. Answer: (a) 462

Given:
Volume of right circular cylinder = 2425.5 cm^3
Base area of cylinder = 346.5 cm^2
Formula used:
Volume of cylinder = Base area × Height
Base area of cylinder = πr^2
Curved surface area of cylinder = $2\pi rh$
Calculations:
Let the radius of the base be 'r' and the height of the cylinder be 'h'.
Volume = Base area × Height
2425.5 = 346.5 × h
h = 2425.5 / 346.5
h = 7 cm
Base area = πr^2
346.5 = (22/7) × r^2
r^2 = (346.5 × 7) / 22
r^2 = 2425.5 / 22
r^2 = 110.25
r = √110.25
r = 10.5 cm
Curved surface area = $2\pi rh$
Curved surface area = 2 × (22/7) × 10.5 × 7
Curved surface area = 2 × 22 × 10.5
Curved surface area = 462 cm^2

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Therefore The curved surface area of the cylinder is 462 cm².

Q10. Answer: (a) 30.68%

Given:
Cost of service A by company E = 88
Cost of service B by company E = 115
Calculations:
Difference in cost = Cost of service B - Cost of service A
Difference = 115 - 88 = 27
Percentage increase = (Difference / Cost of service A) × 100
Percentage increase = (27 / 88) × 100
Percentage increase ≈ 30.68%
Therefore The cost charged for service B is approximately 30.68% more than the cost of service A by company E.

Q11. Answer: (d) 6,210

Given:
Initial investment = Rs. 5000
Growth in the first month = 15%
Growth in the second month = 20%
Decrease in the third month = 10%
Formula Used:
Final Amount = Initial Amount × (1 + Growth Rate/100) for each period
Calculation:
Initial Amount = Rs. 5000
After first month:
Amount = 5000 × (1 + 15/100) = 5000 × 1.15 = 5750
After second month:
Amount = 5750 × (1 + 20/100) = 5750 × 1.20 = 6900
After third month:
Amount = 6900 × (1 - 10/100) = 6900 × 0.90 = 6210
The final amount is Rs. 6210.

Q12. Answer: (a) 5,000

Shortcut Trick
When Simple Interest is equal for all parts, the ratio of investments is 1/r1t1 : 1/r2t2 : 1/r3t3.
Since time t is 1 year for all, Ratio = 1/3 : 1/6 : 1/5.
Multiply by LCM (30) to simplify: 10 : 5 : 6.
Total units = 10 + 5 + 6 = 21 units → Rs. 21,000.
Ashima's share (5 units) = 5 × Rs. 1,000 = Rs. 5,000.
Therefore The correct answer is Rs. 5,000.
Alternate Method
Given: Total Investment = Rs. 21,000. Rates: r1=3%, r2=6%, r3=5%. Time t=1 year.
Formula Used: Simple Interest (SI) = (P × R × T) / 100
=> Let investments be V, A, and P.
=> (V × 3 × 1)/100 = (A × 6 × 1)/100 = (P × 5 × 1)/100
=> 3V = 6A = 5P
=> V/A = 6/3 = 2/1 and A/P = 5/6
=> V : A : P = 10 : 5 : 6
=> Sum of ratios = 10 + 5 + 6 = 21
=> Ashima's investment = (5 / 21) × 21,000
=> Ashima's investment = 5 × 1,000 = Rs. 5,000
Therefore The correct answer is Rs. 5,000.
Additional Information

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Equal Amount Case

If the total amounts (Principal + Interest) are equal, the investment ratio is 1/(100+r1t1) : 1/(100+r2t2) : 1/(100+r3t3).

Simple Interest Formula

SI = (P × R × T) / 100, where P is Principal, R is Rate per annum, and T is Time in years.

Ratio and Proportion in SI

When interest is constant, the principal is inversely proportional to the product of rate and time (P prop. to 1/RT).

Q13. Answer: (d) 83.75

Given:

Number of students in the class = 40

Number of students with average score of 80 = 25

Number of students with average score of 90 = 40 - 25 = 15

Formula Used:

Average score of the whole class = (Total score of all students) / (Total number of students)

Calculation:

Total score of students with average score of 80 = 25 × 80

Total score of students with average score of 90 = 15 × 90

Total score of all students = (25 × 80) + (15 × 90)

Total score of all students = 2000 + 1350

Total score of all students = 3350

Total number of students = 40

Average score of the whole class = 3350 / 40

Average score of the whole class = 83.75

The average score of the whole class is 83.75.

Q14. Answer: (c) 1440

Given:

Principal (P) = Rs. 3000

Rate of Interest (R) = 8% per year

Time (T) = 6 years

Formula Used:

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

Calculation:

SI = (Rs. 3000 × 8 × 6) / 100

=> SI = (Rs. 144000) / 100

=> SI = Rs. 1440

The simple interest on Rs. 3000 at 8% per year for 6 years is Rs. 1440.

Q15. Answer: (d) 1780

Given:

Entry ticket cost = Rs. 180

Number of rides Rohan had = 15

Total cost for 15 rides and entry ticket = Rs. 1380

Formula Used:

Cost of one ride = (Total cost for rides and entry ticket - Entry ticket cost) / Number of rides

Total cost for x rides and entry ticket = Entry ticket cost + (Cost of one ride × Number of rides)

Calculation:

Cost of one ride

=> Cost of one ride = (Rs. 1380 - Rs. 180) / 15

=> Cost of one ride = Rs. 1200 / 15

=> Cost of one ride = Rs. 80

Total cost for 20 rides and entry ticket

=> Total cost = Rs. 180 + (Rs. 80 × 20)

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=> Total cost = Rs. 180 + Rs. 1600

=> Total cost = Rs. 1780

The total cost for 20 rides and entry ticket is Rs. 1780. The correct answer is option 4.

Q16. Answer: (c) 160 cm²

Given:

Diagonal of the rectangle = 16 cm

Perimeter of the rectangle = 48 cm

Formula Used:

Perimeter of the rectangle, P = 2(l + w)

Diagonal of the rectangle, d = √(l² + w²)

Area of the rectangle, A = l × w

Calculation:

From the given perimeter:

2(l + w) = 48

=> l + w = 24

From the given diagonal:

√(l² + w²) = 16

=> l² + w² = 256

We have two equations:

1) l + w = 24

2) l² + w² = 256

Using (l + w)² = l² + w² + 2lw

=> 24² = 256 + 2lw

=> 576 = 256 + 2lw

=> 320 = 2lw

=> lw = 160

The area of the rectangle is 160 cm².

Q17. Answer: (a) 32

Given:

The average age of 14 students and their teacher = 18 years.

If the teacher's age is excluded, the average reduces by 1 year.

Formula Used:

Average age = Total age / Number of individuals

Teacher's age = Total age with teacher - Total age without teacher

Calculation:

Let the total age of 14 students and their teacher be T.

Given the average age of 14 students and their teacher is 18 years,

=> T / 15 = 18

=> T = 18 × 15 = 270

If the teacher's age is excluded, the average reduces by 1 year.

Let the total age of 14 students be S.

Given the average age of 14 students is 17 years (18 - 1),

=> S / 14 = 17

=> S = 17 × 14 = 238

Teacher's age = T - S

=> Teacher's age = 270 - 238

=> Teacher's age = 32

The teacher's age is 32 years.

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Q18. Answer: (b) 25%

Given:

Cost price of 25 balls = Selling price of 20 balls

Calculations:

Let the cost price of 1 ball be 'x'.

Cost price of 25 balls = 25x

Selling price of 20 balls = 25x

Selling price of 1 ball = 25x / 20 = 5x / 4

Profit per ball = Selling price - Cost price

Profit per ball = (5x / 4) - x = x / 4

Profit percentage = (Profit / Cost price) × 100

Profit percentage = (x / 4) / x × 100

Profit percentage = (1 / 4) × 100

Profit percentage = 25%

Therefore The profit percentage is 25%.

Q19. Answer: (a) 2337/81%

Given:

The shopkeeper uses a weight that is 19% less than the actual weight.

Calculations:

Let the actual weight be 100 units.

The weight used by the shopkeeper = 100 - (19/100) * 100 = 81 units.

The shopkeeper sells 81 units of goods as 100 units.

Let the cost price of 81 units be Rs. 81.

Then, the selling price of 81 units is Rs. 100.

Profit = Selling price - Cost price

Profit = 100 - 81 = Rs. 19

Profit percentage = (Profit / Cost price) × 100

Profit percentage = (19 / 81) × 100

Profit percentage = 2337/81%

Therefore The profit percentage is approximately 2337/81% ..

