STAFF SELECTION COMMISSION

COMBINED HIGHER SECONDARY LEVEL (TIER-I)

SOLVED PAPER

(5th July 2024: Shift-2)

Time Allotted- 1 hour **Max marks-** 200

Important Instructions:-

⇨ This paper contains 100 questions which are divided into 4 sections and each section contains 25 questions.
- ✓ English Language (Basic Knowledge)
- ✓ General Intelligence
- ✓ Quantitative Aptitude (Basic Arithmetic Skill)
- ✓ General Awareness

⇨ There will be 2 marks for each correct answer and also there will be negative marking of 0.50 marks for each wrong answer.
⇨ Each question is compulsory to attempt and there will be no negative marking for unattempted questions.

English Language

1. The following sentence has been divided into four parts. Identify the part that contains an error. This is / a doll / and there is / a umbrella.
1. This is **2.** a doll
3. and there is **4.** a umbrella.

2. 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.
The aeroplane took down / without the passengers after / making a sudden announcement.
1. making a sudden announcement
2. No error
3. without the passengers after
4. The aeroplane took down

3. The following sentence has been split into four segments. Identify the segment that contains an error. She shall being / travelling / by this time / tomorrow.
1. travelling **2.** She shall being
3. by this time **4.** tomorrow

4. Parts of the following sentence have been given as options. Select the option that contains an error. Emily is a American living in Paris for her work.
1. a American **2.** living in Paris
3. Emily is **4.** for her work

Direction (Qs. 5-9): In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

The Sun is about 1.4 million kilometres **(1)**_____ diameter, while the Earth is about 13,000 kilometers wide. This indicates that the Sun's width would need to be filled by more than one hundred Earths. Sunspots are dreary **(2)**_____ on the Sun's surface that are 2,000 degrees Celsius cooler than the rest of the surface. The coolest piece of the sunspot is the dim focus called the umbra. The penumbra surrounds it. On the Sun's surface, some sunspots are just specks. Additionally, they appear in groups up to ten times larger than Earth. They can sometimes reach 200,000 miles in length. As the Sun rotates, these groups **(3)**_____ to travel across the Sun over two weeks. Every 11 years, the number of sunspots reaches its maximum. The solar or sunspot cycle **(4)**_____ to this. The Earth's weather may become more extreme and warm during the peak of sunspot activity. According to the **(5)**_____ made by satellites like Nimbus 7, when sunspots are at their largest, less heat reaches Earth.

5. Select the most appropriate option to fill in blank number (1).
1. in **2.** of **3.** on **4.** at

6. Select the most appropriate option to fill in blank number (2).
1. regions **2.** section **3.** belt **4.** province

7. Select the most appropriate option to fill in blank number (3).
1. act **2.** show **3.** shape **4.** appear

8. Select the most appropriate option to fill in blank number (4).
1. refers **2.** pass **3.** cite **4.** entrust

9. Select the most appropriate option to fill in blank number (5).
1. perceptions **2.** inspections
3. observations **4.** invalidations

10. Select the most appropriate option that can substitute the underlined word segment in the following sentence. They are leaving <u>there coats there</u>.
1. their coats there **2.** they're coats there
3. there coats their **4.** their coats their

11. Select the most appropriate synonym of the word 'Swap' from the given sentence.
The original buyer attempted to resell the tickets online because there was no option to exchange them for a new date.
1. resell **2.** exchange **3.** original **4.** option

12. Select the most appropriate ANTONYM for the underlined word in the given sentence. He feels that wealthy people view him with <u>contempt</u> because he is poor.
1. Derision **2.** Admiration
3. Scorn **4.** Obscurity

13. Select the most appropriate option to fill in the blank.
She went on a shopping spree with her friend and made him the fat bill.
1. paid **2.** do **3.** pay **4.** give

14. Identify the incorrectly spelt word and select its correct spelling. You shall recieve proper pay for your work.
1. resieve **2.** propper **3.** receive **4.** propeer

15. Select the most appropriate ANTONYM of the given word.
Transient
1. Permanent **2.** Transparent **3.** Transitory **4.** Irregular

16. Select the most appropriate ANTONYM of the given word.
Innocent

1. Guilty **2.** Mischievous
3. Unfair **4.** Righteous

17. Select the correct spelling of the underlined word.
He is one of the most <u>underated</u> players in the team.
1. Undereted **2.** Underatted
3. Underrated **4.** Underreted

18. Select the most appropriate meaning of the given idiom.
To be at daggers drawn
1. To be about to collapse **2.** Ready to fight
3. Under suspicion **4.** To be under control

19. The following sentence has been split into four segments. Identify the segment that contains a grammatical error. The hotel room, / which we / booked, / isn't enough big.
1. isn't enough big **2.** The hotel room
3. which we **4.** booked

20. Select the most appropriate synonym of the given word.
Appalled
1. Applied **2.** Clap **3.** Disgusted **4.** Allied

21. Select the most appropriate ANTONYM of the given word.
Cramped
1. Filthy **2.** Spacious **3.** Tight **4.** Crammed

22. Select the most appropriate option that can substitute the underlined word in the given sentence.
Even in cold weather, the <u>reliable</u> car always started on the first try.
1. dependable **2.** inaccurate **3.** erratic **4.** flaky

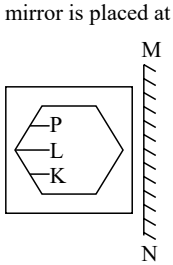
23. Select the most appropriate meaning of the given idiom.
To cost an arm and a leg
1. Someone is badly hurt
2. Something is very expensive
3. Someone does not have money to buy something
4. Someone has borne losses

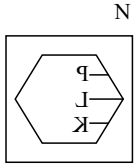
24. Select the most appropriate ANTONYM of the underlined word.
The news gave him inexpressible <u>ecstasy</u>.
1. Delight **2.** Passion
3. Depression **4.** Disappointment

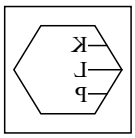
25. Select the most appropriate option that can substitute the underlined segment in the given sentence.
Mrs. Lakshmi's <u>purchases add around</u> to ₹2,650.
1. purchases add out to **2.** purchases add from to
3. purchases add up to **4.** purchases add for to

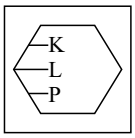
General Intelligence

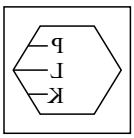
26. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



1. 

2. 

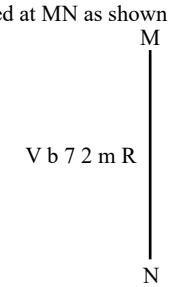
3. 

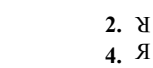
4. 

27. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(11, 8, 352)
(15, 6, 360)
(**NOTE:** Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. For example, 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.)
1. (11, 7, 231) **2.** (8, 9, 352)
3. (16, 5, 320) **4.** (17, 6, 102)

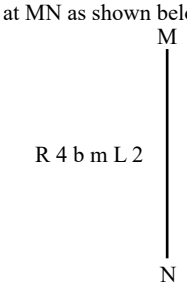
28. Which two numbers should be interchanged to make the given equation correct? $(99 - 42 + 11) + (36 \div 6) \times 7 - 50 = 73$
(**NOTE:** Numbers must be interchanged, not the constituent digits, e.g., if 2 and 3 are to be interchanged in the equation $43 \times 3 + 4 \div 2$, then the interchanged equation is $43 \times 2 + 4 \div 3$)
1. 50 and 99 **2.** 50 and 11 **3.** 7 and 11 **4.** 42 and 36

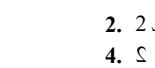
29. Select the correct mirror image of the given combination when the mirror is placed at MN as shown below.



1. 
2.
3.
4.

