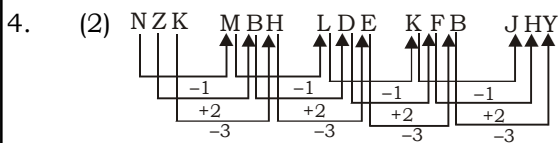


18 AUGUST (12 PM) (SOLUTION)

1. (4)

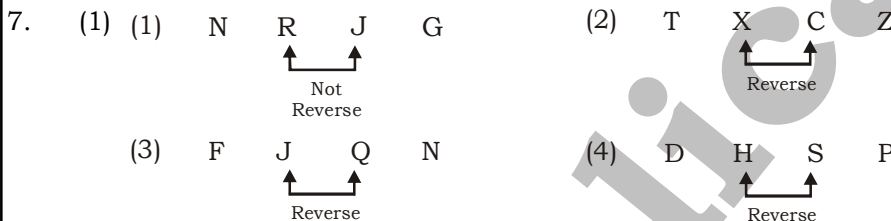
2. (1) $78 \div 48 \times 8 + (26 \times 7) - 39 + (45 + 15) = 210$
 After 48 and 39 changed to each other,
 $78 \div 39 \times 8 + (26 \times 7) - 48 + (45 + 15) = 210$
 $2 \times 8 + 182 - 48 + 60 = 210$
 $198 - 48 + 60 = 210$
 $258 - 48 = 210$
 $210 = 210$

3. (3)



5. (1) Port Louis is in Mauritius, while Nairobi is in Kenya.

6. (3)



8. (4) (1) $(22)^2 + 6 = 490$
 (2) $(21)^2 + 6 = 487$
 (3) $(25)^2 + 6 = 631$
 (4) $(30)^2 + 6 = 906 \neq 908$

9. (4) 10. (3)

11. (2) Since the year 2000 is a centenary year.
 Total odd days from 2000 to 2010 = $2 \times 2 + 8 = 12$ days

$$\text{Total odd days from 1st January 2011 to 10th June 2011} = \frac{3 + 0 + 3 + 2 + 3 + 10}{7} = 0$$

$$\text{Total odd days} = \frac{12 + 0}{7} = 5 \text{ days}$$

Hence, the required day is Friday

12. (1) As, $(3)^4 + 2 = 83$
 And, $(5)^4 + 2 = 627$
 Similarly, $(4)^4 + 2 = 258$

13. (3) 4. Temptation → 2. Termination → 5. Terrorism → 1. Turban → 3. Twister

14. (1) As, $18 \times \frac{24}{3} = 144$

$$\text{Similarly, } 26 \times \frac{15}{3} = 130$$

15. (3) Except Psychiatrist, others are related to each other.

16. (3)

17. (4) As, SURROUND Similarly,
 RRUSDNUO MITIGATE
 ITIMETAG

18. (B)



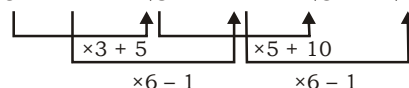
Hence, Only conclusions I and II follow

19. (4) Second is the antonym of first.

20. (2) NOSTALGIA → Number of words = $(9)^2 = 81$

FRICITION → Number of words = $8 = (8)^2 = 64$

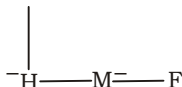
21. (1) 6 7 23 41 125 245



22. (4) L O C T Q / K O C T R / K O C T S / K O C T T

23. (1)

24. (1) ^{-}C



Hence C is the mother of F.

25. (1) As,

$$(5)^2 \times 11 = 275$$

Similarly,

$$(4)^2 \times 16 = 256$$

32. (3) Parsec is the unit of distance. It is a unit of length used to measure large distances to astronomical objects outside the solar system.

33. (4) The Ministry of Panchayati Raj (MoPR) is the Nodal Ministry for implementation of the scheme.

36. (2) This year, World Leprosy Day takes place on 31 January 2021*. We unite around one goal, which is to Beat Leprosy.