Q20. Answer: (a) 704 cm^2

Given:

The radius and the height of a right circular cone are in the ratio of 7 : 24.

Volume of the cone = 1232 cm^3.

$\pi = 22/7$

Formula Used:

Volume of cone = $(1/3) \pi r^2 h$

Total Surface Area of cone = $\pi r (r + l)$

where l = slant height = $\sqrt{(r^2 + h^2)}$

Calculation:

Let the radius be 7x and the height be 24x.

Volume of cone = $(1/3) \pi r^2 h$

$\Rightarrow 1232 = (1/3) \times (22/7) \times (7x)^2 \times 24x$

$\Rightarrow 1232 = (1/3) \times (22/7) \times 49x^2 \times 24x$

$\Rightarrow 1232 = 22 \times 7 \times 8x^3$

$\Rightarrow x^3 = 1 \Rightarrow x = 1$

Thus, r = 7x = 7 × 1 = 7 cm

and h = 24x = 24 × 1 = 24 cm

Slant height, $l = \sqrt{(r^2 + h^2)}$

$\Rightarrow l = \sqrt{(7^2 + 24^2)}$

=> l ≈ √625 => l = 25 cm

Total Surface Area = π r (r + l)

=> Total Surface Area = (22/7) × 7 × (7 + 25)

=> Total Surface Area = 22 × 32

=> Total Surface Area ≈ 704 cm²

The total surface area of the cone is 704 cm².

Q21. Answer: (a) (45, 315, 35)

The logic followed here is:

Given:

(9, 63, 7)

63 ÷ 9 = 7

63 ÷ 7 = 9

And,

(27, 189, 21)

189 ÷ 27 = 7

189 ÷ 21 = 9

So, checking each option one by one:

Option 1) (45, 315, 35)

315 ÷ 45 = 7

315 ÷ 35 = 9

Option 2) (45, 315, 33)

315 ÷ 45 = 7

315 ÷ 33 = 9.54 ≠ 9

Option 3) (45, 310, 35)

310 ÷ 45 = 6.88 ≠ 7

310 ÷ 35 = 9

Option 4) (40, 315, 35)

315 ÷ 40 = 7.87 ≠ 7

315 ÷ 35 = 9

Thus, out of all the options, '(45, 315, 35)' follows the same logic as given.

Hence, "Option 1" is the correct answer.

Q22. Answer: (b) WPKQ

The logic followed here is:

VOJP is related to SLGM

And,

XQLR is related to UNIO

Similarly,

ZSNT is related to

Hence, "Option 2" is the correct answer.

Q23. Answer: (c) 11 and 8

Given : (15 ÷ 3) × 11 + 48 − 21 × 2 + 8 = 57

According to the question, after interchanging the signs:

Option 1) 15 and 21

(15 ÷ 3) × 11 + 48 − 21 × 2 + 8 = 57 => (21 ÷ 3) × 11 + 48 − 15 × 2 + 8 = 57

=> (21 ÷ 3) × 11 + 48 − 15 × 2 + 8 = 57

=> 7 × 11 + 48 − 15 × 2 + 8 = 57

=> 77 + 48 + 8 − 30 = 57

=> 133 − 30 = 57

=> 103 ≠ 57 (LHS ≠ RHS)

Option 2) 21 and 8

(15 ÷ 3) × 11 + 48 − 21 × 2 + 8 = 57 => (15 ÷ 3) × 11 + 48 − 8 × 2 + 21 = 57
=> (15 ÷ 3) × 11 + 48 − 8 × 2 + 21 = 57
=> 5 × 11 + 48 − 8 × 2 + 21 = 57
=> 55 + 48 + 21 − 16 = 57
=> 124 − 16 = 57
=> 108 ≠ 57 (LHS ≠ RHS)
Option 3) 11 and 8
(15 ÷ 3) × 11 + 48 − 21 × 2 + 8 = 57 => (15 ÷ 3) × 8 + 48 − 21 × 2 + 11 = 57
=> (15 ÷ 3) × 8 + 48 − 21 × 2 + 11 = 57
=> 5 × 8 + 48 − 21 × 2 + 11 = 57
=> 40 + 48 + 11 − 42 = 57
=> 99 − 42 = 57
=> 57 = 57 (LHS = RHS)
Option 4) 15 and 48
(15 ÷ 3) × 11 + 48 − 21 × 2 + 8 = 57 => (48 ÷ 3) × 11 + 15 − 21 × 2 + 8 = 57
=> (48 ÷ 3) × 11 + 15 − 21 × 2 + 8 = 57
=> 16 × 11 + 15 − 21 × 2 + 8 = 57
=> 176 + 15 + 8 − 42 = 57
=> 199 − 42 = 57
=> 157 ≠ 57 (LHS ≠ RHS)
Hence, "Option 3" is the correct answer.

Q24. Answer: (d) CRSLTQCW

The logic followed here is:
'MANAGE' is coded as 'IKEREQ'
And,
'RACE' is coded as 'IGEV'
Similarly,
'SYMPHONY' is coded as

Hence, "Option 4" is the correct answer.

Q25. Answer: (b) Seven

Given: M, N, O, P, Q, R and S are sitting around a circular table facing the centre.
1) Q is an immediate neighbour of both R and P.
2) M sits second to the left of R.
3) O sits second to the left of M.
4) S is not an immediate neighbour of O.
After positioning S only one position is left which will be occupied by the only person left i.e. N.
So, according to the question all persons are arranged in alphabetical order in a clockwise direction starting from 'M':
Thus, after arranging in alphabetic order position of seven people will remain unchanged.
Hence, "Option 2" is the correct answer.

Q26. Answer: (d) QPE

The logic followed here is:
Hence, "Option 4" is the correct answer.

Q27. Answer: (b) [figure]

The image embedded in the given figure is as shown below :
Therefore Here, the given figure is embedded in option figure 2.
Hence, the correct answer is "Option 2".

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Q28. Answer: (c) 482

The logic followed here is:

Hence, "Option 3" is the correct answer.

Q29. Answer: (c) [figure]

The logic followed here is:

1) For square element → The number of lines is decreasing subsequently.

2) For circle element → The number of circles is increasing subsequently.

Thus, the final series is:

Hence, "Option 3" is the correct answer.

Q30. Answer: (b) 2

Given: Seven people A, B, C, D, E, F and G are sitting around a circular table, facing the centre

1) Only three people are sitting between C and G when counted from the right of C.

2) E is sitting third to the left of G.

3) Exactly one person is sitting between E and F when counted from the left of E.

4) D is sitting to the immediate left of B.

After positioning D and B only one position is left which will be occupied by the only person left i.e. A.

Thus, according to the final arrangement two people are sitting between A and D when counted from the left of A.

Hence, "Option 2" is the correct answer.

Q31. Answer: (a) EFPUGS

The logic followed here is:

'CAREER' is coded as 'EBTFGS'

And,

'CARING' is coded as 'EBTJPH'

Similarly,

'CENTER' is coded as

Hence, "Option 1" is the correct answer.

Q32. Answer: (d) 48

The logic followed here is:

4 is related to 32

4 × 8 = 32

32 = 32 (LHS = RHS)

And,

11 is related to 88

11 × 8 = 88

88 = 88 (LHS = RHS)

Similarly,

6 is related to ?

6 × 8 = ?

48 = ?

Hence, "Option 4" is the correct answer.

Q33. Answer: (c) [figure]

The correct mirror image of the given figure when the mirror is placed at MN is as shown below:

Here, option figure 3 shows the mirror image of the given figure.

Hence, the correct answer is "Option 3".

Q34. Answer: (d) Only conclusion (II) follows.

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

Conclusions:

(I) Atleast some cables are branches → Does not follow (As some branches are leaves and some leaves are cables. So it is possible but not definite.)

(II) Some cables are leaves → Follow (As some leaves are cables. As some part of leaves is common with cables, therefore it is true.)

Therefore Here, Only conclusion (II) follows.

Hence, the correct answer is "Option 4"

Q35. Answer: (c) FD26

The logic followed here is:

FD7 is related to KI12

And,

PN18 is related to US23

Similarly,

AY21 is related to

Hence, "Option 3" is the correct answer.

Q36. Answer: (b) 7

The logic followed here is:

'DONE' is coded as '7139'

'TERM' is coded as '6874'

Thus, the code for 'E' is 7.

