

ANSWER SET - 14

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

EXPLANATION - 14

07. (4) $4^2 + \frac{6^2}{2} = 16 + 18 = 34$

$$9^2 + \frac{8^2}{2} = 81 + 32 = 113$$

$$1^2 + \frac{3^2}{2} = 1 + 4.5 = 5.5$$

09. (4) Golden anniversary is celebrated in 50 years

Number of leap years in 50 years = 12

Number of odd days = $12 \times 2 = 24$

Normal years = 38

Number of days = 38

Total number of odd days = $38 + 24 = 62$

$$\therefore \frac{62}{7} = 7 \times 8 + 6 = 6 \text{ is}$$

remainder

So, the day on which he was born

= Friday - 6 = Saturday

10. (3)

D	EF	G	HI	J	KL	M	NO	P	QR	S	TU	V	WX	Y
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	4	5	6	7	8	9	10							

12. (4) Two conditions are possible here.

1st condition

from one end \rightarrow Ravi \leftarrow 19 \rightarrow

Seema \leftarrow from other end
 (26th) (22nd)

Total number of students

$$= 26 + 19 + 22 = 67 > 50$$

It means this condition is not acceptable.

2nd condition

from one end \rightarrow Ravi \leftarrow 19 \rightarrow

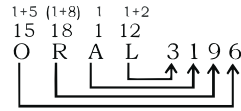
Seema \leftarrow from other end
 (26th) (22nd)

From one end, number of students before seema = $26 - 20 = 6$

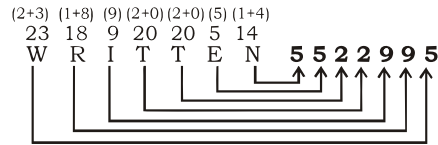
From other end number of students after Ravi = $22 - 20 = 2$

$$\therefore \text{Total number of students} = 6 + 2 + 19 = 27$$

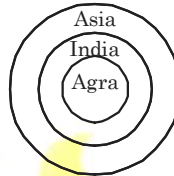
13. (4)



then



15. (2)



17. (2) माना भासवती की वर्तमान आयु = x वर्ष

तब प्रश्नानुसार, पिनाकी की आयु = (x-9) वर्ष

तेरह वर्षों के बाद भासवती की आयु = (x+13) वर्ष

तेरह वर्षों के बाद पिनाकी की आयु = (x-9+13) = (x+4) वर्ष

$$(x+13) = 1.2(x+4)$$

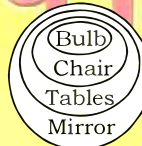
$$= x+13 = 1.2x+4.8$$

$$0.2x = 8.2$$

$$x = \frac{8.2}{0.2} = 41 = x$$

अतः पिनाकी की वर्तमान आयु = (x-9) = (41-9) = 32

19. (4)

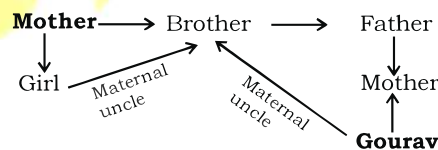


- 1 ✓
- 2 ✓
- 3 ✓

All conclusions are true.

20. (1) Information is given about reading. Only literate person can read the information. So only conclusion I follows.

21. (2)



22. (1) माना संख्या = x, x + 2, x + 4, x + 6, x + 8

$$\therefore \frac{x + x + 2 + x + 4 + x + 6 + x + 8}{5} = 27$$

$$\Rightarrow \frac{5x + 20}{5} = 27$$

$$\Rightarrow x + 4 = 27$$

$$x = 23$$

$$\therefore \text{प्रथम तीन सं. का औसत} = \frac{x + x + 2 + x + 4}{3} = \frac{3x + 6}{3}$$

$$= \frac{69+6}{3} = 25$$

23. (4) There are 28 triangles.

24. (2)

$$25. (1) 999\frac{1}{7} + 999\frac{2}{7} + 999\frac{3}{7} + 999\frac{4}{7}$$

$$+ 999\frac{5}{7} + 999\frac{6}{7}$$

$$\Rightarrow 999 \times 6 + \left(\frac{1+2+3+4+5+6}{7} \right)$$

$$\Rightarrow 5994 + \frac{21}{7} = 5997$$

26. (1) जिस प्रकार,

बृहस्पतिवार + 1 = शुक्रवार

उसी प्रकार,

सोमवार + 1 = मंगलवार

27. (4) जिस प्रकार, $594 - 2 = 592$

उसी प्रकार, $368 - 2 = \boxed{366}$

28. (2) जिस प्रकार,

K P V
↓+1 ↓+1 ↓+1
L Q W

उसी प्रकार,

B O Y
↓+1 ↓+1 ↓+1
C P Z

29. (3) अंगूर फल है। जबकि अन्य सभी सब्जियाँ हैं।

30. (4) $39 + 4 = 43$

$23 + 4 = 27$

$31 + 4 = 35$

$35 + 2 = 37$

अतः 35 - 37 विषम है।

31. (2) $\begin{matrix} G & J & M & P & H & K & N & R & P & S & V & Y & N & Q & T & W \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 & +3 \end{matrix}$