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

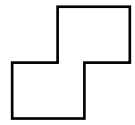


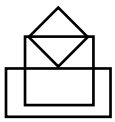
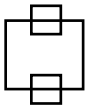
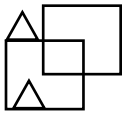
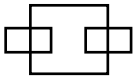
1. 
2.
3.
4.

31. If 4 December 2014 was Thursday, what was the day of the week on 10 December 2018?
1. Wednesday **2.** Tuesday **3.** Monday **4.** Friday

32. If 18 August 2000 was Friday, what was the day of the week on 21 August 2005?
1. Friday **2.** Wednesday
3. Monday **4.** Sunday

33. Select the option in which the given figure is embedded. (Rotation is NOT allowed.)



1. 
2. 
3. 
4. 

34. What should come in place of '?' in the given series based on the English alphabetical order?

OWL QAQ ? UIA WMF

1. XMB **2.** SEV **3.** LQJ **4.** PNL

35. In a certain code language, 'BAKE' is coded as '2496' and 'CAKE' is coded as '4369'. How is 'B' coded in that language?

1. 6 **2.** 2 **3.** 4 **4.** 9

36. LJNR is related to IGLP in a certain way based on the English alphabetical order. In the same way, FDHL is related to CAFJ. To which of the following is HFJN related, following the same logic?

1. EDHL **2.** EDGL **3.** EBIL **4.** ECHL

37. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '–', then the resultant of which of the following will be 1049?

1. 94 D 11 B 180 A 4 C 60 **2.** 94 A 11 D 180 B 4 C 60

3. 94 C 11 D 180 A 4 B 60 **4.** 94 B 11 D 180 A 4 C 60

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

32, 61, 90, 119, ?, 177

1. 148 **2.** 147 **3.** 149 **4.** 146

39. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '–', what will come in place of the question mark (?) in the following equation?

35 B 7 D 120 A 12 C 38 = ?

1. 173 **2.** 437 **3.** 373 **4.** 273

40. NGPZ is related to JCLV in a certain way based on the English alphabetical order. In the same way, XDLM is related to TZHI. To which of the following is RUKV related, following the same logic?

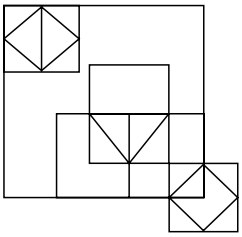
1. NQRG **2.** NGRQ **3.** NQGR **4.** NGQR

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

xy_z_xxy_zbx_yx_bx_y_z_x

1. xbxyzxxb **2.** xyxxzxxb **3.** xzxxyyzx **4.** xbxxzxxb

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



1. 17 **2.** 18 **3.** 16 **4.** 15

43. In a certain code language

A + B means 'A is the brother of B'

A – B means 'A is the father of B'

A × B means 'A is the wife of B'

A ÷ B means 'A is the mother of B'

Based on the above, how is P related to T if 'P ÷ Q × R − S + T'?

1. Father's mother **2.** Father's sister

3. Mother's sister **4.** Mother's mother

44. 161 is related to 23 following a certain logic. Following the same logic, 301 is related to 43. To which of the following is 427 related, following the same logic?

(**NOTE:** Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. For example, 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.)

1. 63 **2.** 59 **3.** 57 **4.** 61

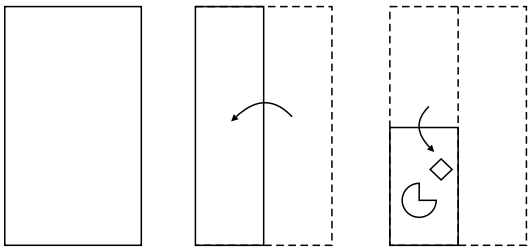
45. Which two numbers should be interchanged to make the given equation correct?

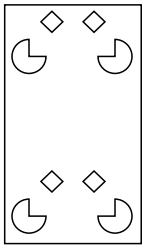
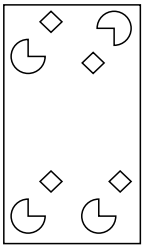
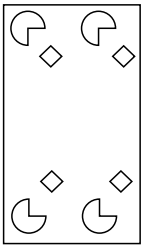
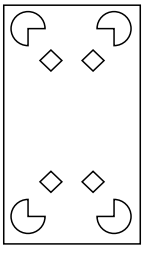
69 + 15 − (14 × 4) ÷ 2 + (48 ÷ 3) = 58

(**NOTE:** Numbers must be interchanged, not the constituent digits, e.g., if 2 and 3 are to be interchanged in the equation 43 × 3 + 4 ÷ 2, then interchanged equation is 43 × 2 + 4 ÷ 3)

1. 69 and 48 **2.** 4 and 2 **3.** 3 and 4 **4.** 48 and 15

46. A paper is folded and cut as shown below. How will it appear when unfolded?



1. 
2. 
3. 
4. 

47. In a certain code language, 'CODE' is coded as '1573' and 'DICE' is coded as '7185'. How is 'O' coded in the given language?

1. 8 **2.** 7 **3.** 5 **4.** 3

48. In this question, three statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusion(s) logically follows/follow from the statements.

Statements:

Some strawberries are oranges.

Some oranges are kiwis.

All kiwis are melons.

Conclusions:

I. No strawberry is a melon.

II. All strawberries are melons.

III. Some strawberries are kiwis.

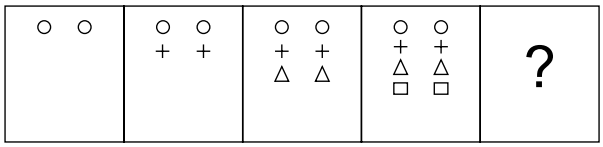
1. Both conclusions II and III follow.

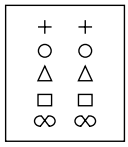
2. All conclusions I, II and III follow.

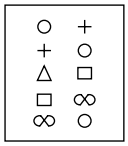
3. Neither conclusions I, II nor III follows.

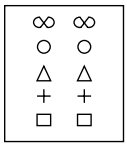
4. Both conclusions I and II follow.

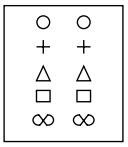
49. Identify the figure given in the options which, when placed in place of the question mark (?), will logically complete the series?



1. 

2. 

3. 

4. 

50. Three of the following four are alike in a certain way and thus form a group. Which one does NOT belong to that group?

(**Note:** The odd one out is not based on the number of consonants/vowels or their position in the letter cluster.)

1. DGL **2.** QTY **3.** MPU **4.** FIM

Quantitative Aptitude

51. Sapna finishes a job in 12 hours working alone. If Sapna and Riya finish the same job in 8 hours working together at their respective constant rates, then, in how many hours can Riya do the job working alone?

1. 18 **2.** 24 **3.** 16 **4.** 20

52. If $\tan A = a \tan B$ and $\sin A = b \sin B$, then the value of $\cos^2 A$ is:

1. $\frac{b^2-1}{a^2-1}$ **2.** $\frac{a^2-1}{b^2-1}$ **3.** $\frac{b^2+1}{a^2+1}$ **4.** $\frac{a^2+1}{b^2+1}$

53. The distance between the centres of two circles of radii 7 cm and 5 cm is 15 cm. Find the length of the transverse common tangent to these circles.

1. 7 cm **2.** 13 cm **3.** 11 cm **4.** 9 cm

54. A coffee maker with marked price of ₹4,000 is available with discounts of 15%, 10% and 5%. Find the selling price of the coffee maker.

1. ₹2,900 **2.** ₹2,903 **3.** ₹2,905 **4.** ₹2,907

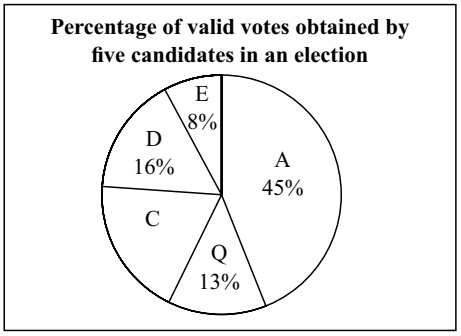
55. A girl walking at a speed of 9 km/h crosses a bridge in 45 minutes. Find the lenght of the bridge in metres.