37. (3) The disease which is caused by bacteria is tuberculosis. Tuberculosis i.e TB is caused by Mycobacterium tuberculosis that most often affects our lungs.

44. (3) It is awarded annually by the Ministry of Youth Affairs and Sports. Before the introduction of the Major Dhyan Chand Khel Ratna in 1991-1992, the Arjuna award was the highest sporting honour of India.

46. (1) The Kamaicha is a bowed lute played by the manganis of west Rajasthan.

47. (4) The rules made for the Buddhist sangha were written down in a book called the Vinaya Pitaka.

49. (2) When molecular hydrogen (H_2) and oxygen (O_2) are combined and allowed to react together, energy is released and the molecules of hydrogen and oxygen can combine to form either water or hydrogen peroxide.

50. (1) The SI unit of concentration (of amount of substance) is the mole per cubic meter (mol/m^3).

51. (4) Average number of cars sold by dealer C in February, April and May = $\frac{635 + 540 + 625}{3}$

$$= \frac{1800}{3} = 600$$

$$\text{Exceeds} = 600 - 548 = 52$$

x lies between 50 and 55.

52. (1) $A = P \left(1 + \frac{R}{100} \right)^T$

$$\frac{3515.20}{3125} = \left(1 + \frac{R}{100} \right)^3$$

$$\left(\frac{26}{25} \right)^3 = \left(1 + \frac{R}{100} \right)^3$$

$$1 + \frac{R}{100} = \frac{26}{25}$$

$$\frac{R}{100} = \frac{1}{25}$$

$$R = 4\%$$

$$SI = \frac{3125 \times 3 \times 6}{100} = ₹ 562.50$$

53. (1) 688xy

For 3, $x + y = 2, 5, 8, 11$

For 11, $(7 + y) - (3 + x) = 0$ or 11

$y = 2$ then $x = 6$, $x + y = 8$

For 7, $862 - 1 = 861$

It is also divisible by 7

Number = 68861 and $x = 6$, $y = 1$

Now, $5x + 3y = 30 + 3 = 33$

54. (3) Let CP = ₹ x

$$x = \left(\frac{131.25 - x}{x} \times 100 \right) \%$$

$$x^2 = 13125 - 100x$$

$$x^2 + 100x - 13125 = 0$$

$$x^2 + 175x - 75x - 13125 = 0$$

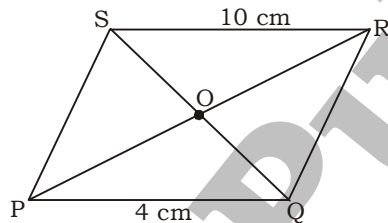
$$x(x + 175) - 75(x + 175) = 0$$

$$(x - 75)(x + 175) = 0$$

$$x = ₹ 75 \quad (\because x \neq -175)$$

$$\therefore SP = 75 \times \frac{140}{100} = ₹ 105$$

55. (4)



In ΔPOQ and ΔSOR ,

$\angle POQ = \angle SOR$ (Vertically Opposite angle)

$\angle OPQ = \angle ORS$ ($PQ \parallel SR$)

$\Delta POQ \sim \Delta SOR$

$$\text{Area } (\Delta POQ) : \text{Area } (\Delta SOR) = \frac{\text{Area } (\Delta POQ)}{\text{Area } (\Delta SOR)} = \left(\frac{4}{10} \right)^2$$

$$\therefore \text{Area } (\Delta POQ) : \text{Area } (\Delta SOR) = 4 : 25$$

56. (4) A can complete a work in 60 days.

B can complete a work in $\frac{60}{125} \times 100 = 48$ days

Let total work = 240 units

$$\text{A's 1 day work} = \frac{240}{60} = 4 \text{ units}$$

$$\text{B's 1 day work} = \frac{240}{48} = 5 \text{ units}$$

$$(\text{A} + \text{B})\text{'s 19 day work} = (4 + 5) \times 15 = 135 \text{ units}$$

Remaining work = $240 - 135 = 105$ units

C's 1 day work = $\frac{145}{14} = 7.5$ units

(B + C)'s 1 day work = $5 + 7.5 = 12.5$ unit

$\therefore$ B and C together complete $\frac{5}{8}$ part of work in = $240 \times \frac{5}{8} \times \frac{1}{12.5} = 12$ days