Hence, "Option 2" is the correct answer.

Q37. Answer: (b) Only conclusion (I) follows

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

Conclusions:

(I) No copy is a stone → Follow (As no book is a copy and all stones are books. As whole stones comes in books which cannot be copy, therefore it is true.)

(II) All books are stones → Does not follow (As all stones are books. So it is possible but not definite.)

Therefore Here, Only conclusion (I) follows.

Hence, the correct answer is "Option 2"

Q38. Answer: (a) DCTZ

The logic followed here is:

'HWCY' is coded as 'KBJH'

And,

'REPU' is coded as 'UJWD'

Similarly,

'AXMQ' is coded to

Hence, "Option 1" is the correct answer.

Q39. Answer: (a) 91

Given: 18 ÷ 5 + 8 × 4 − 3 = ?

According to the question, after '+' and '−' are interchanged and '×' and '÷' are interchanged:

18 ÷ 5 + 8 × 4 − 3 = ? => 18 × 5 - 8 ÷ 4 + 3 = ?

=> 18 × 5 - 8 ÷ 4 + 3 = ?

=> 18 × 5 - 2 + 3 = ?

=> 90 + 3 - 2 = ?

=> 93 - 2 = ?

=> 91

Hence, "Option 1" is the correct answer.

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Q40. Answer: (b) [figure]

The logic followed here is:

1) First box series →

The 2nd column elements shift anticlockwise.

The rest of the elements interchange positions.

2) Second box series:

The left diagonal elements shift anticlockwise.

The rest of the elements interchange positions.

Thus, the final series is:

Hence, "Option 2" is the correct answer.

Q41. Answer: (c) Earl of Auckland

The correct answer is Earl of Auckland.

Key Points

• George Eden, 1st Earl of Auckland, served as the Governor-General of India from 1836 to 1842.

• He is most known for his involvement in the First Anglo-Afghan War (1839-1842), which ultimately ended in disaster for the British.

• Earl of Auckland succeeded Lord William Bentinck as the Governor-General.

• During his tenure, he implemented several administrative reforms and efforts to improve education and public works.

• He was eventually succeeded by Lord Ellenborough in 1842 following the failure in Afghanistan.

Additional Information

• First Anglo-Afghan War

• The war was fought between the British East India Company and the Emirate of Afghanistan from 1839 to 1842.

• The conflict was initiated by the British to install a puppet regime in Afghanistan and counter Russian influence in the region.

• The war ended in a catastrophic retreat for the British, famously known as the Retreat from Kabul in 1842.

• It resulted in significant loss of life and resources for the British forces.

• Administrative Reforms

• Earl of Auckland focused on improving the administrative efficiency of the British Indian government.

• He supported the expansion of the educational system in India, including the establishment of schools and colleges.

• His tenure also saw the improvement of public works, such as the construction of roads and irrigation projects.

• Legacy

• Despite the failure in Afghanistan, Earl of Auckland's efforts in education and public works left a lasting impact.

• His tenure is often remembered for its administrative and infrastructural improvements in British India.

• He was later commemorated in various namesakes, including the Auckland Islands in the Southern Ocean.

Q42. Answer: (b) Football

The correct answer is Football.

Key Points

• The GV Raja Memorial Trophy is an annual football tournament held in Kerala, India, named after the sports promoter, Col. Godavarma Raja.

• The Sir Ashutosh Mukherjee Trophy is associated with football tournaments at the university level in India, aimed at promoting the sport among students.

• The Santosh Trophy is one of the most prestigious football tournaments in India, organized by the All India Football Federation (AIFF), and serves as the national championship for state teams.

• These tournaments have played a significant role in the development and promotion of football at various levels, from grassroots to professional, within the country.

Additional Information

• All India Football Federation (AIFF)

• The AIFF is the governing body of football in India and is responsible for organizing national tournaments such as the Santosh Trophy, I-League, and Indian Super League (ISL).

• It was founded in 1937 and is affiliated with the Fédération Internationale de Football Association (FIFA) and the Asian Football Confederation (AFC).

• Indian Super League (ISL)

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• The ISL is one of the top professional football leagues in India, established in 2013 to promote football and increase its popularity.
• The league operates with a franchise-based model, similar to the Indian Premier League (IPL) in cricket.
• I-League
• The I-League is another prominent professional football league in India, running parallel to the ISL.
• It was established in 2007 as the top-tier football league in the country, aimed at improving the standard of Indian football.
• National Football Team
• India's national football team is managed by the AIFF and competes in various international tournaments, including the AFC Asian Cup and FIFA World Cup qualifiers.
• Sunil Chhetri, one of India's most famous footballers, has been a key player for the national team, contributing significantly to its success.

Q43. Answer: (c) Zoonotic disease

The correct answer is Zoonotic disease.

Key Points

• COVID-19 is caused by the SARS-CoV-2 virus, which is believed to have originated in bats and potentially transmitted to humans through an intermediate host.
• Zoonotic diseases are infections that are transmitted from animals to humans. Examples include Ebola, Rabies, and Avian Influenza.
• Such diseases can spread through direct contact with animals, by consuming contaminated food or water, or via vectors like mosquitoes.
• Zoonotic diseases pose significant challenges to public health due to their potential for widespread outbreaks and pandemics.

Additional Information

• Terminology:
• Zoonosis: An infectious disease that has jumped from a non-human animal to humans.
• Vector: An organism, typically a biting insect or tick, that transmits a disease or parasite from one animal or plant to another.
• Examples of Zoonotic Diseases:
• Ebola: Transmitted to humans through contact with blood, secretions, organs, or other bodily fluids of infected animals.
• Rabies: A viral disease that causes inflammation of the brain in humans and other mammals.
• Avian Influenza: Commonly known as bird flu, it is a viral infection that can infect not only birds but also humans and other animals.
• COVID-19 Transmission:
• The primary mode of transmission is through respiratory droplets when an infected person coughs, sneezes, or talks.
• It can also spread by touching surfaces contaminated with the virus and then touching the face.
• Public Health Measures:
• Preventive measures include wearing masks, practicing hand hygiene, and maintaining physical distance.
• Controlling zoonotic diseases involves monitoring animal health, regulating wildlife trade, and ensuring food safety.

Q44. Answer: (d) Shiv Pratap Shukla

The correct answer is Shiv Pratap Shukla.

Key Points

• Shiv Pratap Shukla was appointed as the Governor of Himachal Pradesh in February 2023.
• He succeeded Rajendra Vishwanath Arlekar, the former Governor of Himachal Pradesh.
• Shukla has served as a Member of Parliament in the Rajya Sabha representing the state of Uttar Pradesh.
• He is a senior leader of the Bharatiya Janata Party (BJP) and has held various key positions in the party and government.

Additional Information

• Role of a Governor
• The Governor is the constitutional head of each of the states in India.
• They are appointed by the President of India for a term of five years.
• The Governor acts on the advice of the Council of Ministers headed by the Chief Minister.
• The Governor has the power to summon, prorogue, and dissolve the state legislature.
• Himachal Pradesh
• Himachal Pradesh is located in the northern part of India.

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• The state is known for its scenic beauty, including the Himalayan mountains.
• It was granted statehood on 25th January 1971.
• The capital of Himachal Pradesh is Shimla, and its largest city is also Shimla.
• Bharatiya Janata Party (BJP)
• The BJP is one of the two major political parties in India, along with the Indian National Congress.
• It was founded in 1980 by members of the Bharatiya Jana Sangh.
• The party advocates for a policy of integral humanism, which was first formulated by Deendayal Upadhyaya.
• The BJP has been the ruling party in India since 2014 under the leadership of Prime Minister Narendra Modi.

Q45. Answer: (d) Aruna Asaf Ali

The correct answer is Aruna Asaf Ali.

Key Points

• Aruna Asaf Ali is popularly known as the 'Grand Old Lady' of the Indian Independence Movement due to her significant contribution to India's struggle for freedom.
• She is best remembered for hoisting the Indian National Congress flag at the Gowalia Tank Maidan, Bombay, during the Quit India Movement in 1942.
• Aruna Asaf Ali played a crucial role in organizing protests, strikes, and other activities against British rule, demonstrating her unwavering dedication to India's independence.
• She was awarded the Bharat Ratna, India's highest civilian award, in 1997 posthumously for her invaluable contributions to the nation.
• She was also the first elected Mayor of Delhi, representing her leadership and influence in post-independence India.