अतः HKNR विषम है।

33. (2) $\begin{matrix} 4 & 5 & 8 & 9 & 12 & 13 & \boxed{16} \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ +1 & +3 & +1 & +3 & +1 & +3 & +1 \end{matrix}$

34. (4) $\begin{matrix} E & \xrightarrow{-1} & D & \xrightarrow{-1} & C & \xrightarrow{-1} & \boxed{B} & \xrightarrow{-1} & A \\ G & \xrightarrow{-1} & F & \xrightarrow{-1} & E & \xrightarrow{-1} & D & \xrightarrow{-1} & C \\ L & \xrightarrow{-1} & K & \xrightarrow{-1} & J & \xrightarrow{-1} & I & \xrightarrow{-1} & H \end{matrix}$

35. (2) माना, शिवम का भार = x

टीपू का भार = 2x

रोमा का भार = 2 × 2x = 4x

करण का भार = $\frac{4x}{4} = x$

आलोक का भार = 2x

∴ रोमा > आलोक = टीपू > करण = शिवम

अतः रोमा का भार चार लोगों से अधिक है।

37. (2) जिस प्रकार,

W A R D
↓ ↓ ↓ ↓
23 + 1 + 18 + 4 = 46 ⇒ 46 - 2 = 44

तथा

L O A D
↓ ↓ ↓ ↓
12 + 15 + 1 + 4 = 32 ⇒ 32 - 2 = 30

उसी प्रकार,

L O A D
↓ ↓ ↓ ↓
2 + 18 + 9 + 20 = 49 ⇒ 49 - 2 = **47**

38. (2) $12 - 2 + 6 \times 20 \div 18 = ?$

प्रश्नानुसार चिन्ह रखने पर,

$$? = 12 \times 2 \div 6 - 20 + 18$$

$$= 12 \times \frac{2}{6} - 20 + 18$$

$$= 4 - 20 + 18$$

$$= 22 - 20 = 2$$

39. (1) $18 \div 2 - 25 \times 9 + 6 = 38$

विकल्प (A) अनुसार चिन्ह परिवर्तित करने पर,

$$18 \div 2 - 25 + 9 \times 6 = 38$$

$$9 - 25 + 54 = 38$$

$$63 - 25 = 38$$

$$38 = 38$$

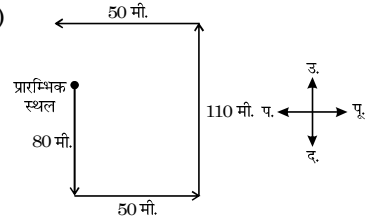
$$40. (1) 18 \times 12 \Rightarrow \frac{18-12}{2} - \frac{6}{2} = 3$$

$$2 \times 14 \Rightarrow \frac{2-14}{2} = \frac{-12}{2} = -6$$

$$4 \times 4 \Rightarrow \frac{4-4}{2} = \frac{0}{2} = 0$$

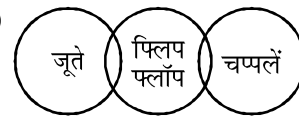
$$2 \times 16 \Rightarrow \frac{2-16}{2} = \frac{-14}{2} = \boxed{-7}$$

42. (1)



अतः वह अपने प्रारम्भिक स्थल से 30 मीटर उत्तर की ओर है।

43. (4)



अतः न तो निष्कर्ष I न ही निष्कर्ष II सही है।

44. (2)

$$45. (4) \begin{array}{ccccccc} H & \xrightarrow{+4} & L & \xrightarrow{+4} & P & \xrightarrow{+4} & T & \xrightarrow{+4} & X \\ T & \xrightarrow{+4} & X & \xrightarrow{+4} & B & \xrightarrow{+4} & F & \xrightarrow{+4} & J \\ C & \xrightarrow{+4} & G & \xrightarrow{+4} & K & \xrightarrow{+4} & O & \xrightarrow{+4} & S \end{array}$$

$$47. (3) \begin{array}{l} 11 + 2 = 13, 13 + 2 = 15 \\ 16 + 2 = 18, 18 + 2 = 20 \\ 13 + 2 = 15, 15 + 3 = 18 \\ 22 + 2 = 24, 24 + 2 = 26 \end{array}$$

अतः (13, 15, 18) भिन्न है.