57. (2) $6 \div 4$ of $3 - 4 \div 6 \times (13 - 10) - 2 \times 15 \div 6 \times 6$

$$= 6 \div 12 - 4 \div 6 \times (3) - 2 \times 15 = \frac{1}{2} - \frac{2}{3} \times 3 - 30$$

$$= \frac{1}{2} - 2 - 30 = \frac{1 - 4 - 60}{2} = -\frac{63}{2} = -31\frac{1}{2}$$

58. (3) Required difference = $\frac{6342}{21} \times 2 = ₹ 604$

59. (2) Let MP = ₹ 100

CP = ₹ 70

SP = ₹ 95

ATQ,

$(95 - 70) \rightarrow 65$

$100 \rightarrow \frac{65}{25} \times 100 = ₹ 260$

$\therefore$ MP of an article = ₹ 260

60. (1) Area of floor = $\frac{9100}{65} = 140\text{m}^2$

Let the length and breadth i.e.

$7x$ and $5x$ respectively

ATQ,

$7x \times 5x = 140$

$$x^2 = \frac{140}{35}$$

$x = 2$ cm

$\therefore$ Perimeter of rectangle = $2(7 \times 2 + 5 \times 2) = 48$ m

61. (1) $5\sin^2\theta - 4\cos\theta - 4 = 0$

$5(1 - \cos^2\theta) - 4\cos\theta - 4 = 0$

$5 - 5\cos^2\theta - 4\cos\theta - 4 = 0$

$5\cos^2\theta + 4\cos\theta - 1 = 0$

$5\cos^2\theta + 5\cos\theta - \cos\theta - 1 = 0$

$5\cos\theta(\cos\theta + 1) - 1(\cos\theta + 1) = 0$

$(5\cos\theta - 1)(5\cos\theta + 1) = 0$

$\cos\theta = \frac{1}{5}$ or -1

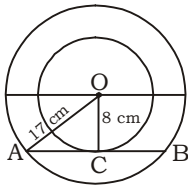
$$\sin\theta = \sqrt{1 - \frac{1}{25}} = \sqrt{\frac{24}{25}} = \frac{2\sqrt{6}}{5}$$

$$\cot\theta = \frac{1}{5} \times \frac{5}{2\sqrt{6}} = \frac{1}{2\sqrt{6}}$$

$$\operatorname{cosec}\theta = \frac{5}{2\sqrt{6}}$$

$$\begin{aligned}\therefore \cot\theta + \operatorname{cosec}\theta &= \frac{1}{2\sqrt{6}} + \frac{5}{2\sqrt{6}} \\ &= \frac{6}{2\sqrt{6}} - \frac{3}{\sqrt{6}} \times \frac{\sqrt{6}}{6} = \frac{3\sqrt{6}}{6} = \frac{\sqrt{6}}{2}\end{aligned}$$

62. (3)



$$AC = \sqrt{17^2 + 8^2}$$

$$= \sqrt{289 + 64} = \sqrt{353} = 15 \text{ cm}$$

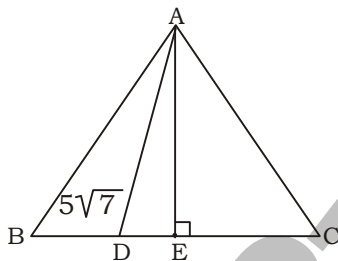
$$\therefore AB = 2 \times 15 = 30 \text{ cm}$$

63. (1) Average number of students enrolled in institute A during 2019, 2016 and 2018 =

$$\frac{160 + 3W + 260}{3} = 240$$

$$\text{Required less\%} = \left(\frac{325 - 240}{325} \times 100 \right) \% = 26.15\%$$