1. 6349 **2.** 6398 **3.** 6750 **4.** 7532

56. Rajesh is playing with a football with a diameter of 28 cm. He wants to get a photo of his favourite player painted on the entire ball. The painter charges ₹2/cm^2. What will be the cost (in ₹) of painting the ball $\left(\text{Take } \pi = \frac{22}{7}\right)$?

1. ₹4,928 **2.** ₹4,828 **3.** ₹2,414 **4.** ₹2,464

57. Study the given pie chart and answer the question that follows. The pie chart represents the percentage of valid votes obtained by five candidates in a university election.



If candidate C has obtained 270 valid votes, then which are the two candidates for whom the difference in valid votes obtained is 45?

1. D and Q **2.** Q and C **3.** C and D **4.** A and Q

58. Study the given table and answer the questions that follow.

The table represents the number of candidates who appeared, qualified and were selected in a national-level examination from four different schools M, N, O and P over the years 2012 to 2017.

When A: Appeared; Q: Qualified; S: Selected

Year	M			N			O			P		
	A	Q	S	A	Q	S	A	Q	S	A	Q	S
2012	7000	750	84	3000	400	34	2000	250	27	1500	160	23
2013	5500	500	55	3500	420	56	2500	340	36	2500	290	56
2014	6500	455	42	3800	460	66	3500	380	48	2700	480	67
2015	8500	854	89	4500	485	72	4500	560	57	3400	540	87
2016	9000	922	92	4690	678	86	5670	660	68	3700	650	89
2017	9200	942	94	6700	700	92	6780	680	89	4500	670	93

For which school is the average number of candidates selected over the years the maximum?

1. O **2.** M **3.** N **4.** P

59. Jitvik's monthly salary in December 2020 was ₹24,800. Every year his salary increases by 5% from January. What was his salary (in ₹) in February 2022?

1. 27,342 **2.** 26,485 **3.** 27,486 **4.** 27,180

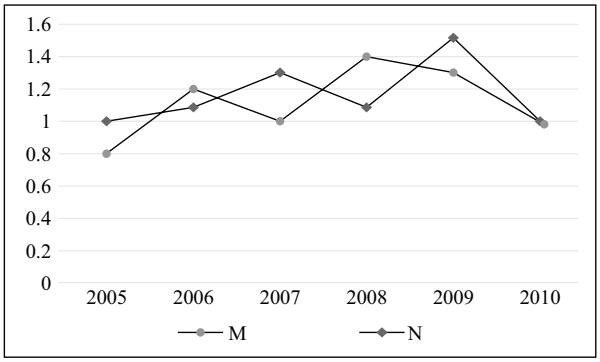
60. The population of a town first decreased by 16% due to migration to a big city for better job opportunities. The next year, the population of the town increased by 21% as there were better facilities for jobs. What is the net percentage change (correct to 2 decimal places) in the population?
1. Decrease by 2.54% **2.** Increase by 2.54%
3. Increase by 1.64% **4.** Decrease by 1.64%

61. Simplify the following expression.
$99 - [169 \div (13 \times 13) - (-4) - \{3 - 17 + 10\}]$
1. 80 **2.** 87 **3.** 107 **4.** 90

62. If 3c2933k is divisible by both 5 and 11, where c and k are single-digit natural numbers, then $c + k =$ _____.
1. 7 **2.** 8 **3.** 6 **4.** 5

63. Raju has ₹11,000 and starts saving ₹5,000 each week towards buying a new laptop. At the same time, Ramesh has ₹60,000 and begins spending ₹2,000 per week on supplies for his art class. Will there be a week when they have the same amount of money?
1. Yes, after 7 weeks
2. Yes, after 6 weeks
3. No, they will never have the same amount
4. Yes, after 5 weeks

64. The following line graph shows the ratio of imports to exports of two companies over the years.
Study the graph carefully and answer the question that follows.



If the exports of Company M in 2008 were ₹210 crores, what were the imports of the company in the same year?
1. ₹186 crores **2.** ₹294 crores
3. ₹150 crores **4.** ₹268 crores

65. A cylindrical oil tank has a radius of 5 m and a total surface area of 628 m^2. What would be its curved surface area? (round off to the second decimal place)
1. 371.83 m^2 **2.** 401.43 m^2
3. 470.8 m^2 **4.** 481.43 m^2

66. The length, breadth and height of a cuboid are in ratio 3 : 4 : 5. If the volume of the cuboid is 1,620 m^3, find the total surface area of the cuboid.
1. 646 m^2 **2.** 846 m^2 **3.** 423 m^2 **4.** 712 m^2

67. The difference between 31% and 26% of votes for the same party at different places is 2,350. What is 7% of those votes?
1. 2,270 **2.** 3,090 **3.** 4,090 **4.** 3,290

68. Ravath had to sell vegetables worth ₹4,960 for ₹4,712 due to weather conditions. What is the loss percentage that he has incurred?
1. 20% **2.** 10% **3.** 5% **4.** 15%

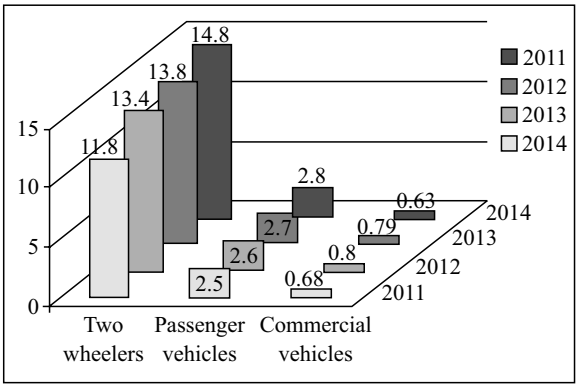
69. ΔABC is similar to ΔDEF, and the ratio of the area of ΔABC to ΔDEF is 25 : 144. If AB = p cm, AC = q cm and BC = r cm, then DE = ?
1. $\frac{5}{12}q$ **2.** $\frac{12}{5}q$ **3.** $\frac{5}{12}p$ **4.** $\frac{12}{5}p$

70. A sum of ₹18,000 gives a simple interest of ₹3,240 in 2 years and 3 months. The rate of interest per annum is:
1. 10% **2.** 12% **3.** 8% **4.** 7%

71. Abhishek's marks in Mathematics were incorrectly entered as 93 instead of 63. Due to this, the average marks of the class in Mathematics increased by 0.5. How many students were there in the class?
1. 45 **2.** 55 **3.** 60 **4.** 50

72. AB is parallel to DC in a trapezium ABCD. It is given that AB > DC, and the diagonals AC and BD intersect at O. If AO = $3x - 15$, OB = $x + 9$, OC = $x - 5$ and OD = 5, and x has two values x_1 and x_2, then the value of $(x_1^2 + x_2^2)$ is:
1. 45 **2.** 61 **3.** 73 **4.** 56

73. The given chart represents the sales of automobiles in India (by type, in million units) from 2011 to 2014. Study the chart and answer the question that follows.



