

ANSWER SET - 20

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

EXPLANATION - 20

14. (4) CDBT द्वारा भारत में आयकर का समाप्त नहीं करना चाहिए क्योंकि यह भारत में राजस्व का प्रमुख स्रोत है। अतः विकल्प (4) अभीष्ट उत्तर होगा।
 16. (4) दी गई युक्ति में वर्ष 2020 एक अधिवर्ष है पूर्वधारणा 1 और 2 दोनों पूर्वधारणाएं अंतर्निहित हैं।
 25. $ADGJ : MPSV :: BEHK : NQTW$

26. (4) जिस प्रकार, शंकु एक ठोस आकृति है। उसी प्रकार, बेलन भी एक ठोस आकृति है।

27. (4) जिस प्रकार, $64 \Rightarrow 6 + 4 = 10$,
 उसी प्रकार, $94 \Rightarrow 9 + 4 = 13$

28. (4) जिस प्रकार,

C	G	L
+8↓	+8↓	+8↓
K	O	T

 उसी प्रकार,

J	B	R
+8↓	+8↓	+8↓
R	J	Z

29. (3) शेष अन्य ग्रह हैं।
 30. (4) $(7)^3 = 343$, $(2)^3 = 8$, $(5)^3 = 125$,
 $(4)^3 \neq 62 \approx 64$.

31. (2) $D \xrightarrow{+3} G \xrightarrow{+3} J, T \xrightarrow{+2} V$
 $\xrightarrow{+1} W, H \xrightarrow{+3} K \xrightarrow{+3} N, P \xrightarrow{+3} S \xrightarrow{+3} V$.

32. (2) 5. Refine, 4. Refugee, 3. Regard, 1. Regular, 2. Rehearse.

33. (2) 8, 16, $\boxed{32}$, 64, 128

↑	↑	↑	↑
×2	×2	×2	×2

34. (1) $T \xrightarrow{-3} Q \xrightarrow{-3} N \xrightarrow{-3} K \xrightarrow{-3} \boxed{H}$

37. (1) जिस प्रकार,

F	R	O	N	T
↓	↓	↓	↓	↓
6	18	15	14	20

 तथा

B	O	R	N	E
↓	↓	↓	↓	↓
2	15	18	14	5

उसी प्रकार,

M	O	R	N	S
↓	↓	↓	↓	↓
13	15	18	14	19

38. (1) $25 \div 2 - 10 + 10 \times 6$
 $= 25 \times 2 \div 10 - 10 + 6$
 $= 5 - 10 + 6 = 1$
 39. (4) $8 + 2 - 40 \div 5 \times 16 = 44$
 $\Rightarrow 8 \div 2 - 40 + 5 \times 16$
 $= 4 - 40 + 80 = 4 + 40 = 44$
 40. (1) जिस प्रकार, $18 \Delta 4 \Rightarrow 18 + 4 = 22 \Rightarrow 22 \div 2 = 11$,
 $16 \Delta 8 \Rightarrow 16 + 8 = 24 \Rightarrow 24 \div 2 = 12$,
 उसी प्रकार, $18 \Delta 14 = 18 + 14 = 32 \Rightarrow 32 \div 2 = \boxed{16}$

41. (4) $D \quad E \quad A \quad B \quad C$

 School B is on the left of school C.

42. (3)

 A के सम्बंध में B 25 किमी दक्षिण में है।

43. (1)

44. (1)
 45. (4) $C \xrightarrow{+3} F \xrightarrow{+3} I \xrightarrow{+3} L \xrightarrow{+3} O$
 $P \xrightarrow{+3} S \xrightarrow{+3} V \xrightarrow{+3} Y \xrightarrow{+3} B$
 $K \xrightarrow{+3} N \xrightarrow{+3} Q \xrightarrow{+3} T \xrightarrow{+3} W$
 46. (3) 831, 842, 853, 864, 875, $\boxed{886}$

↑	↑	↑	↑	↑
+11	+11	+11	+11	+11

47. (4) $(157, 162, 167), (138, 143, 148)$

↑	↑	↑	↑	↑
+5	+5	+5	+5	+5

 $(222, 227, 232), (167, 172, 187)$

↑	↑	↑	↑	↑
+5	+5	+5	+5	+5

48. (4)
 49. (2) Only son of Fatima's grandfather means Fatima's father.
 Therefore, Fatima is the sister of Mustafa.
 50. (4) Number of persons do not play any Games
 $= [60 - (9 + 8 + 10 + 7 + 11 + 12)]$
 $= 60 - 57 = 3$