64. (4)



$$9AD^2 = 7AB^2 \text{ (By theorem)}$$

$$9 \times (9\sqrt{7})^2 = 7 \times AB^2$$

$$7AB^2 = 1575$$

$$AB = \sqrt{\frac{1575}{7}} = 15 \text{ cm}$$

65. (4) Total of ten numbers = $32.5 \times 10 = 325$

$$\text{Total of first 4 numbers} = 25.6 \times 4 = 102.4$$

$$\text{Total of last 3 numbers} = 38.2 \times 3 = 114.6$$

$$\text{Total of 5th, 6th and 7th number} = 325 - (102.4 + 114.6) = 108$$

$$\text{Ratio of 5th, 6th number} = 3 : 2$$

$$\text{Let 5th and 6th number be } 3x \text{ and 7th number} = 3x + 8$$

ATQ,

$$3x + 2x + 3x + 8 = 108$$

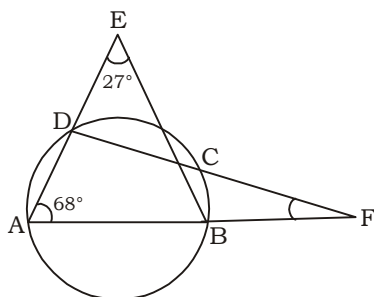
$$8x = 100$$

$$x = 12.5$$

$$\therefore \text{Average of 5th and 7th number} = \frac{3 \times 12.5 + 3 \times 12.5 + 8}{2} = \frac{83}{2} = 41.5$$

66. (2) $(x + y + z)^2 = 1$
 $x^2 + y^2 + z^2 + 2(ab + bc + ca) = 1$
 $x^2 + y^2 + z^2 + 2 \times -4 = 1$
 $x^2 + y^2 + z^2 = 9$
 $\therefore x^3 + y^3 + z^3 - 3xy = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - 2x)$
 $x^3 + y^3 + z^3 - 3 \times -4 = 1 [9 - (-4)]$
 $x^3 + y^3 + z^3 + 12 = 13$
 $x^3 + y^3 + z^3 = 1$

67. (2)



In $\triangle AEB$,

$$\angle ABE = 180^\circ - 68^\circ - 27^\circ = 85^\circ$$

$$\angle ADF = 180^\circ - 85^\circ = 95^\circ \quad (\text{sum of opposite angles of cyclic quadrilateral is } 180^\circ)$$

In $\triangle ADF$,

$$\angle AFC = 180^\circ - 68^\circ - 95^\circ = 17^\circ$$

$$\therefore \angle BFC = 17^\circ$$

68. (3) Income of B = ₹ 100

Income of A = ₹ 80

$$\text{Income of C} = (100 + 80) \times \frac{70}{100} = ₹126$$

$$\text{Income of D} = 126 \times \frac{125}{100} = ₹157.50$$

ATQ,

$$(157.50 - 100) \rightarrow 23000$$

$$80 \rightarrow \frac{23000}{57.5} \times 80 = ₹32000$$

69. (2) Average production of flavour B in all the years = $\frac{70 + 40 + 50 + 40 \times 65}{5} = 53$

$$\therefore \text{Required \%} = \left(\frac{53 - 50}{50} \times 100 \right) \% = 6.98\%$$

70. (1) x ————— y

$$\text{Distance between x and y} = 1 \frac{48}{60} \times 9 = \frac{9}{9} \times 9 = \frac{87}{50} \text{ km}$$

$$\therefore \text{Speed of suman} = \frac{\frac{87}{50}}{3 \frac{12}{60}} = \frac{81}{50} \times \frac{5}{16} = \frac{27}{4} \text{ km/hr} = 6 \frac{3}{4} \text{ km/hr}$$

71. (4) $\tan R = \frac{1}{3}$

$$\frac{PQ}{QR} = \frac{1}{3}$$

$$PR = \sqrt{1^2 + 3^2} = \sqrt{10}$$

$$\therefore \frac{\sec P(\cos R + \sin P)}{\operatorname{cosec} R(\sin R - \operatorname{cosec} P)}$$

$$= \frac{\frac{\sqrt{10}}{1} \left(\frac{3}{\sqrt{10}} + \frac{\sqrt{3}}{10} \right)}{\frac{\sqrt{10}}{1} \left(\frac{1}{\sqrt{10}} + \frac{\sqrt{10}}{3} \right)} = \frac{\sqrt{10} \left(\frac{6}{\sqrt{10}} \right)}{\sqrt{10} \left(\frac{3-10}{3\sqrt{10}} \right)} = \frac{6}{-7} \times 3 = -\frac{18}{7}$$

