Hema speed $=\frac{180}{4}=45 \mathrm{Km} / \mathrm{hr}$.
Deepa speed $=30 \mathrm{Km} / \mathrm{hr}$.
After increased their speeds
Deepa speed $=40 \mathrm{Km} / \mathrm{hr}$.
Hema speed $=50 \mathrm{Km} / \mathrm{hr}$.
Deepa time $=\frac{180}{40}=4.5 \mathrm{hrs}$.
Hema time $=\frac{180}{50}=3.6$ hrs.
Difference $=4.5-3.5=54$ minutes
33. $\frac{6!}{2!}=\frac{720}{2}=360$.
34. Let the number is $x$.
$2 x+3 \times 42=238 \Rightarrow 2 x=238-126 \Rightarrow x=56$
$\Rightarrow 3 \times 56+2 \times 42=168+84=252$.
35. Remaining 15 students is $3 \%$ of total students.

Total students $=\frac{15 \times 100}{3}=500$.
36. Car 'A' distance $=65 \times 8=520 \mathrm{Km}$.

Car 'B' distance $=70 \times 4=280 \mathrm{Km}$.
Their ratio $=520: 280=13: 7$.
37. $\frac{\frac{300}{100}(x)}{\frac{220}{100}(y)}=\frac{4}{11} \Rightarrow \frac{30}{22} \times \frac{x}{y}=\frac{4}{11} \Rightarrow \frac{x}{y}=\frac{4}{15}$.
38. C.I. $=41250\left[\left(1+\frac{6}{100}\right)^{3}-1\right]=7879.14$.
39. C.P. $=\frac{863+631}{2}=\frac{1494}{2}=747$.
40. Length - Breadth $=34$
$6 x-5 x=34 \Rightarrow x=34$.
Length $=204$, breadth $=170$.
Perimetre of rectangle $=2(l+b)=2 \times 374=748$.
41. Let Ninad amount $=$ ' $x$ '.

Profit $=$ Investment $\times$ Time period
Ninad: Vikas: Manav $=x \times 12: 2 \mathrm{x} \times 6: 3 \mathrm{x} \times 4$

$$
=12 \mathrm{x}: 12 \mathrm{x}: 12 \mathrm{x}=1: 1: 1 .
$$

Total profit $=45000$
Manav's share $=\frac{45000}{3} \times 1=15000$
42. 19 (tables and chairs) $=48250$
$57($ tables and chairs $)=\frac{57}{19} \times 48250=144750$.
43. $\frac{1}{\mathrm{~A}}+\frac{1}{\mathrm{~B}}=\frac{1}{8}$
$\Rightarrow \frac{1}{B}=\frac{1}{8}-\frac{1}{\mathrm{~A}} \Rightarrow \frac{1}{\mathrm{~B}}=\frac{1}{8}-\frac{1}{12}=\frac{1}{24} \quad \therefore \mathrm{~B}=24$ days.
44. $\quad \frac{6523}{5440} \times 12=14$.
45. Let the distance $=x$
$\frac{x}{45}-\frac{x}{50}=1 \mathrm{hr} . \Rightarrow \frac{5 x}{50 \times 45}=1 \Rightarrow x=450 \mathrm{~km}$.
46. $\frac{3}{4} \times \frac{2}{9} \times \frac{1}{5} \times x=249.6$
$\Rightarrow \mathrm{x}=249.6 \times \frac{180}{6}=7488$.
$\frac{50}{100}(x)=\frac{50}{100} \times 7488=3744$.
47. $40=\frac{1.5}{\text { Expenditure }} \times 100$

Expenditure $=\frac{150}{40}=3.75$ lakhs
48. (4) Cannot be determined.
49. Let A and B expenditure in $2004=\mathrm{x}$
' A ' in 2004 :
$35=\frac{\mathrm{I}_{1}-\mathrm{x}}{\mathrm{x}} \times 100 \Rightarrow \mathrm{I}_{1}=1.35 \mathrm{x}$
' B ' in 2004 :
$40=\frac{\mathrm{I}_{2}-\mathrm{x}}{\mathrm{x}} \times 100 \Rightarrow \mathrm{I}_{2}=1.4 \mathrm{x}$
$I_{1}: I_{2}=1.35 x: 1.4 x=27: 28$.
50. Average $\%$ profit $=\frac{40+45+40+35+50+30}{6}=\frac{240}{6}=40 \%$
51. (4) Average number of players who play football and
rugby together $=\frac{4200 \times \frac{17+13}{100}}{2}=630$
52. (1) Female players who plays lawn tennis
$=2000 \times \frac{22}{100}=440$
Male players who plays rugby
$=4200 \times \frac{13}{100}-2000 \times \frac{10}{100}=546-200=346$
Difference $=440-346=94$
53. (3) Female players who plays cricket
$=2000 \times \frac{40}{100}=800$
Male players who play hockey
$=4200 \times \frac{10}{100}-2000 \times \frac{15}{100}=420-300=120$
Ratio $=\frac{800}{120}=20: 3$
54. (2) Number of male players who plays football, cricket and law tennnis
$=4200 \times \frac{17+35+25}{100}-2000 \times \frac{13+40+22}{100}$
$=3234-1500=1734$
55. (3) $\frac{x+1.5 x}{y+3.5 y}=\frac{25}{51}$
$\Rightarrow \frac{2.5 x}{4.5 y}=\frac{25}{51} \Rightarrow \frac{x}{y}=\frac{25 \times 45}{51 \times 25}=\frac{15}{17}$
56. (4) BANKING