48. (4)

52. (4)

	₹ 1	50-P	25-P
Number	5	: 6	: 8
Value	5	: 3	: 2 = 10
			↓ × 24
			240

Number of 25 - P coins

$$= 8 \times 24 = 192$$

53. (4) Let the cost of low priced chair is = ₹x

Then, the cost of high priced chair = 900 - x

$$\therefore \frac{4x}{5} + \frac{5}{4}(900 - x) = 900 + 90$$

$$\therefore 9x = 22500 - 19800 = 2700$$

$$x = 300$$

54. (4)

55. (3) Maximum retail price = ₹60
Selling price of article

$$= 60 \times \frac{85}{100} = ₹51$$

\(\therefore\) Actual selling price after giving gift = 51 - 3 = ₹48

$$\therefore \text{Cost price} = 48 \times \frac{100}{120} = ₹40$$

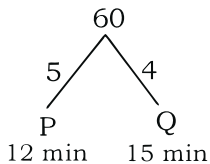
56. (2) Required Time =

$$\frac{\text{Distance between them}}{\text{Relative speeds}}$$

$$= \frac{5}{90 - 75} = \frac{5}{15} = \frac{1}{3} \text{ hr}$$

= 20 minutes

57. (4)



$$\therefore \text{Part filled in 3 min} = (5 + 4) \times 3 = 27$$

$$\text{Remaining part} = 60 - 27 = 33$$

$$\therefore \text{Q will take} = \frac{33}{4} = 8\frac{1}{4} \text{ min.}$$

58. (2) $a^{2x+2} = 1 \Rightarrow a^{2x+2} = a^0$

$$\therefore 2x + 2 = 0 \Rightarrow 2x = -2 \Rightarrow x = -1$$

$$59. (4) \text{ मिश्रण की मात्रा} = 357 \times \frac{100}{7}$$

$$= 51 \times 100 = 5100 \text{ लिटर}$$

61. (4) ब्याज दर = R

$$1 + \frac{R \times 18}{100 \times 5} = \frac{77}{50}$$

$$\frac{500 + 18R}{500} = \frac{77}{50}$$

$$25000 + 900R = 38500$$

$$900R = 38500 - 25000$$

$$900R = 13500$$

$$R = \frac{13500}{900} = 15$$

63. (2)

$$64. (2) 9^x = \sqrt[11]{243}$$

$$(3^2)^x = (3^5)^{1/11}$$

$$3^{2x} = 3^{5/11}$$

$$\therefore 2x = \frac{5}{11}$$

$$x = \frac{5}{22}$$

65. (1) M को अकेले पूरा कार्य करने में लगा समय = $\frac{4}{3} \times 12 = 16$ दिन

N को अकेले पूरा कार्य करने में लगा समय = $\frac{7}{2} \times 8 = 28$ दिन

दोनों को मिलकर पूरा कार्य करने में लगा

$$\text{समय} = \frac{16 \times 28}{16 + 28} = \frac{448}{44} = \frac{112}{11} \text{ दिन}$$

$\frac{11}{14}$ भाग काम करने में लगा समय

$$= \frac{112}{11} \times \frac{11}{14} = 8 \text{ दिन}$$

66. (1) गति = 15 मी/से = $15 \times \frac{18}{5}$

किमी/घण्टा = 54 किमी/घण्टा

दूरी = 54 × 6 = 324 किमी.

68. (2) कुल कर्मचारी = 180 + 20 + 20 + 160 + 20 + 80 + 120 = 600

69. (1) कोण की माप = $\frac{80}{600} \times 360 = 48^\circ$

70. (3) वेतन की कुल राशि = 6000 × 600 = \$3600000 = \$3.6 मिलियन

71. (1) समान्तर भुजाओं के बीच दूरी

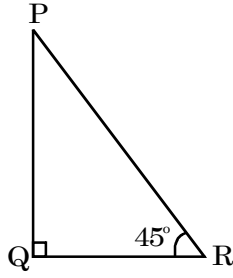
$$= \frac{2 \times 54}{(8 + 10)} = \frac{2 \times 54}{18} = 2 \times 3 = 6 \text{ सेमी.}$$