51. (1) माना संख्या x है, तो प्रश्नानुसार,
 $x \times \frac{5}{3} \times \frac{7}{15} = x \times \frac{3}{5} \times \frac{7}{9} + 9$
 $\Rightarrow x \times \frac{7}{9} = x \times \frac{7}{15} + 9$

$$\Rightarrow \frac{105x - 63x}{15 \times 9} = 9$$

$$\Rightarrow 42x = 15 \times 9 \times 9$$

$$\therefore x = 28.92$$

$$\therefore \text{संख्या के चार गुने का मान} \\ = 28.92 \times 4 = 115.72$$

52. (4) माना चरवाहों की संख्या x हो तो प्रश्नानुसार,

$$42 \times 4 + 48 \times 2 + 11 \times 4 + 2x = 42 + 48 + 11 + x = 224$$

$$\Rightarrow 168 + 96 + 44 + 2x = 325 + x$$

$$\Rightarrow 308 + 2x = 325 + x$$

$$\therefore x = 325 - 308 = 17$$

53. (2) $(81)^{4x+4} = (243)^{2x+8}$

$$\Rightarrow (3)^{4(4x+4)} = (3)^{5(2x+8)}$$

$$\Rightarrow (3)^{16x+16} = (3)^{10x+40}$$

$$\therefore 16x + 16 = 10x + 40$$

$$\Rightarrow 6x = 24$$

$$\therefore x = 4$$

54. (3) $r^2 + p^2 + s^2 - rp - ps - rs = (4)^2 + (2)^2 + (8)^2 - 4 \times 2 -$

$$2 \times 8 - 4 \times 8$$

$$= 16 + 4 + 64 - 8 - 16 - 32$$

$$= 68 - 40 = 28$$

55. (3) $\therefore PQ = \sqrt{OP^2 - OQ^2}$

$$= \sqrt{(25)^2 - (7)^2} = \sqrt{625 - 49}$$

$$= \sqrt{576} = 24 \text{ सेमी.}$$

56. (2)

57. (3) $\begin{array}{cccc} G & I & V & E \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 5 & 1 & 3 & 7 \end{array}$ and $\begin{array}{ccc} B & A & T \\ \downarrow & \downarrow & \downarrow \\ 9 & 2 & 4 \end{array}$

Therefore,

$\begin{array}{cccc} G & A & T & E \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 5 & 2 & 4 & 7 \end{array}$

58. (4) माना कुल लाभ ₹ x हो तो प्रश्नानुसार,

$$\frac{x}{9} + \frac{x}{6} + 130000 = x$$

$$\Rightarrow 15x + 130000 \times 54 = 54x$$

$$\Rightarrow 39x = 130000 \times 54$$

$$\therefore x = ₹ 180000$$

$$\therefore P \text{ का लाभ} = ₹ \frac{180000}{9} = ₹ 20000$$

59. (4) माना बर्तन में P तथा Q की मात्रा क्रमशः $3x$ लीटर व $7x$ लीटर हों तो प्रश्नानुसार

$$\frac{3x - 3}{7x - 7 + 6} = \frac{1}{3}$$

$$\Rightarrow 9x - 9 = 7x - 1$$

$$\therefore x = \frac{8}{2} = 4$$

$$\therefore \text{मिश्रण की वास्तविक मात्रा} = 3x + 7x = 10 \times 4 = 40 \text{ लीटर}$$

60. (3) माना 40 ग्राम भार वाले निकाले गए सेब x हों तो प्रश्नानुसार,

$$57.5(35 - x) = 50 \times 35 - 40x$$

$$\Rightarrow 2012.5 - 57.5x = 1750 - 40$$

$$\Rightarrow 17.5x = 262.5$$

$$\therefore x = 15$$

61. (4) माना राशि का मान ₹ x हो तो प्रश्नानुसार

$$\frac{x \times 14 \times 18}{100 \times 12} = 1365$$

$$\Rightarrow x = \frac{1365 \times 1200}{14 \times 18} = ₹ 6500$$

62. (4) $P = Q$

$$S > R > T > P = Q$$

S is the eldest.