Additional Information

• Quit India Movement:
• Launched by Mahatma Gandhi on 8 August 1942, demanding an end to British rule in India.
• It was a mass protest demanding "Do or Die" for independence.
• Aruna Asaf Ali's hoisting of the flag became a symbol of defiance against British rule.
• Bharat Ratna:
• India's highest civilian award, instituted in 1954.
• Awarded for exceptional service in the highest order in any field of human endeavor.
• Recipients include prominent figures such as C. Rajagopalachari, S. Radhakrishnan, and Jawaharlal Nehru.
• Indian National Congress:
• Founded in 1885, played a pivotal role in India's independence movement.
• Leaders like Mahatma Gandhi, Jawaharlal Nehru, and Sardar Patel were its prominent members.
• Organized major movements like Non-Cooperation, Civil Disobedience, and Quit India Movement.
• Role of Women in Independence Movement:
• Women leaders like Sarojini Naidu, Kasturba Gandhi, and Kamala Nehru played significant roles.
• They participated in protests, boycotts, and were also imprisoned.
• Their involvement showcased the inclusive nature of the independence struggle.

Q46. Answer: (b) Satluj

The correct answer is Satluj.

Key Points

• The Satluj River is not known for coal deposits, unlike other river valleys listed in the options.
• Coal deposits are primarily found in the river valleys of the Mahanadi, Godavari, and Son rivers in India.
• Major coalfields in the Mahanadi Valley include Talcher and Ib Valley.
• Godavari Valley is known for its Singareni and Kothagudem coalfields.

Additional Information

• Coal Distribution in India:
• India has significant coal reserves, primarily located in the eastern and central parts of the country.
• The largest reserves are found in Jharkhand, Odisha, Chhattisgarh, West Bengal, and Madhya Pradesh.
• Types of Coal:
• Anthracite: The highest grade of coal with the highest carbon content.
• Bituminous: Most common type, used for electricity generation and steel production.

• Sub-bituminous: Lower carbon content, used mainly for electricity generation.
• Lignite: Lowest grade, often used for electricity generation in power plants.
• Coal Mining Methods:
• Open-pit mining: Extracting coal from the surface.
• Underground mining: Extracting coal from deep below the earth's surface.
• Environmental Impact:
• Coal mining and usage contribute to air pollution and greenhouse gas emissions.
• Efforts are being made to reduce the environmental impact through cleaner coal technologies.

Q47. Answer: (a) Bharat Shared Repository of Inscriptions

The correct answer is Bharat Shared Repository of Inscriptions.

Key Points

• The Bharat Shared Repository of Inscriptions (BSRI) is an initiative aimed at digitising ancient inscriptions across India.
• In its first phase, the project targets the digitisation of one lakh ancient inscriptions.
• The repository will be part of a digital epigraphy museum to preserve and share ancient Indian heritage.
• This initiative will help in the conservation, study, and promotion of India's rich epigraphical heritage.

Additional Information

• Epigraphy
• Epigraphy is the study and interpretation of ancient inscriptions engraved on various materials like stone, metal, or pottery.
• It provides valuable insights into the language, culture, and history of ancient civilizations.
• Epigraphical records are primary historical sources that help in understanding the chronology and events of the past.
• Digitisation of Inscriptions
• Digitisation involves converting physical inscriptions into digital formats to ensure their preservation and accessibility.
• It helps in preventing the loss of historical data due to physical degradation over time.
• Digital repositories allow researchers and the public to access these inscriptions from anywhere in the world.
• National Mission on Monuments and Antiquities
• The National Mission on Monuments and Antiquities was launched by the Government of India to document and preserve India's heritage.
• It aims to create a comprehensive database of monuments and antiquities across the country.
• This mission plays a crucial role in protecting and promoting India's cultural heritage.
• Digital Museums
• Digital museums use technology to display and interpret cultural and historical artifacts.
• They provide an immersive experience to visitors through interactive exhibits and virtual tours.
• Digital museums help in reaching a wider audience and making heritage accessible to all.

Q48. Answer: (a) In the dawn

The correct answer is In the dawn.

Key Points

• The amount of dissolved oxygen in water is typically lowest just before dawn due to the lack of photosynthesis during the night.
• Photosynthesis by aquatic plants and algae ceases at night, leading to the consumption of oxygen by respiration without replenishment.
• Respiration by aquatic organisms continues throughout the night, further depleting oxygen levels.
• Warmer water temperatures at night can also reduce the solubility of oxygen in water.
• This phenomenon is particularly significant in eutrophic water bodies with high levels of organic matter.

Additional Information

• Dissolved Oxygen (DO):
• Dissolved oxygen refers to the amount of oxygen that is present in water, which is crucial for the survival of aquatic life.
• DO levels are influenced by temperature, salinity, and the presence of photosynthetic organisms.
• Photosynthesis:
• Photosynthesis is the process by which green plants and some other organisms use sunlight to synthesize foods with the help of chlorophyll.
• During photosynthesis, oxygen is produced as a byproduct.
• Respiration:

• Respiration is the process of breaking down food to release energy, which consumes oxygen and produces carbon dioxide.
• Both aquatic plants and animals undergo respiration.
• Eutrophication:
• Eutrophication is the process by which a body of water becomes overly enriched with minerals and nutrients, leading to excessive growth of algae.
• This can result in oxygen depletion in water bodies.
• Water Temperature:
• Water temperature plays a critical role in determining the solubility of oxygen.
• Higher temperatures reduce the solubility of oxygen in water.

Q49. Answer: (b) 0.01

The correct answer is 1%.

Key Points

• Only about 1% of the sunlight energy that reaches the surface of the Earth is absorbed by green plants in a terrestrial ecosystem.
• This small fraction is due to the limitations in the efficiency of photosynthesis and the availability of light that plants can utilize.
• Photosynthesis is the process by which green plants convert light energy into chemical energy stored in glucose.
• Most of the sunlight is either reflected by the plant leaves or absorbed as heat, with only a small fraction being used for photosynthesis.

Additional Information

• Photosynthesis Process
• Photosynthesis occurs in the chloroplasts of plant cells, where chlorophyll captures light energy.
• The process converts carbon dioxide and water into glucose and oxygen, using the captured light energy.
• It is a crucial process for the survival of plants and the production of oxygen for other living organisms.
• Energy Flow in Ecosystems
• Energy flow in ecosystems begins with the absorption of sunlight by producers (green plants).
• Only a small fraction of the total sunlight is converted into chemical energy by plants, and this energy is passed through the food chain.
• At each trophic level, energy is lost as heat, leading to a decrease in the amount of energy available to higher trophic levels.
• Light Absorption in Plants
• Plant leaves contain pigments like chlorophyll that absorb light primarily in the blue and red wavelengths.
• Green light is mostly reflected, which is why plants appear green to our eyes.
• The efficiency of light absorption and conversion to chemical energy is limited by various factors, including the intensity and duration of light.
• Global Primary Production
• Primary production is the creation of organic compounds from atmospheric or aquatic carbon dioxide, mainly through photosynthesis.
• Terrestrial primary production is a key component of the global carbon cycle, influencing climate and ecosystem dynamics.
• The efficiency of primary production varies among different ecosystems and is influenced by factors such as climate, nutrient availability, and plant species.

Q50. Answer: (c) Medha Deshmukh Bhaskaran

The correct answer is Medha Deshmukh Bhaskaran.

Key Points

• The novel 'Life and Death of Sambhaji' was authored by Medha Deshmukh Bhaskaran.
• The book was published in the year 2021.
• Medha Deshmukh Bhaskaran is known for her detailed and well-researched historical novels.
• The novel focuses on the life and times of Sambhaji Maharaj, the second Chhatrapati of the Maratha Empire.
• The book provides a comprehensive account of Sambhaji Maharaj's contributions and struggles during his reign.

Additional Information

• Sambhaji Maharaj
• He was the eldest son of Chhatrapati Shivaji Maharaj and succeeded him as the ruler of the Maratha Empire.
• Sambhaji Maharaj's reign lasted from 1681 to 1689.

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• He faced numerous challenges, including conflicts with the Mughal Empire, Portuguese, and Siddis.
• He is remembered for his valor, administrative skills, and dedication to preserving the Maratha sovereignty.
• Historical Novels
• These are novels set in a past time period, often incorporating real historical events and characters.
• They aim to provide readers with a deeper understanding of historical events through the lens of fictional narratives.
• Authors often conduct extensive research to ensure historical accuracy and authenticity in their storytelling.
• Historical novels can cover various genres, including romance, adventure, and drama, set against historical backdrops.
• Medha Deshmukh Bhaskaran
• She is a well-regarded author in the field of historical fiction.
• Her works are known for their meticulous research and engaging narrative style.
• In addition to 'Life and Death of Sambhaji,' she has written other notable works, contributing significantly to Indian historical literature.
• Her books often focus on prominent figures and events in Indian history, offering readers an immersive experience.