74. (3) $\angle P = 180 - (90 + 45^\circ)$

$$= 180 - 135 = 45^\circ$$

$$\tan P = \tan 45^\circ = 1$$

$$\tan P - \frac{1}{2} = 1 - \frac{1}{2} = \frac{1}{2}$$



75. (1) दी गई श्रेणी-

3, 6, 7, 11, x, 15, 19, 20, 25, 28

पदों की संख्या = 10 (सम)

$$\text{माध्यिका} = \frac{1}{2} \left[\left(\frac{n}{2} \right) \text{वां पद} + \left(\frac{n}{2} + 1 \right) \text{वां पद} \right]$$

$$= \frac{1}{2} \left[\frac{10}{2} \text{वां पद} + \left(\frac{10}{2} + 1 \right) \text{वां पद} \right]$$

$$= \frac{1}{2} (5\text{वां पद} + 6\text{वां पद})$$

$$13 = \frac{1}{2} (x + 15)$$

$$x + 15 = 13 \times 2$$

$$x = 26 - 15 \Rightarrow 11$$

78. (3) $l = b \times 3 \Rightarrow b = \frac{1}{3}$

$$l = h \times 5 \Rightarrow h = \frac{1}{5}$$

$$\therefore V = lbh$$

$$14400 = l \times \frac{1}{3} \times \frac{1}{5}$$

$$l^3 = 144 \times 1500$$

$$l = \sqrt[3]{216000} \Rightarrow l = 60$$

$$b = \frac{60}{3} = 20, h = \frac{60}{5} = 12$$

$$\begin{aligned} \therefore \text{Total surface area} &= 2(lb + bh + lh) \\ &= 2(60 \times 20 + 20 \times 12 + 12 \times 60) \\ &= 2(1200 + 240 + 720) \\ &= 4320 \text{ cm}^2 \end{aligned}$$

82. (4) $\frac{x}{2} - \frac{1}{2} = x \times \frac{1}{\sqrt{3}} \times \frac{1}{\sqrt{3}} = \frac{x}{3}$

$$\frac{x}{2} - \frac{x}{3} = \frac{1}{2} \Rightarrow \frac{x}{6} = \frac{1}{2}$$

83. (3) $\sqrt{mn} = 10, mn = 100$

If $m = 100$ then $n = 1$

$$\therefore m + n = 101$$

If $m = 50$, then $n = 2$

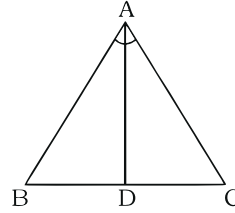
$$\therefore m + n = 52$$

If $m = 25$, then $n = 4$

$$\therefore m + n = 29$$

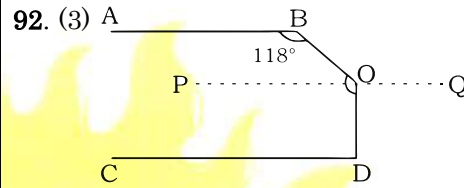
$$\therefore m + n \neq 50$$

84. (3)



If AD is the angle bisector, then

$$\frac{AB}{AC} = \frac{BD}{DC} \quad \therefore \frac{BD}{DC} = \frac{3}{4}$$



Draw a line PQ through O, parallel to AB and CD.

$$\angle BOP = 180^\circ - 118^\circ = 62^\circ$$

$$\therefore \angle POD = 152^\circ - 62^\circ = 90^\circ$$

PQ || CD

$$\therefore \angle POD + \angle ODC = 180^\circ$$

$$\begin{aligned} \angle ODC &= 180^\circ - 90^\circ \\ &= 90^\circ \end{aligned}$$

94. (2) Unit digit of $327^{123} = 3$

Unit digit of $413^{96} = 1$

Unit digit of $118^{119} = 2$

Unit digit of $226^{67} = 6$

Sum of unit digits = 12

↓

Unit digit

95. (4) $x^2 - 4x + 3 = x^2 - 3x - x + 3$

$$= x(x-3) - 1(x-3)$$

$$= (x-3)(x-1)$$

Again,

$$x^2 - 5x + 6 = x^2 - 3x - 2x + 6$$

$$= x(x-3) - 2(x-3)$$

$$= (x-3)(x-2)$$

So, L.C.M. of $x^2 - 4x + 3$ and $x^2 - 5x + 6$

$$= (x-1)(x-2)(x-3)$$

99. (3) Middle digit of the number N

$$= 6$$

Sum of 1st and the last digit

$$= 3 + 3 = 6$$