63. (2) माना क्रय मूल्य ₹ x हो तो प्रश्नानुसार

$$\text{विक्रय मूल्य} = ₹ x \times \frac{140}{100} \times \frac{80}{100} = ₹ 1.12x$$

\therefore अभीष्ट लाभ प्रतिशत

$$= \frac{1.12x - x}{x} \times 100 = 12\%$$

64. (3) $\frac{1}{\sqrt{17} - \sqrt{16}} \times \frac{\sqrt{17} + \sqrt{16}}{\sqrt{17} + \sqrt{16}} = \frac{\sqrt{17} + \sqrt{16}}{17 - 16}$

$$= \frac{\sqrt{17} + \sqrt{16}}{1}$$

इसी प्रकार,

$$\frac{\sqrt{17} + \sqrt{16}}{1} - \frac{\sqrt{16} + \sqrt{15}}{1} + \frac{\sqrt{15} + \sqrt{14}}{1} - \frac{\sqrt{14} + \sqrt{13}}{1}$$

$$+ \frac{\sqrt{13} + \sqrt{12}}{1} = \sqrt{17} + \sqrt{12}$$

65. (3) माना शेष कार्य को पूरा करने के लिए x महिलाएँ चाहिए तो प्रश्नानुसार,

$$\frac{x \times 10}{2} = \frac{30 \times 30}{2}$$

$$\Rightarrow x = 90 \text{ महिलाएँ}$$

$$\therefore \text{अभीष्ट अधिक महिलाएँ} = 90 - 30 = 60$$

66. (1) माना अमर की पैदल चाल a मीटर/मिनट तथा उसकी साइकिल पर चाल b मीटर/मिनट हो तो प्रश्नानुसार, माना PQ की दूरी $= x$ मीटर एवं

$$\frac{x}{a} + \frac{x}{b} = 29$$

$$\text{तथा } \frac{2x}{a} = 49 \Rightarrow \frac{x}{a} = 24.5 \text{ मान रखने पर,}$$

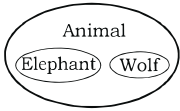
$$24.5 + \frac{x}{b} = 29$$

$$\Rightarrow \frac{x}{b} = 4.5 \text{ मिनट}$$

$$\therefore \text{साइकिल पर लगा अभीष्ट समय} = \frac{2x}{b}$$

$$= 2 \times 4.5 = 9 \text{ मिनट}$$

67. (1) Elephant is different from Wolf.
But both are animals.



68. (3) ∴ अभीष्ट अनुपात = $\frac{240}{140} = \frac{12}{7} \approx 12 : 7$

69. (2) ∴ अभीष्ट अनुपात
 $= \frac{(300 - 140)}{300} \times 100$
 $= \frac{160}{300} \times 100\% = 53.33\%$

70. (3) पार्टी C के 30% मतदाता
 $= \frac{300}{100} \times 30 = 90$
 ∴ अभीष्ट बढ़ोत्तरी
 $= \frac{90}{180} \times 100\% = 50\%$

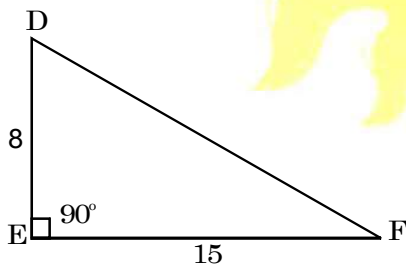
71. (2) ∴ समानान्तर भुजाओं के बीच दूरी
 $= \frac{80 \times 2}{(7+9)} \text{ सेमी.} = \frac{160}{16} \text{ सेमी.} = 10 \text{ सेमी.}$

72. (1) From both the statements it is clear that people who live in the big city face problems in travelling. Therefore, only conclusion I follows. Nothing has been stated about traffic jam.

73. (4) ∴ घनाभ का अभीष्ट आयतन = $10.5 \times 8 \times 9 \text{ घन सेमी.} = 756 \text{ घन सेमी.}$

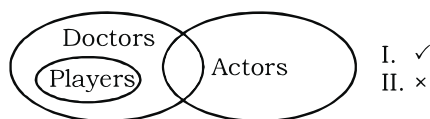
74. (1) $\sec 60^\circ = 2$
 $\sqrt{3} - \sec 60^\circ = \sqrt{3} - 2$

75. (1) दिया है, $\cot D = \frac{8}{15}$



∴ $\cot F = \frac{\text{आधार}}{\text{लम्ब}} = \frac{15}{8}$

76. (1)



77. (3) Let numbers are $3x, 4x$
 $\therefore 3 \times 4 \times x = 180$
 $\Rightarrow x = 15$
 So, 2nd number is = $4x = 4 \times 15 = 60$