Q51. Answer: (c) Sikkim

The correct answer is Sikkim.

Key Points

• As per the Census 2011, Sikkim has the highest percentage of Buddhist population among all states in India.
• Approximately 27.39% of the population in Sikkim follows Buddhism.
• Buddhism is one of the major religions practiced in Sikkim, alongside Hinduism and Christianity.
• The state is known for its many Buddhist monasteries, such as the Rumtek Monastery and Tashiding Monastery.

Additional Information

• Census 2011:
• The Census 2011 is the 15th National census survey conducted by the Office of the Registrar General and Census Commissioner of India.
• It provides comprehensive data on the population size, distribution, and various demographic attributes of India's population.
• Buddhism in India:
• Buddhism originated in India around the 5th century BCE with the teachings of Siddhartha Gautama, known as the Buddha.
• It spread across Asia and has a significant following in countries like Tibet, Myanmar, Thailand, and Japan.
• Buddhist Monasteries in Sikkim:
• Rumtek Monastery is one of the largest and most significant monasteries in Sikkim, serving as the headquarters of the Kagyu lineage of Tibetan Buddhism.
• Tashiding Monastery is another important religious site, known for its annual Bumchu Festival.
• Cultural Significance:
• Sikkim's culture is heavily influenced by Buddhism, reflected in its festivals, architecture, and daily life.
• The state celebrates various Buddhist festivals like Losar, Saga Dawa, and Lhabab Duchen with great fervor.

Q52. Answer: (d) Governor

The correct answer is Governor.

Key Points

• Article 163 of the Constitution of India pertains to the Council of Ministers advising the Governor of a state.
• The Governor is the constitutional head of the state, and the real executive authority lies with the Council of Ministers headed by the Chief Minister.
• According to Article 163(3), the question of whether any, and if so what, advice was tendered by Ministers to the Governor shall not be inquired into in any court.
• This provision is meant to preserve the confidentiality of the advice given by the Council of Ministers to the Governor.
• The Governor acts on the advice of the Council of Ministers except in cases where he/she is required to act in his/her discretion.

Additional Information

• Governor's Role
• The Governor is appointed by the President of India and holds office at the President's pleasure.
• The Governor's powers include legislative powers, executive powers, financial powers, and judicial powers.
• The Governor has the power to summon, prorogue, and dissolve the state legislature.
• In certain situations, the Governor can act independently, such as in the appointment of the Chief Minister when there is no clear

majority.

• Council of Ministers

• The Council of Ministers, headed by the Chief Minister, aids and advises the Governor in the exercise of his/her functions.

• It is collectively responsible to the legislative assembly of the state.

• The Council of Ministers is instrumental in policy formulation and administration of the state.

• Discretionary Powers of the Governor

• Discretionary powers are exercised by the Governor without the advice of the Council of Ministers.

• These powers include reserving a bill for the President's consideration, recommending President's Rule, and seeking information from the Chief Minister regarding the legislative and administrative matters of the state.

• The Governor also has the discretion to appoint the Chief Minister when no party has a clear majority in the legislative assembly.

• Judicial Immunity

• Article 163(3) ensures judicial immunity to the advice given by the Council of Ministers to the Governor.

• This immunity is designed to maintain the confidentiality and integrity of the executive advice process.

Q53. Answer: (c) Veena

The correct answer is Veena.

Key Points

• Chitti Babu was a renowned Veena player from India, recognized for his exceptional skill and contribution to Carnatic music.

• He started learning the Veena at a very young age and was tutored by Emani Sankara Sastry, a legendary veena player.

• Chitti Babu's playing style was noted for its melodic beauty, technical proficiency, and deep emotional expression.

• He performed extensively in India and internationally, popularizing the Veena and Carnatic music across the globe.

• Chitti Babu received numerous awards and honors, including the prestigious Sangeet Natak Akademi Award and Kalaimamani Award.

Additional Information

• Veena

• The Veena is a traditional Indian string instrument used primarily in Carnatic classical music.

• It consists of a large resonating body, a long neck, and seven strings, with four main playing strings and three drone strings.

• The instrument is known for its deep, resonant sound and is played using a combination of plucking and sliding techniques.

• The Veena has a history dating back to ancient times and is considered one of the oldest musical instruments in India.

• It is often associated with the goddess Saraswati, the Hindu deity of knowledge, music, and arts.

• Carnatic Music

• Carnatic music is a system of classical music associated with the southern part of India.

• It is known for its intricate and complex compositions, known as kritis, which are often devotional in nature.

• The music emphasizes vocal performance, but instruments like the Veena, Mridangam, and Violin are also integral.

• Carnatic music is characterized by its use of ragas (melodic scales) and talas (rhythmic cycles).

• Training and performance in Carnatic music require years of rigorous practice and dedication.

• Sangeet Natak Akademi Award

• This is the highest Indian recognition given to practicing artists for their outstanding contribution to the performing arts.

• The award is presented by the Sangeet Natak Akademi, India's National Academy for Music, Dance, and Drama.

• It was instituted in 1952 and includes a citation, a plaque, and a cash prize.

• Recipients are chosen for their excellence in the fields of music, dance, and drama.

• Kalaimamani Award

• The Kalaimamani Award is a prestigious award given by the Tamil Nadu government to artists in the fields of art and literature.

• It was instituted in 1954 and is presented annually by the Tamil Nadu Eyal Isai Nataka Manram (Tamil Nadu State Academy).

• The award recognizes contributions to Tamil culture and includes a medal and a citation.

• It is one of the highest honors for artists in the state of Tamil Nadu.

Q54. Answer: (b) Rural Cooperatives

The correct answer is Rural Cooperatives.

Key Points

• Rural Cooperatives were one of the earliest forms of microfinance institutions established in India.

• They were set up to provide credit and financial services to rural and agricultural sectors.

• The aim was to eliminate the exploitation by moneylenders and to provide farmers with access to necessary financial resources.

• These cooperatives played a crucial role in the development and upliftment of rural areas post-independence.

Additional Information

• Grameen Model Banks

• This model was popularized by Muhammad Yunus in Bangladesh and is not originally from India.

• It focuses on group-based lending and has been adapted in various parts of the world.

• Joint Liability Groups (JLGs)

• Introduced much later as a microfinance model to provide loans based on group guarantees.

• They are aimed at ensuring credit access to small farmers and rural entrepreneurs.

• Self Help Groups (SHGs)

• These were introduced in India in the 1980s and gained popularity in the 1990s.

• SHGs are small groups of people who come together to save and lend to each other.

• They are often linked with banks for larger financial support.

• Cooperative Societies Act

• In India, the first Cooperative Societies Act was passed in 1904.

• This act laid the foundation for the cooperative movement in India.

• The act aimed at providing a legal framework for cooperative societies.

Q55. Answer: (a) Pongal

The correct answer is Pongal.

Key Points

• Pongal is a major harvest festival celebrated by the Tamil community in the month of January every year.

• The festival lasts for four days, usually from January 14th to January 17th, marking the Tamil New Year.

• It is named after the Tamil word "Pongal," meaning "to boil," and is celebrated with the boiling of the first rice of the season.

• The festival is dedicated to the Sun God (Surya) and signifies the end of the winter solstice and the start of the sun's six-month-long journey northwards.

• Pongal is celebrated with traditional rituals, including cooking a special dish called "Pongal" and offering it to the deities.

Additional Information

• Bhogi Pongal

• The first day of Pongal is called Bhogi Pongal and is dedicated to Lord Indra, the god of rain.

• On this day, old and unwanted items are burned in a bonfire to mark the end of the old and the beginning of the new.

• Surya Pongal

• The second day, Surya Pongal, is dedicated to the Sun God and is the main day of the festival.

• People prepare a dish of rice, milk, and jaggery and offer it to the Sun God as a gesture of gratitude.

• Mattu Pongal

• The third day, Mattu Pongal, is dedicated to cattle (Mattu) which are considered essential for farming in Tamil culture.

• Cattle are decorated and worshipped, and farmers express their gratitude to them for their hard work throughout the year.