If the same percentage increase in the number of two-wheelers as in 2014 over 2013 is expected in 2015, approximately how many two-wheelers will be sold in 2015?
1. 15.8 million **2.** 16.8 million
3. 17.8 million **4.** 14.8 million

74. In triangle XYZ, XY = YZ and $m\angle X = 78°$. Find the value of $m\angle Y$.
1. 28° **2.** 24° **3.** 34° **4.** 39°

75. If $a : b = 3 : 4$, $b : c = 2 : 3$, and $c : d = 5 : 6$, then $a : b : c : d$ is:
1. 15 : 25 : 30 : 36 **2.** 15 : 20 : 30 : 36
3. 15 : 20 : 35 : 36 **4.** 10 : 20 : 30 : 36

General Awareness

76. Brihadiswara Temple, which exhibits Dravidian temple architecture, is located in:
1. Thanjavur **2.** Dharmapuri
3. Madurai **4.** Thiruvanathapuram

77. In cricket, _____ is called by the umpire when the bowler doesn't deliver the ball within reach of the batter.
1. wide **2.** dead ball **3.** no ball **4.** yorker

78. Which of the following rocky planets is the fastest planet in our solar system – traveling through space at about 29 miles (47 kilometres) per second?
1. Earth **2.** Venus **3.** Mars **4.** Mercury

79. Who among the following rulers was a part of the Tripartite Struggle for the possession of Kannauj?
1. Dharmapala **2.** Yashovarman
3. Mahendrapal **4.** Prithvi Raj III

80. Bankim Chandra Chatterjee wrote the novel Anand Math based on which of the following rebellions/revolts?
1. Mappila Rebellion **2.** Paika Rebellion
3. Sanyasi Rebellion **4.** Kuki Revolt

81. Which of the following statement(s) is/are INCORRECT vis-à-vis Fundamental Duties?
1. They are obligatory in nature
2. Fundamental Rights and Fundamental Duties are complementary to each other.
3. The introduction of Article 51A created a strong base for a concrete national character and harmony.
4. The 11th Fundamental Duty was added by the 78th Constitutional Amendment Act.
1. 1 and 2 **2.** 2 and 3 **3.** Only 3 **4.** Only 4

82. The phenomenon of interaction between non-allelic genes at two or more loci, resulting in one gene masking the phenotypic expression of another gene, is known as:
1. linkage **2.** complete inheritance
3. epistasis **4.** incomplete inheritance

83. Sanjukta Panigrahi, a legendary dancer, is associated with which of the following dance forms?
1. Bihu **2.** Laho **3.** Kuchipudi **4.** Odissi

84. _____ was appointed British High Commissioner to India in April 2024.
1. Nicholas Fenn **2.** Philip Barton
3. Lindy Cameron **4.** Dominic Asquith

85. The Pinjore Heritage Festival is organised by the state of _____.
1. Jharkhand **2.** Uttarakhand
3. Sikkim **4.** Haryana

86. In Microsoft Word, which option allows you to exclude specific sections or types of text from the spelling and grammar check?
1. Spell Check **2.** AutoCorrect
3. Exclusion Dictionary **4.** Thesaurus

87. As per the Census of India 2011, which of the following groups of states recorded the lowest literacy rate?
1. Rajasthan and Assam
2. Bihar and Arunachal Pradesh
3. Rajasthan and Jharkhand
4. Bihar and Madhya Pradesh

88. The Maritime Anti-Piracy Act, 2022, was enacted to give effect to which of the following?
1. United Nations Convention on the Law of the Sea relating to the repression of piracy on the high seas.
2. United Nations Convention on Oceans and Seas relating to the repression of piracy on the high seas.
3. United Nations Regional Seas Convention relating to the repression of piracy on high seas.
4. United Nations Treaty on Oceans relating to the repression of piracy on the high seas.

89. With which of the following sports is Lovlina Borgohain associated?
1. hockey **2.** cricket **3.** basketball **4.** boxing

90. Which of the following states has mangrove forests?
1. Telangana **2.** Andhra Pradesh
3. Rajasthan **4.** Manipur

91. Which state hosts the Nehru Trophy Boat Race?
1. Karnataka **2.** Tamil Nadu
3. Kerala **4.** Goa

92. Which of the following devices is used to accelerate charged particles to high velocities?
1. cryotron **2.** copatron **3.** cosmotron **4.** cyclotron

93. Which of the following options is INCORRECT?
1. Distinguished economists from India and abroad were invited to advise on India's economic development during the first five-year plan period.
2. India borrowed the idea of five-year plans from the former Soviet Union.
3. The Planning Commission of India was set up in 1950.
4. The chairmanship of the Planning Commission of India was given to the Prime Minister.

94. In which of the following states are the Pai songs accompanied by the Saria dance, sung during the rain festivals?
1. Sikkim **2.** Uttar Pradesh
3. Tripura **4.** Madhya Pradesh

95. Which of the following relationships is correct?
1. NDP at market price = GDP at market price + depreciation
2. Domestic income = NDP at market price + net indirect taxes
3. GDP at market price = price + quantity of final goods and services
4. National income = NDP at factor cost + net factor income from abroad

96. Match the states in column A to their ports in column B.

Column A (States)	Column B (Ports)
1. Goa	a. Mormugao Port
2. West Bengal	b. Kandla Port
3. Tamil Nadu	c. Tuticorin Port
4. Gujarat	d. Haldia Port

1. 1-a, 2-d, 3-c, 4-b **2.** 1-a, 2-d, 3-b, 4-c
3. 1-d, 2-a, 3-c, 4-b **4.** 1-a, 2-c, 3-d, 4-b

97. The 42nd Amendment of the Indian Constitution added _____.
1. Legislature **2.** Fundamental rights
3. Fundamental duties **4.** National Anthem

98. Who among the following is a singer of Hindustani classical music?
1. Aruna Sairam **2.** Sudha Ragunathan
3. S Sowmya **4.** Shubha Mudgal

99. Which organisation, in collaboration with the Central Board of Secondary Education (CBSE) and the Ministry of Education, announced the launch of the 'AI For All' initiative with the purpose of creating a basic understanding of artificial intelligence for everyone in India?
1. Intel **2.** Infosys **3.** TCS **4.** IBM

100. Rows in MS Excel are identified by:
1. letters **2.** numbers with letters
3. numbers **4.** timings

Answer Key

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

Answers with Explanations

1. Option (4) is correct.

The correct sentence is: This is a doll and there is an umbrella. The part 'a umbrella' will be replaced by 'an umbrella'. This relates to errors in articles. 'An' is used before a noun that starts with a vowel sound (e.g., "a," "e", "o," "i", "u").

2. Option 4 is correct.

The correct sentence is: The aeroplane took off without the passengers after making a sudden announcement. The part 'the aeroplane took down' will be replaced by 'the aeroplane took off.' The phrase "took off" suggests leaving the ground and flying, while "took down" implies "dismantle and remove a structure."

3. Option (2) is correct.

The correct sentence is: She shall be travelling by this time tomorrow. The part 'She shall being' will be replaced by 'She shall be.' The structure of a sentence in the simple future tense is: subject + will/shall + be; 'being' is used to connote the continuous form.

4. Option (1) is correct.

The correct sentence is: Emily is an American living in Paris for her work .The part 'a American' will be replaced by 'an American'. This relates to errors in articles. 'An' is used before a noun that starts with a vowel sound (e.g., "a," "e", "o," "i", "u").

5. Option (1) is correct.

The correct sentence is: The Sun is about 1.4 million kilometres in diameter, while the Earth is about 13,000 kilometres wide. The most suitable preposition for the blank is 'in'.

6. Option (1) is correct.

The correct sentence is: This indicates that the Sun's width would need to be filled by more than one hundred Earths. Sunspots are dreary regions on the Sun's surface that are 2,0000 degrees Celsius cooler than the rest of the surface. The word 'regions' fits well in the context of describing sunspots as distinct areas or zones on the Sun's surface. Section refers to a portion; province is a division of a country that has its own government.

7. Option (4) is correct.

The correct sentence is: They can sometimes reach 2,00,000 miles in length. As the Sun rotates, these groups appear to travel across the Sun over two weeks. Here, 'appear' means seem /look. These groups do not act/ show/ shape to travel across the Sun over two weeks.

8. Option (1) is correct.

The correct sentence is: Every 11 years, the number of sunspots reaches its maximum. This is referred to as the solar or sunspot cycle. "Refers" implies mention or allusion. Moreover, the subject is 'the number' (a singular number), so it deserves a singular verb, 'refers'. Only option (1) conforms to this rule.