82. (1) $2x + 3y = \frac{11}{2}$ and $xy = \frac{5}{6}$

Cubing both side
 $8x^3 + 27y^3 + 3 \times 2x \times 3y(2x + 3y)$

$= \left(\frac{11}{2}\right)^3 = \frac{1331}{8}$

$8x^3 + 27y^3 = \frac{1331}{8} - 18 \times \frac{5}{6} \times \frac{11}{2}$

$\Rightarrow \frac{1331}{8} - \frac{165}{2} = \frac{671}{8}$

83. (4) Let the current age of elder brother = x
 Then,

The current age of younger brother = $x - 8$

After 10 years

Age of elder brother = $x + 10$

Age of younger brother = $x - 8 + 10 = x + 2$

ATQ,

$\therefore x + 10 + x + 8 = 2(x + x - 8)$

$\Rightarrow 2x + 12 = 2(2x - 8)$

$\Rightarrow 2x + 12 = 4x - 16$

$\Rightarrow 2x = 28$

$\Rightarrow x = 14$

So we have

Age of elder brother = 14 years

Age of younger brother = $14 - 8 = 6$ years

Required ratio = $\frac{6}{14} = 3 : 7$

84. (2) We know that

C.I. = $P \left[\left(1 + \frac{r}{100}\right)^t - 1 \right]$

$\therefore 378 = 1800 \left[\left(1 + \frac{10}{100}\right)^t - 1 \right]$

$\Rightarrow \frac{378}{1800} + 1 = \left(\frac{11}{10}\right)^t$

$\Rightarrow \left(\frac{11}{10}\right)^t = \frac{21}{100} + 1 = \frac{121}{100} = \left(\frac{11}{10}\right)^2$

$\therefore t = 2$ years

92. (3) Let the container initially contains 16 litres of liquid. Let 'a' litre of liquid be replaced with water.

Quantity of water in the new mixture

$\Rightarrow \left(6 - \frac{6a}{16} + a\right)l$

Quantity of milk in the new mixture

$\Rightarrow \left(10 - \frac{10a}{16}\right)l$

$$\therefore 6 - \frac{6a}{16} + a = 10 - \frac{10a}{16}$$

$$\Rightarrow a - \frac{6a}{16} + \frac{10a}{16} = 4$$

$$\Rightarrow a + \frac{4a}{16} = 4 \Rightarrow \frac{20a}{16} = 4$$

$$a = \frac{64}{20} = \frac{16}{5}$$

\therefore Part of mixture replaced

$$= \frac{1}{16} \times \frac{16}{5} = \frac{1}{5}$$

93. (4) Let, Sameer speed in still water = x km/hr

$$\therefore \frac{D}{x+12} = 24$$

$$D = 24(x+12) \quad \dots(i)$$

$$\frac{D}{x-12} = 36$$

$$D = 36(x-12) \quad \dots(ii)$$

$$\therefore 24(x+12) = 36(x-12)$$

$$2(x+12) = 3(x-12)$$

$$2x+24 = 3x-36$$

$$x = 60 \text{ km/hr}$$

94. (2) Let vertices of triangle is A(-3, 5), B(6, 2), C(-3, 2).

$$\therefore AB = \sqrt{(-6-3)^2 + (5-2)^2}$$

$$= \sqrt{81+9} = \sqrt{90}$$

$$\therefore BC = \sqrt{(6+3)^2 + (2-2)^2} = 9$$

$$\therefore AC = \sqrt{(-3+3)^2 + (2-5)^2} = 3$$

So, the longest side = $\sqrt{90}$

95. (3) Ram = Shyam $\times \frac{75}{100}$

Ratio of S.P. of Ram and Shyam's

$$\text{article } \frac{\text{Ram}}{\text{Shyam}} = \frac{3}{4}$$

$$\Rightarrow \text{Ram} = \text{Hari} \times \frac{125}{100}$$

Ratio of S.P. of Ram and Hari's Article

$$\therefore \frac{\text{Ram}}{\text{Hari}} = \frac{5}{4}$$

$$\therefore \text{Ram} : \text{Shyam} : \text{Hari}$$

$$= 15 : 20 : 12$$

$$\therefore \text{Required \%} = \frac{20-12}{20} \times 100$$

$$= 40\%$$

99. (4) Ratio of Expenses on

Rice : Fish : Oil = 12 : 17 : 3

$$= 120 : 170 : 30 = 320$$

$$\downarrow 120\% \quad \downarrow 130\% \quad \downarrow 150\%$$

$$\text{New ratio} = 144 \quad 221 \quad 45$$

$$\text{Old expense} = 320$$

$$\text{New expense} = 410$$

$$\therefore \% \text{ increase} = \frac{410-320}{320} \times 100$$

$$= \frac{90}{320} \times 100 = 28\frac{1}{8}\%$$

॥ यथार्थ ॥