72. (1) 50% of the total number of cars sold by dealer B and E in April = $\frac{80}{100} \times (580 + 740) = 1056$
Total number of cars sold by dealers C and D in February = $635 + 645 = 1280$

$$\therefore \text{Required less\%} = \left(\frac{1280 - 1056}{1280} \times 100 \right)\% = 17.5\%$$

73. (2) $\tan \theta = \sqrt{5}$

$$h = \sqrt{(\sqrt{5})^2 + (1)^2} = \sqrt{6}$$

$$\therefore \frac{\operatorname{cosec}^2 \theta + \sec^2 \theta}{\operatorname{cosec}^2 \theta - \sec^2 \theta} = \frac{\left(\frac{\sqrt{6}}{\sqrt{9}} \right)^2 + \left(\frac{\sqrt{6}}{1} \right)^2}{\left(\frac{\sqrt{6}}{\sqrt{5}} \right)^2 - \left(\frac{\sqrt{6}}{1} \right)^2} = \frac{\frac{-6}{5} + \frac{6}{1}}{\frac{6}{5} - \frac{6}{1}} = \frac{36}{-24} = -\frac{3}{2}$$

74. (3) $x^2 - 5\sqrt{2} + 1 = 0$

$$x + \frac{1}{x} = 5\sqrt{2}$$

$$\left(x + \frac{1}{x} \right)^2 = 50$$

$$x^2 + \frac{1}{x^2} = 4\sqrt{3}$$

$$\therefore \left(\frac{x^3 + \frac{1}{x}}{x^2 + 1} \right) = \left(\frac{x^2 + \frac{1}{x^2}}{x + \frac{1}{x}} \right) \quad (\text{Divided by } x)$$

$$= \frac{4\sqrt{3}}{5\sqrt{2}} = \frac{2\sqrt{6}}{5}$$

75. (4) $\left(5x^2 - \frac{1}{x} \right)^3 = 5x^2 - \left(\frac{1}{x} \right)^3 - 3 \times 5x^2 \times \frac{1}{x} \left(5x^2 - \frac{1}{x} \right)$

$$= 125x^6 - \frac{1}{x^3} - 15x \left(5x^2 - \frac{1}{x} \right)$$

$$\therefore \text{Constant term} = 15$$

MEANINGS IN ALPHABETICAL ORDER

Words	Meaning in English	Meaning in Hindi
Conceited	excessively proud of oneself; vain	अभिमानी
Contributor	a person or thing that contributes something	योगदान देने वाला
Critical	expressing adverse or disapproving comments	नाजुक
Denigrated	criticize unfairly; disparage	निंदा की
Depreciated	diminish in value over a period of time	घिस
Deride	express contempt for; ridicule	उपहास करना
Desperate	feeling, showing, or involving a hopeless sense that a situation is so bad as to be impossible to deal with	बेकरार
Deteriorated	become progressively worse	बिगड़ी
Monologue	a long speech by one actor in a play or movie, or as part of a theatrical or broadcast program	स्वगत भाषण
Pessimist	a person who tends to see the worst aspect of things or believe that the worst will happen	निराशावादी
Prologue	a separate introductory section of a literary	प्रस्ताव
Superior	higher in rank, status, or quality	बेहतर

18 AUGUST (12 PM) (ANSWER KEY)

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

78. (2) Replace With magnifying glass by With a magnifying glass.
81. (3) Use of 'the' before 'earliest civilizations', as the sentence talks about four particular civilizations.
82. (2) The correct spelling of Reciept is Receipt.
87. (1) The correct spelling of Proffesser is Professor.
88. (1) 'For' is used for a period of time i.e, 'one month', whereas 'Since' is used for a point of time.
95. (2) Replace 'when' by 'than'. 'No sooner....than' is the correct expression.