9. Option (3) is correct.

The correct sentence is: According to the observations made by satellites like Nimbus 7, when sunspots are at their largest, less heat reaches Earth. The word 'observations' implies a statement based on something one has seen, heard or noticed. "Perceptions" are more about one's interpretations; the way in which something is regarded or understood. Since the statement is a fact derived from data, 'observations' fits the bill.

10. Option (1) is correct.

The correct sentence is: They are leaving there coats there. The part 'there coats there' will be replaced by 'their coats there'. This is because the 'there' means "at that place" and is used to talk about a specific location. 'Their' indicates ownership and is the possessive form of 'they'

11. Option (2) is correct.

'Swap' means to give in exchange/trade. Example: The friends decided to swap their places on the bus for a day. Thus, the correct meaning is 'exchange'.

12. Option (2) is correct.

'Contempt' implies a strong feeling of lack of respect for someone or something. 'Derision' and 'scorn' are synonyms, while the suitable antonym is 'admiration', the only positive word among the options.

13. Option (3) is correct.

The correct sentence is: She went on a shopping spree with her friend and made him pay the fat bill. In this sentence, "pay" should be in its base form (infinitive) after "made". Therefore, the correct construction is: "made + him + pay (infinitive form of the verb) + the bill".

14. Option (3) is correct.

The correct sentence is: You shall recieve proper pay for your work. The word 'recieve' is spelled incorrectly; it must be written as 'receive'.

15. Option (1) is correct.

'Transient' means 'not lasting, enduring or permanent'. 'Transitory' is a synonym of the word. The befitting antonym is 'permanent'.

16. Option (1) is correct.

'Innocent' implies 'not guilty of a crime or offence'. Thus, the most suitable antonym is 'guilty', meaning 'responsible for doing something wrong, especially a crime.' 'Righteous' means 'morally right; justifiable'. Example: The accused was let off when the police realised that he was a victim of circumstances and hence, innocent.

17. Option (3) is correct.

The correct sentence is: He is one of the most underrated players in the team. Here, 'underated' will be replaced by 'underrated' (not rated or valued highly enough).

18. Option (2) is correct.

The idiom 'to be at daggers drawn' refers to a state when two people are having an argument and are still very angry with each other. In other words, 'ready to fight'. Example: Both India and China seem to be at daggers drawn when it comes to reconciliation; they continue to be antagonistic towards each other.

19. Option (1) is correct.

The correct sentence is: The hotel room, which we booked, isn't big enough. The phrase 'isn't enough big' will be replaced by 'isn't big enough . This is because of the incorrect placement of the adverb and adjective. The adverb 'enough' should come after the adjective, not before it. 'Enough' modifies the adjective 'big' to indicate that the size does not meet the desired level.

20. Option (3) is correct.

'Appalled' means 'greatly dismayed or horrified.' Thus, the appropriate synonym is 'Disgusted'.

21. Option (2) is correct.

'Cramped' implies 'uncomfortably small or restricted'. Example: The room was too cramped for a guest to relax. Thus, the appropriate antonym is 'spacious'.

22. Option (1) is correct.

The correct sentence is: Even in cold weather, the dependable car always started on the first try. The word 'reliable' means 'a reliable person or thing.'.

23. Option (2) is correct.

'To cost an arm and a leg' refers to something extremely expensive. Example: The airfare and stay in London almost cost me an arm and a leg. Therefore, the correct meaning is 'Something is very expensive'.

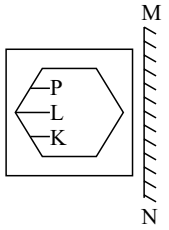
24. Option (3) is correct.

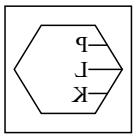
The word 'ecstasy' means 'a state of extreme happiness'. Example: I could not contain my ecstasy at the sight of snow-capped mountains from my window. Therefore, the correct antonym is 'depression'.

25. Option (3) is correct.

The correct sentence is: Mrs. Lakshmi's purchases add up to ₹2,650. Here, 'purchases add up to' will replace 'add around to'. The phrase 'add up to' means 'come to a specified number or amount'. This is the correct phrase as per standard English usage.

26. Option (1) is correct.



In the mirror image, the left becomes right, and the right becomes left. Hence, 

27. Option (3) is correct.

$11 \times 8 \times 4 = 352$

$15 \times 6 \times 4 = 360$

$16 \times 5 \times 4 = 320$

28. Option (4) is correct.

Solving options wise

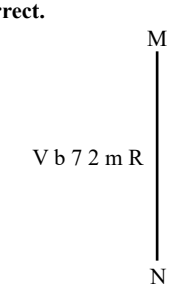
Interchange 42 and 36,

$(99 - 36 + 11) + (42 \div 6) \times 7 - 50 = 73$

Using BODMAS Rule:

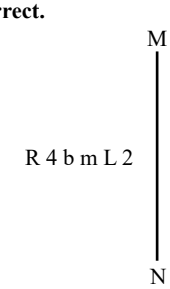
LHS = $(110 - 36) + 7 \times 7 - 50 = 74 + 49 - 50 = 73$ = RHS

29. Option (4) is correct.



In the mirror image, the left becomes right, and the right becomes left. Hence, Я m 2 7 d V

30. Option (3) is correct.



In the mirror image, the left becomes right, and the right becomes left. Hence, Я 4 d m L 2

31. Option (3) is correct.

Number of odd days from 4 December 2014 to 4 December 2015 = 1

Number of odd days from 4 December 2015 to 4 December 2016 = 2

Number of odd days from 4 December 2016 to 4 December 2017 = 1

Number of odd days from 4 December 2017 to 4 December 2018 = 1

Number of odd days from 4 December 2018 to 10 December 2018 = 6

Total = 11

Hence, the total number of odd days = 11 ÷ 7 = 4

Tuesday + 4 = Monday

32. Option (4) is correct.

Number of odd days from 18 August 2000 to 18 August 2001 = 1

Number of odd days from 18 August 2001 to 18 August 2002 = 1

Number of odd days from 18 August 2002 to 18 August 2003 = 1

Number of odd days from 18 August 2003 to 18 August 2004 = 2

Number of odd days from 18 August 2004 to 21 August 2005 = 4

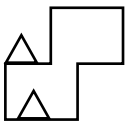
Number of odd days from 18 August 2005 to 21 August 2005 = 3

Total = 9

Hence, the total number of odd days = 9 ÷ 7 = 2

Friday + 2 = Sunday

33. Option (3) is correct.



34. Option (2) is correct.

$O \xrightarrow{+2} Q \xrightarrow{+2} S \xrightarrow{+2} U \xrightarrow{+2} W$

$W \xrightarrow{+4} A \xrightarrow{+5} E \xrightarrow{+4} I \xrightarrow{+4} M$

$L \xrightarrow{+5} Q \xrightarrow{+5} V \xrightarrow{+5} A \xrightarrow{+5} F$

Hence, SEV is the correct answer.

35. Option (2) is correct.

'BAKE' is coded as '2496

B	A	K	E
2	4	9	6

'CAKE' is coded as '4369

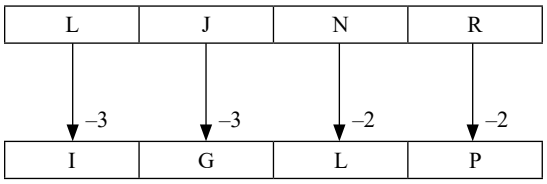
C	A	K	E
4	3	6	9

Since, 4 9 6 and A K E are common in both words, hence, the code for A K E is 4 6 9

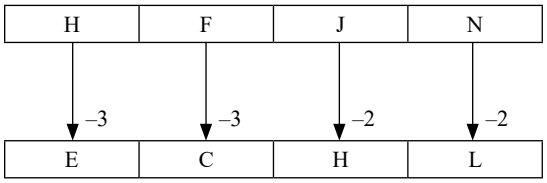
And code for B = 2

36. Option (4) is correct.

LJNR is related to IGLP



Similarly,



37. Option (4) is correct.

After changing the symbols, we get:

94 × 11 – 180 ÷ 4 + 60

Using BODMAS Rule,

94 × 11 – 45 + 60

1034 – 45 + 60 = 1049

Hence,

94 B 11 D 180 A 4 C 60

Hence, 94 B 11 D 180 A 4 C 60 is the correct answer.