• Kanum Pongal

• The fourth day, Kanum Pongal, is a day for socializing and relaxation.

• Families visit relatives and friends, and various cultural events and games are organized.

• Significance of Kolam

• During Pongal, homes are decorated with beautiful Kolam (rangoli) designs made using rice flour.

• Kolam is believed to bring prosperity and happiness and is an integral part of the Pongal celebrations.

Q56. Answer: (a) absolute zero temperature

The correct answer is absolute zero temperature.

Key Points

• Absolute zero temperature is defined as -273.15°C or 0 Kelvin (K).

• At absolute zero, the entropy of a perfect crystal is exactly zero, according to the Third Law of Thermodynamics.

• Absolute zero is the theoretical point where particles have minimum thermal motion.

• It represents the lowest limit of the thermodynamic temperature scale.

Additional Information

• Kelvin Scale

• The Kelvin scale is the SI unit of temperature measurement.
• It starts from absolute zero, where 0 K is equal to -273.15°C.
• 1 Kelvin is equivalent to 1°C in terms of the temperature interval.
• Third Law of Thermodynamics
• States that as the temperature approaches absolute zero, the entropy of a system approaches a constant minimum.
• This law implies that it is impossible to reach absolute zero through any finite number of processes.
• Absolute Zero in Practice
• Absolute zero cannot be achieved experimentally, but scientists can get very close to it.
• Techniques like laser cooling and magnetic evaporative cooling are used to reach temperatures near absolute zero.
• Implications of Absolute Zero
• At absolute zero, molecular motion ceases, and a system reaches its ground state.
• Understanding absolute zero helps in the study of quantum mechanics and superconductivity.

Q57. Answer: (c) The proportion of persons in different age groups relative to the total population

The correct answer is The proportion of persons in different age groups relative to the total population.

Key Points

• Age structure represents the distribution of various age groups within a population.
• It is a critical demographic tool used to understand the age composition of a population.
• Age structure helps in planning and policy-making, particularly in areas such as education, healthcare, and employment.
• Analyzing age structure can reveal trends such as aging populations or youth bulges, which have significant socio-economic implications.
• It is typically illustrated through population pyramids, which graphically represent the age and sex distribution of a population.

Additional Information

• Population Pyramid
• A graphical representation that shows the distribution of various age groups in a population, typically separated by sex.
• It can indicate population growth trends, with wider bases showing younger populations and narrower bases indicating older populations.
• Demographic Transition
• A model that describes population change over time, transitioning from high birth and death rates to low birth and death rates.
• It typically involves four stages: pre-industrial, transitional, industrial, and post-industrial.
• Dependency Ratio
• A measure comparing the portion of a population composed of dependents (young and old) with the portion that is in the working age group.
• A high dependency ratio indicates that the working population is supporting a larger proportion of non-working individuals.
• Median Age
• The age that divides a population into two numerically equal groups, with half the people younger and half older than that age.
• It is an indicator of the overall age distribution of a population.
• Life Expectancy
• The average number of years a person is expected to live based on current mortality rates.
• It is a key indicator of the overall health and well-being of a population.

Q58. Answer: (b) Bombay

The correct answer is Bombay.

Key Points

• The first successful textile mill in India was established in Bombay (now Mumbai) in 1854.
• It was set up by Cowasji Nanabhai Davar and was named Bombay Spinning and Weaving Company.
• This marked the beginning of the cotton textile industry in India.
• Bombay rapidly became the center of textile production in India, contributing significantly to the city's economic growth.

Additional Information

• Textile Industry in India:
• The textile industry is one of the largest industries in India, both in terms of production and employment.
• It plays a pivotal role in the Indian economy, contributing about 2.3% to the GDP and 13% to industrial production.
• India is one of the largest producers and exporters of textiles and garments in the world.

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• The industry is labor-intensive and employs around 45 million people directly and 60 million people indirectly.
• Cotton Textile Industry:
• Cotton textiles were among the first industries to develop in India during the British colonial period.
• It remains a major segment of the Indian textile industry, with states like Maharashtra, Gujarat, Tamil Nadu, and West Bengal being major producers.
• Modernization and expansion in the cotton textile industry have led to increased productivity and quality.
• Impact of Industrialization:
• The establishment of textile mills played a crucial role in the industrialization of India.
• It led to urbanization and economic development in several regions, particularly in Bombay.
• Industrialization also brought about significant social changes, including the rise of a new working class and changes in labor practices.
• Modern Textile Industry:
• Today's textile industry in India is highly diversified, producing a wide range of products from traditional handloom fabrics to modern synthetic textiles.
• It continues to be a major contributor to India's export economy, with key markets in the USA, European Union, and Middle East.
• Government initiatives like the Textile Policy aim to support and promote the growth and modernization of the textile sector.

Q59. Answer: (c) 1992

The correct answer is 1992.

Key Points

• The first Senior Women's National Football Championship was held in India in 1992.
• This championship was introduced to promote women's football in the country.
• The All India Football Federation (AIFF) organized the tournament.
• The inaugural tournament witnessed participation from various states across India.
• It has since become an annual event, fostering the growth of women's football nationwide.

Additional Information

• All India Football Federation (AIFF)
• AIFF is the governing body for football in India.
• It was founded in 1937 and is affiliated with FIFA, the global governing body for football.
• AIFF is responsible for organizing national competitions and promoting football at all levels.
• It oversees both men's and women's football activities in India.
• Growth of Women's Football in India
• Women's football in India has gained significant momentum over the past few decades.
• Various national and regional tournaments are held to encourage participation.
• The Indian Women's National Football Team has competed in several international tournaments.
• Efforts are ongoing to improve infrastructure and training facilities for women footballers.
• Importance of National Championships
• National championships provide a platform for players to showcase their talent.
• They help in identifying and nurturing future stars of the sport.
• Such tournaments promote a competitive spirit and improve the overall standard of the game.
• They also help in building a strong foundation for the national teams.
• Women's Football Initiatives by AIFF
• AIFF has launched several initiatives to boost women's football.
• These include grassroots programs, coaching camps, and talent scouting missions.
• AIFF also collaborates with international bodies for technical support and training.
• There is a focus on increasing participation at the school and college levels.

Q60. Answer: (c) Kirtivarman II

The correct answer is Kirtivarman II.

Key Points

• Kirtivarman II was the last ruler of the Chalukya dynasty who reigned in the Deccan region.
• He was defeated by Dantidurga, the founder of the Rashtrakuta dynasty, around the mid-8th century.
• The defeat of Kirtivarman II marked the end of the Chalukya rule and the rise of the Rashtrakutas in the Deccan.

• Dantidurga's victory over Kirtivarman II is well-documented in various inscriptions and historical records.

Additional Information

• Chalukya Dynasty

• The Chalukyas were an Indian royal dynasty that ruled large parts of southern and central India between the 6th and the 12th centuries.

• Their rule is divided into three distinct but related dynasties: the Badami Chalukyas, the Eastern Chalukyas, and the Western Chalukyas.

• They are known for their contribution to art, architecture, and cultural developments in South India.

• Rashtrakuta Dynasty

• The Rashtrakutas were a prominent dynasty that ruled over large parts of the Indian subcontinent between the 6th and 10th centuries.

• They are well-known for their patronage of art and architecture, most notably the rock-cut temples of Ellora.

• Under their reign, the Deccan region witnessed significant economic, cultural, and political advancements.

• Dantidurga

• Dantidurga was the founder of the Rashtrakuta dynasty.

• He is credited with overthrowing the Chalukyan rule and establishing the Rashtrakuta Empire in the Deccan.

• His victory over Kirtivarman II is seen as a significant turning point in the history of South India.

• Historical Records

• Inscriptions and texts from the period provide valuable insights into the political and cultural history of the Deccan region during the time of the Chalukyas and Rashtrakutas.

• These records are crucial for understanding the transitions of power and the impact of these dynasties on Indian history.

Q61. Answer: (b) pastoral

The correct answer is pastoral.

Key Points

• The Early Vedic economy was primarily based on pastoral activities, focusing on cattle rearing and dairy production.

• Cattle were considered a significant measure of wealth and were often used as currency for trade and barter.

• The Rigvedic society placed immense importance on cows, and terms like "Gomat" (possessing cows) indicated prosperity.

• Pastoralism was central to the Vedic way of life, and cattle played a crucial role in their rituals, social status, and daily subsistence.

Additional Information

• Early Vedic Literature

• The Rigveda, one of the oldest texts, provides detailed insights into the pastoral lifestyle of the Early Vedic people.

• Verses in the Rigveda often praise cattle and describe various pastoral activities.

• Socio-Economic Structure

• The society was primarily tribal and kin-based, with clans led by chiefs known as "Rajan."

• Wealth was measured in terms of cattle, and social hierarchy often depended on the number of cattle owned.

• Religious Practices

• Many Vedic rituals and sacrifices, such as the Ashvamedha and Rajasuya, involved the use of cattle.

• Cows were considered sacred and were central to various religious ceremonies and offerings.

• Transition to Agriculture

• Although the Early Vedic economy was pastoral, there was a gradual shift towards agriculture during the Later Vedic period.

• This transition was marked by the settlement of tribes in the fertile plains of the Ganges and Yamuna rivers.

Q62. Answer: (d) Kelucharan Mohapatra

The correct answer is Kelucharan Mohapatra.

Key Points

• Kelucharan Mohapatra is renowned for reviving the classical Indian dance form of Odissi.

• He was born on January 8, 1926, in Raghurajpur, Odisha.

• Kelucharan Mohapatra was awarded the prestigious Padma Vibhushan in 2000 for his contributions to Indian classical dance.

• He was also a recipient of the Sangeet Natak Akademi Award and the Kalidas Samman.

• He established the Srjan (Guru Kelucharan Mohapatra Odissi Nrityabasa) dance school in Bhubaneswar, Odisha, to teach and promote Odissi dance.

Additional Information

• Odissi Dance

• Odissi is one of the classical dance forms of India that originated in Odisha.

• It is characterized by its fluid movements, intricate gestures, and expressive eyes.

• The dance form is traditionally performed as a form of worship to Lord Jagannath.

• Odissi has a rich history, with roots tracing back to the ancient temples of Odisha.

• Sangeet Natak Akademi Award

• This is the highest Indian recognition given to practicing artists.

• It is awarded by the Sangeet Natak Akademi, India's National Academy of Music, Dance & Drama.

• The award consists of a cash prize, a citation, and a tamrapatra (bronze plaque).

• Padma Awards

• The Padma Awards are one of the highest civilian honors in India, awarded annually on Republic Day.

• They are categorized into three levels: Padma Vibhushan, Padma Bhushan, and Padma Shri.

• These awards recognize achievements in various disciplines including arts, education, industry, literature, science, sports, medicine, social service, and public affairs.

• Kalidas Samman

• This is a prestigious arts award presented annually by the government of Madhya Pradesh.

• It is named after the classical Sanskrit writer Kalidasa.

• The award is given for outstanding achievements in the fields of classical music, classical dance, theatre, and visual arts.

Q63. Answer: (d) Sangeet Natak Akademi Amrit Award

The correct answer is Sangeet Natak Akademi Amrit Award.

Key Points

• Siba Prasad Das is a renowned Chhau dancer known for his contributions to the traditional dance form.

• In 2022, he was conferred with the prestigious Sangeet Natak Akademi Amrit Award.

• The Sangeet Natak Akademi Amrit Award is given to artists who have significantly contributed to the field of performing arts in India.

• The award is part of the initiative by Sangeet Natak Akademi to recognize and honor the talent and dedication of artists in various performing arts.

Additional Information

• Sangeet Natak Akademi

• It is India's national academy for music, dance, and drama.

• Founded in 1952, it aims to promote and preserve India's vast cultural heritage of performing arts.

• The Akademi awards are considered the highest national recognition given to practicing artists.

• Chhau Dance

• Chhau is a semi-classical Indian dance with martial, tribal, and folk traditions.

• It is predominantly performed in the Indian states of Odisha, West Bengal, and Jharkhand.

• The dance is recognized by UNESCO as an intangible cultural heritage.

• Padma Shri

• It is one of the highest civilian awards in India, awarded for distinguished service in various fields.

• The award was instituted in 1954 and is given annually on Republic Day.

• Sangeet Natak Akademi Fellowship

• This is a prestigious fellowship awarded by the Sangeet Natak Akademi to individuals for their lifetime achievement in the field of performing arts.

• It is different from the Sangeet Natak Akademi Award, which is for significant contributions in a specific period.

Q64. Answer: (a) Gandhian philosophy

The correct answer is Gandhian philosophy.

Key Points

• The Directive Principles of State Policy (DPSP) in the Indian Constitution are primarily inspired by the Gandhian philosophy.

• These principles reflect Mahatma Gandhi's vision for a socio-economic framework that aims at ensuring social justice and the welfare of the people.

• The DPSPs cover various aspects such as promoting cottage industries, living wages for workers, and the organization of village

Panchayats, which are rooted in Gandhian values.

• The goal of these principles is to create a just society and to ensure that the state works towards the welfare of all its citizens.

• Though not enforceable by law, these principles guide the government in making policies and laws.

Additional Information

• Directive Principles of State Policy (DPSP)

• The DPSPs are included in Part IV of the Indian Constitution, from Articles 36 to 51.

• They are guidelines for the framing of laws by the government and are non-justiciable, meaning they are not enforceable by any court.

• The aim is to establish a welfare state by securing social, economic, and political justice.

• Gandhian Principles in DPSP

• Promotion of cottage industries in rural areas (Article 43).

• Organization of village Panchayats (Article 40).

• Promotion of educational and economic interests of Scheduled Castes, Scheduled Tribes, and other weaker sections (Article 46).

• Comparison with Fundamental Rights

• Fundamental Rights (Part III) are enforceable by courts, whereas DPSPs are not.

• Both aim at the establishment of a just society and are complementary to each other.

• While Fundamental Rights ensure political democracy, DPSPs aim at social and economic democracy.

• Historical Context

• The concept of DPSPs was borrowed from the Irish Constitution.

• The framers of the Indian Constitution were influenced by the Irish nationalist movement and Gandhi's philosophy.

• They wanted to ensure that the state would work towards the welfare of all citizens, particularly the marginalized sections of society.

Q65. Answer: (b) Lalgarh Palace – Bikaner

The correct answer is Lalgarh Palace – Bikaner.

Key Points

• Lalgarh Palace is located in the city of Bikaner in Rajasthan.

• The palace was built between 1902 and 1926 for Maharaja Ganga Singh.

• It was designed by the British architect Sir Samuel Swinton Jacob.

• The palace exhibits a perfect amalgamation of Rajput, Mughal, and European architectural styles.

Additional Information

• Rambagh Palace

• Located in Jaipur, it is one of the most famous palaces in Rajasthan.

• It was originally built in 1835 and was used as a royal guesthouse and hunting lodge.

• It was later converted into a palace and is now a luxury hotel.

• Umaid Bhawan Palace

• Located in Jodhpur, it is one of the world's largest private residences.

• The palace was completed in 1943 and is named after Maharaja Umaid Singh.

• It is divided into a luxury hotel, a museum, and the residence of the royal family.

• Taj Lake Palace

• Located in Udaipur, it is a luxury hotel situated on Lake Pichola.

• The palace was built in 1746 under the direction of Maharana Jagat Singh II.

• It is famous for its stunning architecture and picturesque location.

Q66. Answer: (b) bear

The correct answer is 'bear'.

Key Points

• The verb "bear" means to endure or tolerate.

• The phrase "bear with me" is commonly used to ask someone for patience or to wait for a moment.

• Options 1, 3, and 4 are not suitable in this context.

Therefore, the correct answer is Option 2.

Complete Sentence: "Please bear with me for a while."

Additional Information

• Option 1: "balm" is incorrect as it means a soothing ointment, and does not fit the context of the sentence.

• Option 3: "bare" is incorrect as it means to uncover, and is also not suitable here.

• Option 4: "bar" is incorrect as it means to block or prevent, and does not fit the context.

Q67. Answer: (b) century

The solution is in Hindi. Read it online.

Q68. Answer: (d) sympathetic

The solution is in Hindi. Read it online.

Q69. Answer: (b) take the bull by the horns

The solution is in Hindi. Read it online.

Q70. Answer: (b) true

The correct answer is '2' i.e. true.

Key Points

• The given sentence is incorrect in its original form because "truest" is the superlative form of "true," and it should be used in appropriate contexts where a superlative degree is required.

• However, in this sentence, we need to describe how he is in adherence to his words, hence the adjective "true" is more suitable.

• The correct form should be "true to his words."

Correct sentence: He is true to his words.

Additional Information

• Degree of Comparison:

• Positive Degree: Describes a quality without comparing. Example: He is a true friend.