38. Option (1) is correct.

The rule followed is:

32 + 29 = 61

61 + 29 = 90

90 + 29 = 119

119 + 29 = 148

148 + 29 = 177

39. Option (4) is correct.

The given expression becomes:

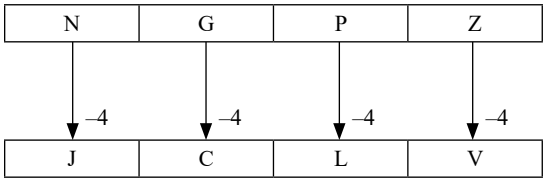
35 × 7 – 120 ÷ 12 + 38

Using BODMAS Rule:

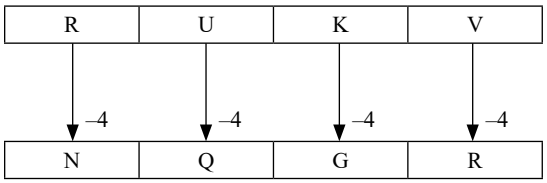
35 × 7 – 10 + 38

245 – 10 + 38 = 273

40. Option (3) is correct.



Similarly,



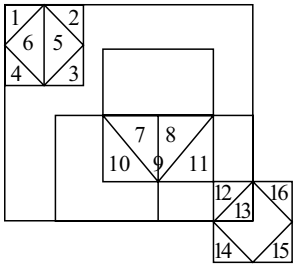
41. Option (4) is correct.

x y **x** /z **b** x /x y **x** /z b x / **x** y x /**z** b x/**x** y **x**/z **b** x

Pattern is

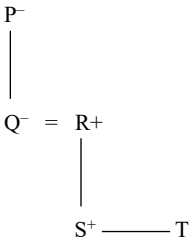
x y x/ z b x

42. Option (3) is correct.



Total number of triangles = 16

43. Option (4) is correct.



P is the mother's mother of T.

44. Option (4) is correct.

$23 \times 7 = 161$

$43 \times 7 = 301$

$61 \times 7 = 427$

45. Option (1) is correct.

Interchange 69 and 48:

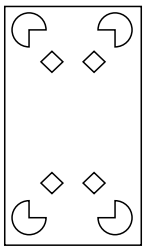
$48 + 15 - (14 \times 4) \div 2 + (69 \div 3) = 58$

LHS = $48 + 15 - 56 \div 2 + 23$

$48 + 15 - 28 + 23 = 58$ = RHS

46. Option (4) is correct.

Follow the pattern and the symmetry.

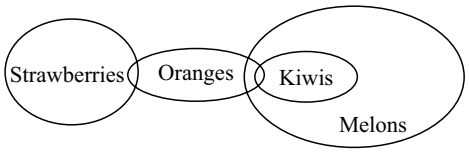


47. Option (4) is correct.

'CODE' is coded as 1573 and, DICE, is coded as 7185.

Since 1, 7 and 5 and 'C', 'D' and 'E' are common in both words, the code for 'O' is 3.

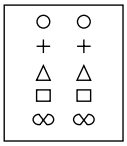
48. Option (3) is correct.



From the Venn diagram, neither conclusions I, II nor III follows.

49. Option (4) is correct.

In every next figure, two new elements are added in a new row.



50. Option (4) is correct.

Solve by options,

$D \xrightarrow{+3} G \xrightarrow{+5} L$

$Q \xrightarrow{+3} T \xrightarrow{+5} Y$

$M \xrightarrow{+3} P \xrightarrow{+5} U$

$F \xrightarrow{+3} I \xrightarrow{+4} M$

51. Option (2) is correct.

Work done by Sapna in 1 hour = $\frac{1}{12}$ units

Work done by Sapna and Riya together in 1 hour = $\frac{1}{8}$ units

So, work done by Riya alone in 1 hour $= \frac{1}{8} - \frac{1}{12} = \frac{3-2}{24} = \frac{1}{24}$

So, Riya will do the job working alone in 24 hours.

52. Option (1) is correct.

Given: $\tan A = a \tan B$

$\Rightarrow \quad \tan B = \frac{\tan A}{a} \Rightarrow \cot B = \frac{a}{\tan A}$

and $\sin A = b \sin B \Rightarrow \operatorname{cosec} B = \frac{b}{\sin B}$

$\because \operatorname{cosec}^2 B - \cot^2 B = 1 \Rightarrow \frac{b^2}{\sin^2 A} - \frac{a^2}{\tan^2 A} = 1$

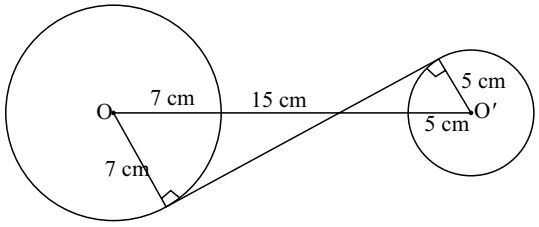
$\Rightarrow b^2 - a^2 \cos^2 A = \sin^2 A$

$\Rightarrow b^2 - a^2 \cos^2 A = 1 - \cos^2 A$

$\Rightarrow b^2 - 1 = \cos^2 A(a^2 - 1)$

$\Rightarrow \cos^2 A = \frac{b^2 - 1}{a^2 - 1}$

53. Option (4) is correct.



Length of common transverse tangent $= \sqrt{15^2 - (7+5)^2}$

$= \sqrt{225 - 144} = \sqrt{81} = 9$ cm

54. Option (4) is correct.

Marked price (M.P.) of coffee maker = ₹4,000

According to the question, we have:

Selling price of coffee maker

$= 4000\left[1 - \frac{15}{100}\right]\left[1 - \frac{10}{100}\right]\left[1 - \frac{5}{100}\right]$

$= 4000 \times \frac{85}{100} \times \frac{90}{100} \times \frac{95}{100}$ = ₹2,907

55. Option (3) is correct.

Length of bridge $= 9000 \times \frac{45}{60} = 6750$ m

56. Option (1) is correct.

Diameter of the spherical ball = 28 cm

Radius of the spherical ball = 14 cm

Total surface area of the ball = $4\pi r^2$

$= 4 \times \frac{22}{7} \times 14 \times 14 = 2464$ cm^2

So, the required cost = 2464 × ₹2 = ₹4,928

57. Option (1) is correct.

Percentage of valid votes obtained by candidate C

= [100 – (45 + 13 + 16 + 8)]% = 3%

Let the total value of votes = X

So, $\frac{18}{100}X = 270 \Rightarrow X = 1{,}500$

Candidates	Valid votes obtained
A	4.5% of 1,500 = 675
Q	13% of 1,500 = 195
C	270
D	16% of 1,500 = 240
E	8% of 1,500 = 100

So, the difference between valid votes obtained by D and Q

= 240 – 195 = 45

58. Option (2) is correct.

Average number of candidates selected from school M

$= \frac{84+55+42+89+92+94}{6} = \frac{456}{6} = 76$

Average number of candidates selected from school O

$= \frac{27+36+48+57+68+89}{6} = \frac{325}{6} = 54.17$

Average number of candidates selected from school P

$= \frac{23+56+67+87+89+93}{6} = \frac{415}{6} = 69.17$

Thus, the average number of candidates selected over the years is highest from school M.

59. Option (1) is correct.

Monthly salary of Jitvik in December 2020 = ₹24,800

According to the question, we have:

Monthly salary of Jitvik in February 2022

$= ₹24{,}800 \times \frac{105}{100} \times \frac{105}{100} = ₹27{,}342$

60. Option (3) is correct.

Let the original population of the town = X

According to the question,

New population of the town $= X \times \frac{84}{100} \times \frac{121}{100} = \frac{2541}{2500}$

$\therefore$ Net percentage change $= \frac{\left[\frac{2541}{2500} - 1\right]}{X} \times 100 = 1.64\%$

61. Option (4) is correct.

99 – [169 ÷ (13 × 13) – (–4) – {3 – 17 + 10}]

= 99 – [169 ÷ 169 + 4 – {–4}]

= 99 – [169 ÷ 169 + 4 + 4]

= 99 – [1 + 8] = 99 – 9 = 90

62. Option (3) is correct.

For the number divisible by 5, k should be either 0 or 5. But $k = 0$, as k is a natural numbers.

Also, (3 + 2 + 3 + 5) = (6 + 9 + 3) must be either 0 or a multiple of 11.

$\Rightarrow$ 13 – 12 – c = 1 – c must be eitehr 0 or divisible by 11.

$\Rightarrow c = 1$

$\therefore c + k = 1 + 5 = 6$

63. Option (1) is correct.

Let after n work, they will have the same amount.

So, $11000 + 5000n = 60000 - 2000n$

$\Rightarrow \quad 70000n = 49000$

$\Rightarrow \quad n = 7$

So, after 7 weeks, they will have same amount.

64. Option (2) is correct.

Given, the ratio of import to export of company M in 2008

$= 1.4 = \frac{7}{5}$

$\Rightarrow \frac{\text{Import amount}}{210 \text{ crores}} = \frac{7}{5}$

Import amount $= \frac{7}{5} \times 210$ crores = ₹294 crores

65. Option (3) is correct.

Radius of tank (r) = 5 m

Total surface area of the tank = 628 m^2

$2\pi rh + 2\pi r^2 = 628$

CSA of tank = 628 – 2 × 25 $\cong$ 628 – 157.74 = 470.8 m^2

66. Option (2) is correct.

Let length, breadth and height of the cuboid be $3x$, $4x$ and $5x$, respectively.

Given, volume of cuboid = 1,620 m^3

$\Rightarrow (3x)(4x)(5x) = 1620$

$\Rightarrow 60x^3 = 1620$

$\Rightarrow x^3 = 27$

$\Rightarrow x = 3$

Total surface area of cuboid = 2(lb + bh + hl)

$= 2(12x^2 + 20x^2 + 15x^2) = 94x^2 = 94 \times 9 = 846$ m^2

67. Option (4) is correct.

Let total votes = X

According to the question,

[31% – 26%] of X = 2,350

$\Rightarrow \frac{5X}{100} = 2350 \Rightarrow X = 47{,}000$

So, 7% of X $= \frac{7}{100} \times 47{,}000 = 3{,}290$

68. Option (3) is correct.

M.P. of vegetables = ₹4,960

S.P. of vegetables = 4,712

Loss percentage $= \frac{4970 - 4712}{4960} \times 100 = 5\%$

69. Option (4) is correct.

Given: $\frac{\text{ar}(\Delta ABC)}{\text{ar}(\Delta DEF)} = \frac{25}{144} = \left[\frac{AB}{DE}\right]^2$

$\Rightarrow \frac{AB}{DE} = \frac{5}{12} \Rightarrow \frac{p}{DE} = \frac{5}{12}$

$\Rightarrow DE = \frac{12}{5}p$

70. Option (3) is correct.

Given, Principal (P) = ₹18,000, SI = ₹3,240

Time = 2 years 3 monthss = $\left[2+\frac{3}{12}\right]=2\frac{1}{4}$ years

$\because$ SI $=\frac{P\times R\times T}{100}$

$\Rightarrow 3240=\frac{18000\times P\times 9}{100\times 4}$

$\Rightarrow R=\frac{3240\times 4}{180\times 9}=8\%$

71. Option (3) is correct.

Let the number of students in the class = n

and the average be A.

So, the sum of marks of students = An

$\Rightarrow$ Sum of marks of (n–1) students = An – 63

According to the question,

Sum of marks of (n–1) students = (A + 0.5)n – 93

$\Rightarrow An - 63 = (A + 0.5)n - 93$

$\Rightarrow 9B - 6B = An + 0.5n - An$

$\Rightarrow 30 = 0.5n$

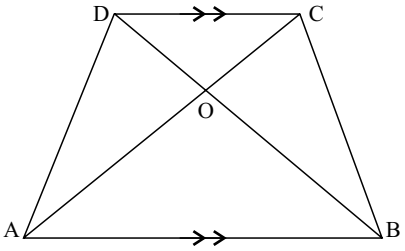
$\Rightarrow n=\frac{30}{5}\times 10=60$

72. Option (2) is correct.

Here, AB || CD

AO = 3r – 15, OB = x + 9

OC = x – 5, OD = 5



So, $\frac{AO}{BO}=\frac{CO}{DO}$

$\Rightarrow \frac{3x-15}{x+9}=\frac{x-5}{5}$

$\Rightarrow 15x - 75 = x^2 + 4x - 45$

$\Rightarrow x^2 - 11x + 30 = 0$

$\Rightarrow (x - 5)(x - 6) = 0 \Rightarrow x = 5, 6$

So, $x = 5$ and $x_2 = 6$

$x_1^2 + x_2^2 = 25 + 36 = 61$

73. Option (1) is correct.

Percentage increase in 2014 (two-wheelers)

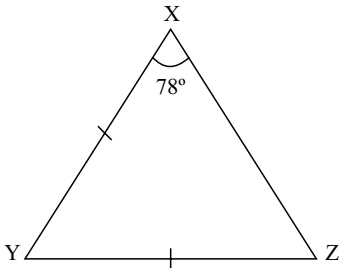
$=\frac{14.8-13.8}{13.87}\times 100=7.25\%$

Number of two-wheelers sold in 2015

$=\left[14.8\times\frac{107.25}{100}\right]$ millions $\cong$ 15.8 million

74. Option (2) is correct.

Given: XY = YZ



$\therefore \angle X = \angle Z$ (angle opposite to equal sides are equal)

$\because \angle X + \angle Y + \angle Z = 180^\circ$ (angle sum property of a triangle)

$\Rightarrow 2(78^\circ) + \angle Y = 180^\circ$

$\Rightarrow \quad \angle Y = 180^\circ - 156^\circ = 24^\circ$

75. Option (2) is correct.

Given: $a : b = 3 : 4$, $b : c = 2 : 3$, $c : d = 5 : 6$

LCM of (3 and 5) = 15

$\therefore \frac{b}{c}=\frac{10}{15};\ \frac{c}{d}=\frac{15}{18} \Rightarrow b:c:d=10:15:18$

Now, LCM of (4, 10) = 20

So, $\frac{a}{b}=\frac{15}{20}$ and $b : c : d = 20 : 30 : 36$

$\therefore a : b : c : d = 15 : 20 : 30 : 36$

76. Option (1) is correct.

The Brihadishwara Temple, a Dravidian-style temple dedicated to Lord Shiva, is located in the Thanjavur district of Tamil Nadu, on the southern bank of the Kaveri river. It was conceived between 1003 and 1010 AD by Rajaraja I, the emperor of the Chola dynasty, and reflects Chola culture and style. The temple is one of the largest Hindu temples and is a UNESCO World Heritage Site, known as one of the Great Living Chola Temples.