• Comparative Degree: Compares between two entities. Example: He is truer to his words than his friend is.

• Superlative Degree: Compares amongst three or more entities. Example: He is the truest friend one could have.

Q71. Answer: (a) pursuit

The solution is in Hindi. Read it online.

Q72. Answer: (d) had wondering

The correct answer is '4' i.e. had wondering.

Key Points

• The given sentence is incorrect because of the phrase "had wondering".

• The correct phrase should be "were wondering" to indicate that Sam and Teena were in the process of thinking.

Correct sentence: Sam and Teena were wondering what to do this weekend.

Additional Information

• Usage of Continuous Tense:

• Structure: Subject + be (was/were) + verb-ing.

• Example: They were discussing their plans.

• Usage: Describes an ongoing action in the past.

Q73. Answer: (b) Ethics

The solution is in Hindi. Read it online.

Q74. Answer: (c) dropped by the club unexpectedly

The correct answer is '3' i.e. dropped by the club unexpectedly.

Key Points

• The phrasal verb "dropped of" is incorrect in this context. It should be "dropped by," which means to come for a brief, casual visit.

• The word "by" is used correctly to indicate stopping somewhere briefly.

• The correct phrase should be "dropped by the club unexpectedly."

Correct sentence: Heba dropped by the club unexpectedly to say hello and catch up.

Additional Information

• Phrasal Verbs Examples:

• Drop off: Leave someone or something at a particular place. Example: Can you drop me off at the station?

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• Drop out: Withdraw from a social group or a chosen course of action. Example: She decided to drop out of college.
• Drop in: Visit informally. Example: She decided to drop in for a chat.

Q75. Answer: (b) Flexible

The solution is in Hindi. Read it online.

Q76. Answer: (b) The sky is covering

The correct answer is '2' i.e. The sky is covering.

Key Points

• The given sentence is incorrect because of the phrase "is covering".
• The correct phrase should be "is covered" to indicate the passive voice, suggesting that the sky is being affected by the action of being covered by clouds.

Correct sentence: The sky is covered with dark clouds and I hope soon it will begin to rain.

Additional Information

• Usage of Passive Voice:
• Structure: Subject + is/am/are + past participle
• Example: The book is read by many people.
• Usage: Describes an action done to the subject by someone or something else.

Q77. Answer: (b) Eagerness

The solution is in Hindi. Read it online.

Q78. Answer: (d) hidden

The solution is in Hindi. Read it online.

Q79. Answer: (d) The committee has careful

The correct answer is '4' i.e. The committee has careful.

Key Points

• The given sentence is incorrect because of the phrase "has careful".
• The correct phrase should be "has carefully considered" to indicate that the committee has thoughtfully examined the report.

Correct sentence: The committee has carefully considered the report which you sent us and has decided to take action.

Additional Information

• Usage of Adverbs:
• Structure: Subject + has/have + adverb + past participle
• Example: She has thoroughly checked the documents.
• Usage: Describes how an action was performed, modifying the verb.

Q80. Answer: (a) Very fast and wildly

The solution is in Hindi. Read it online.

Q81. Answer: (b) Stern

The solution is in Hindi. Read it online.

Q82. Answer: (b) No error

The correct answer is '2) No error'.

Key Points

• The given sentence is grammatically correct and does not contain any errors.
• Each part of the sentence is properly structured and conveys the intended meaning.

Correct sentence: This is the best novel I have read, in a very long time.

Additional Information

• Present Perfect Tense:
• Usage: Describes actions that happened at an indefinite time in the past (e.g., I have read) that still hold relevance to the present.
• Structure: Subject + have/has + past participle
• Example: She has finished her homework.

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Q83. Answer: (d) What

The correct answer is 'What'.

Key Points

• The word "What" correctly introduces the noun clause that serves as the subject of the sentence.

• This construction conveys that the thing given to "them" was homemade ice cream.

• Options 1, 2, and 3 do not fit this context and are grammatically incorrect here.

Therefore, the correct answer is Option 4.

Complete Sentence: "What we gave them was some homemade ice cream."

Additional Information

• Option 1: "Which" is incorrect because it typically introduces a relative clause, not a noun clause.

• Option 2: "When" is incorrect because it refers to time, which is not relevant in this context.

• Option 3: "While" is incorrect because it indicates a period of time, which also doesn't fit the context.

Q84. Answer: (a) extremely loudly

The solution is in Hindi. Read it online.

Q85. Answer: (a) dim

The correct answer is '1' i.e. dim.

Key Points

• The given sentence is incorrect as "dimmer" is the comparative form of "dim," and its usage suggests a comparison between two or more things.

• However, there is no comparison mentioned in the given sentence, so the correct form should be the positive degree "dim."

• The correct phrase should be "dim light."

Correct sentence: He was studying in the dim light.

Additional Information

• Degree of Adjectives Examples:

• Positive Degree: Describes a quality without any comparison. Example: He prefers dim light for reading.

• Comparative Degree: Compares between two entities. Example: This room is dimmer than the other one.

• Superlative Degree: Describes the highest degree of a quality among three or more entities. Example: This is the dimmest room in the house.

Q86. Answer: (d) facilitates

The solution is in Hindi. Read it online.

Q87. Answer: (d) The

The solution is in Hindi. Read it online.

Q88. Answer: (b) challenging

The solution is in Hindi. Read it online.

Q89. Answer: (d) integrated

The correct answer is 'integrated'.

Key Points

• The passage describes the process that has happened to new words in the evolving vocabulary.

• The appropriate verb form should match the context of new words being added or incorporated into the vocabulary.

• "Integrated" fits well as it means incorporated or combined, aligning with the context of new words being added to the vocabulary.

• Other options ("integral", "integration", "integrity") do not fit the context as well as "integrated".

Therefore, the correct answer is 'Option 4'.

Complete Passage: Language is a powerful device that 1. facilitates communication and interaction between individuals. It serves as a crucial tool for expressing thoughts, emotions, and ideas. 2. The richness of language can be observed in various forms, including spoken and written interaction. People employ language to convey their intentions, share knowledge, and build relationships. It is a fundamental aspect of human interaction and plays a vital role in shaping societies and cultures. Without language, cooperation would be 3. impossible, as it serves as the foundation for collaboration and understanding among diverse communities. Furthermore, language is dynamic and stationary, evolving over time to adapt to changing environments. New words are 4. integrated into the vocabulary, reflecting advancements in technology, science and culture. The ability to modify and adapt

language is a key aspect of linguistic competence. 5. Therefore, the importance of language cannot be underestimated. It is a fundamental tool for human expression and interaction, facilitating the exchange of ideas and the formation of connections among people.

Additional Information

• Integral: Means necessary to make a whole complete, which does not fit the verb form needed.

• Integration: Means the process of combining or adding parts, but does not fit the verb requirement.

• Integrity: Means the quality of being honest and having strong moral principles, which is unrelated to the context.

Q90. Answer: (d) In any case

The correct answer is 'In any case'.

Key Points

• The passage emphasizes the undeniable importance of language.

• The phrase "In any case" is used to emphasize that the importance of language remains significant regardless of any other factors.

• "In any case" appropriately concludes the passage, reinforcing the importance of language.

• Other options ("In order to", "In conclusive", "In spite of") do not fit the context and flow of the passage as well.

Therefore, the correct answer is 'Option 4'.

Complete Passage: Language is a powerful device that 1. facilitates communication and interaction between individuals. It serves as a crucial tool for expressing thoughts, emotions, and ideas. 2. The richness of language can be observed in various forms, including spoken and written interaction. People employ language to convey their intentions, share knowledge, and build relationships. It is a fundamental aspect of human interaction and plays a vital role in shaping societies and cultures. Without language, cooperation would be 3. impossible, as it serves as the foundation for collaboration and understanding among diverse communities. Furthermore, language is dynamic and stationary, evolving over time to adapt to changing environments. New words are 4. integrated into the vocabulary, reflecting advancements in technology, science and culture. The ability to modify and adapt language is a key aspect of linguistic competence. 5. In any case, the importance of language cannot be underestimated. It is a fundamental tool for human expression and interaction, facilitating the exchange of ideas and the formation of connections among people.

Additional Information

• In order to: Means for the purpose of, which does not fit the concluding nature of the sentence.

• In conclusive: This does not fit the grammatical structure or meaning needed in the sentence.

• In spite of: Means despite, which does not fit the context of emphasizing the importance of language.

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