77. Option (1) is correct.

In cricket, a wide is called by the umpire when the bowler doesn't deliver the ball within the reach of the batter. A ball is called "dead" by the umpire when it is no longer in play. A delivery is called a "no ball" by the umpire if it breaches the rules, such as if the bowler oversteps the crease. A yorker is a type of delivery in cricket where the bowler aims to pitch the ball right at or near the batsman's feet, ideally on the crease line.

78. Option (4) is correct.

Mercury is the fastest planet in our solar system, travelling through space at nearly 29 miles (47 kilometres) per second. This is almost 60% faster than Earth's orbital speed. Mercury is also the closest planet to the Sun, and because of its short orbital path, it has the shortest year of any planet in our solar system, at just 88 days.

79. Option (1) is correct.

During the 8th century AD, the Palas, Pratiharas and Rashtrakutas fought for control over Kannauj in what is known as the tripartite struggle in Indian history. Initially, Pala king Dharmapala and Pratihara king Vatsaraja clashed, with Vatsaraja emerging victorious. However, Vatsaraja was then defeated by Rashtrakuta king Dhruva I. When Dhruva I returned south, Dharmapala briefly captured Kannauj, but his control was temporary.

80. Option (3) is correct.

Bankim Chandra Chatterjee's novel "Anand Math" popularised the Sanyasi Rebellion. Set against this backdrop,

the novel describes the Sanyasis' fight against the East India Company in the late 18th century.

81. Option (4) is correct.

Fundamental Duties are obligatory for citizens of India. Fundamental Rights and Fundamental Duties are complementary to each other. The introduction of Article 51A created a strong base for a concrete national character and strong harmony. The 11th Fundamental Duty was added by the 86th Constitutional Amendment Act of 2002. Therefore, statements 1, 2 and 3 are correct, but statement 4 is not. Hence, the correct answer is Option 4.

82. Option (3) is correct.

Epistasis occurs when the effect of one gene (the epistatic gene) overshadows or suppresses the expression of another gene (the hypostatic gene) at a different locus. This interaction can affect the phenotypic outcome of an organism.

83. Option (4) is correct.

Sanjukta Panigrahi was a renowned Odissi dancer honoured with the Padma Shri in 1975 and the Sangeet Natak Akademi Award in 1976. After her death, her husband, Raghunath Panigrahi, established the Sanjukta Panigrahi Memorial Trust in 1999 to promote and preserve the art of Odissi dance.

84. Option (3) is correct.

Lindy Cameron, former CEO of the UK's National Cyber Security Centre, has been appointed as the first female British High Commissioner to India. She will succeed Alex Ellis, who will become the UK ambassador to Spain, starting her role in April 2024.

85. Option (4) is correct.

The Pinjore Heritage Festival is a renowned annual fair held in the Pinjore Garden of Panchkula district in Haryana. This festival, which began in 2006, offers a glimpse into the rich heritage of the gardens, featuring seven descending levels established by the Mughal rulers.

86. Option (3) is correct.

In Microsoft Word, the Exclusion Dictionary allows users to exclude specific words or phrases from the spelling and grammar check. By adding terms to the Exclusion Dictionary, you can prevent Word from flagging them as errors, effectively customising the spell-check process to ignore certain sections or types of text.

87. Option (2) is correct.

State	Literacy rates
Bihar	63.8%
Arunachal Pradesh	67.0%
Rajasthan	67.1%
Jharkhand	67.6%
Assam	72.19%
Madhya Pradesh	70.6%

As a result, Bihar and Arunachal Pradesh have the lowest overall literacy rates.

88. Option (1) is correct.

The Maritime Anti-Piracy Act, passed by Parliament in 2022, implements the United Nations Convention on the Law of the Sea (UNCLOS), which establishes guidelines for addressing piracy and armed robbery at sea. India ratified UNCLOS in 1995.

89. Option (4) is correct.

Lovlina Borgohain, a 23-year-old Indian boxer from Golaghat district, Assam, competes in the 69 kg category. She won a bronze medal in the women's welterweight division at the Tokyo 2021 Olympics. This achievement made her the third Indian boxer to win an Olympic medal, following Vijender Singh and M.C. Mary Kom, who won bronze in 2008 and 2012, respectively.

90. Option (2) is correct.

Mangrove forests, which thrive along coastlines and delta edges, are found in the fertile deltas of the Cauvery, Krishna, Mahanadi, Godavari and Ganga rivers. In India, these forests are located in the states of West Bengal, Gujarat, Tamil Nadu, Andhra Pradesh and the Andaman and Nicobar Islands.

91. Option (3) is correct.

The Nehru Trophy Boat Race, named after Pandit Jawaharlal Nehru, is held annually on the second Saturday of August on Punnamda Lake near Alappuzha. It is one of the premier snake boat races in Kerala.

92. Option (4) is correct.

The cyclotron, invented by Ernest O. Lawrence in 1934, is a device used to accelerate charged particles to high energies. It operates on the principle that a charged particle moving perpendicular to a magnetic field experiences the Lorentz force, causing it to travel in a circular path. At high frequencies, the relativistic increase in the electron's mass affects acceleration, making it challenging to accelerate electrons efficiently with a cyclotron.

93. Option (1) is correct.

During the Second Plan period, Mahalanobis invited many distinguished economists from India and abroad to advise him on India's economic development. Hence, Statement 1 is not correct.

Option 2 is correct. India adopted the five-year plan system from the Soviet Union.

Option 3 is correct. The Planning Commission of India was established in 1950.

Option 4 is correct. The Prime Minister was the chairperson of the Planning Commission.

94. Option (4) is correct.

The Pai song, originating from Madhya Pradesh, is sung during the rainy season to seek a favourable monsoon and a bountiful harvest. It is accompanied by the Saira dance performance.

95. Option (4) is correct.

The correct relationship is:

National income = NDP at factor cost + net factor income from abroad. Hence, Option 4 is correct.

Option 1 is incorrect. NDP at market price = GDP at market price - depreciation.

Option 2 is incorrect. Domestic income = NDP at factor cost + net indirect taxes.

Option 3 is incorrect. GDP at market price = price × quantity of final goods and services (though it's a conceptually correct formula, it's not expressed accurately in this option).

96. Option (1) is correct.

Ports	States
Mormugao Port is a port on the western coast of India, in the coastal state of Goa.	Goa
Haldia is an industrial port city in Purba Medinipur district in the Indian state of West Bengal.	West Bengal

The V.O. Chidambaranar Port, formerly called the Tuticorin Port, is one of the 12 major ports of India. It was declared a major port on 11 July 1974. It is located in the state of Tamil Nadu.	Tamil Nadu
Kandla Port, also known as Deendayal Port, is located in the Kutch district of Gujarat, India.	Gujarat

Therefore, Option 1 is correct.

97. Option (3) is correct.

The 42nd Amendment to the Indian Constitution, enacted in 1976, introduced the Fundamental Duties of citizens. This amendment added a new Article 51A and Part .IVA, outlining these duties and emphasising the responsibilities of Indian citizens towards the nation. It complements the existing Fundamental Rights.

98. Option (4) is correct.

Shubha Mudgal is a renowned singer of Hindustani classical music. She is known for her contributions to classical, semi-classical and folk music genres. Conversely, Aruna Sairam, Sudha Ragunathan and S. Sowmya are prominent in Carnatic classical music.

99. Option (1) is correct.

Intel has partnered with the Central Board of Secondary Education (CBSE) to introduce the 'AI For All' initiative, designed to provide a foundational understanding of artificial intelligence (AI) to individuals in India. This four-hour open content resource, available in 11 regional languages, is split into two parts: AI Awareness (1.5 hours) and AI Appreciation (2.5 hours).

100. Option (3) is correct.

In MS Excel, rows are identified by numbers, which run sequentially from 1 onward. Columns, on the other hand, are identified by letters. Combining row numbers and column letters creates a unique cell reference, such as A1 or B2, allowing users to navigate and manage data effectively.