Total letter $=7$ whereas N comes two times.

$$
\therefore{ }^{7} \mathrm{P}_{2}=\frac{7!}{2!}=\frac{7 \times 6 \times 5 \times 4 \times 3 \times 2!}{2!}=2520
$$

57. Total weight of 75 girls $=75 \times 47=3525 \mathrm{~kg}$.

One girls actual weight is 25 kg but read as 45 kg . i.e.
Total weight $=3525-20=3505$.
Average weight of 75 girls $=\frac{3505}{75}=46.73 \mathrm{~kg}$.
58. $7!=5040$.
59. Average distance
$=\frac{325+314+312+278+292+274}{6}=\frac{1795}{6}=297 \frac{1}{2}$
60. 'Q' distance on Friday $=302$

Time $=8 \mathrm{hrs}$.
Speed $=\frac{302}{8}=37.75 \mathrm{~km} / \mathrm{hr}$.
61. ' $P$ ' distance on Monday $=240$

Speed $=19.2 \mathrm{~km} / \mathrm{hr}$.
Time $=\frac{240}{19.2}=12 \frac{1}{2} \mathrm{hrs}$.
62. Rati of time ' R ' to ' T ' $=308: 318=154: 159$.
63. $7428 \times \frac{6}{36} \times \mathrm{x}=619$
$\Rightarrow x=\frac{619 \times 6}{7428}=0.5$.
64. $\frac{560}{32} \times \frac{720}{48}=262.5$.
65. $748 \times 9 \times \mathrm{x}=861696$
$\Rightarrow x=\frac{861696}{748 \times 9}=128$.

66-70.

| $\$ \rightarrow \geq$ |
| :---: |
| © $\rightarrow<$ |
| $\# \rightarrow>$ |
| $\% \rightarrow \leq$ |
| $@ \rightarrow=$ |

66. $\mathrm{R}>\mathrm{J} \geq \mathrm{D}=\mathrm{K} \leq \mathrm{T}$
(i) $\mathrm{T}>\mathrm{D}$
(ii) $\mathrm{T}=\mathrm{D}$ (Either I or II)
(iii) $\mathrm{R}>\mathrm{K}$
(True)
(iv) $\mathrm{J} \geq \mathrm{T}$
(False)
67. $\mathrm{T} \leq \mathrm{R} \geq \mathrm{M}=\mathrm{D}<\mathrm{H}$

| (i) $\quad \mathrm{D} \leq \mathrm{R}$ | (True) |
| :--- | :--- |
| (ii) $\mathrm{H}>\mathrm{R}$ | (False) |
| (iii) $\mathrm{T}<\mathrm{M}$ | (False) |
| (iv) $\mathrm{T} \leq \mathrm{D}$ | (False) |

68. $\mathrm{M}=\mathrm{B}>\mathrm{N} \geq \mathrm{R}<\mathrm{K}$
(i) $\mathrm{K}>\mathrm{B}$
(False)
(ii) $\mathrm{R}<\mathrm{B}$
(iii) $\mathrm{M} \geq \mathrm{R}$
(iv) $\mathrm{N}<\mathrm{M}$
(True)
(False)
(True)
69. $\mathrm{F}>\mathrm{H}=\mathrm{M}<\mathrm{E} \geq$ J
(i) $\mathrm{J}<\mathrm{M}$
(ii) $\mathrm{E}>\mathrm{H}$
(iii) $\mathrm{M}<\mathrm{F}$
(iv) $\mathrm{F}>\mathrm{E}$
(False)
(True)
(True)
(False)
70. $\mathrm{D} \leq \mathrm{A}=\mathrm{B}<\mathrm{K} \leq \mathrm{M}$

| (i) $\mathrm{B} \geq \mathrm{D}$ | (True) |
| :--- | :--- |
| (ii) $\mathrm{K}>\mathrm{A}$ | (True) |
| (iii) $\mathrm{M}>\mathrm{B}$ | (True) |
| (iv) $\mathrm{A}<\mathrm{M}$ | (True) |

71. 



Either son or daughter.

72-75.

$$
\begin{aligned}
& \text { must - lo } \\
& \text { save - ze } \\
& \text { good - so } \\
& \text { be - do } \\
& \text { he - ni }
\end{aligned}
$$

72. (3)
73. (1)
made - fe money - ka grace - we some - gi
74. (5)
75. (4)

76-80.

76. (2) $P$ is second to the left of $Q$ because $Q$ is facing at centre.
77. (3) The position of T is third to the left of V because V is facing outside.
78. (4) $S$ is facing at centre but $R, W, V, Y$ are facing outside.

79
(1) $\mathrm{W} \xrightarrow{+3} \mathrm{~T} \xrightarrow{+4} \mathrm{Q} \xrightarrow{+5} \mathrm{R} \xrightarrow{+6} \mathrm{Y}$
$\mathrm{P} \xrightarrow{+3} \mathrm{R} \xrightarrow{+4} \mathrm{~W} \xrightarrow{+5} \mathrm{~S} \xrightarrow{+6} \mathrm{~T}$
Note : Ignore left and right and move in clockwise direction only.
80. (3) $R$ sits exactly between $T$ and $S$. Here we should ignore left and right.

81-85.

| Monday | Physics |
| :---: | :---: |
| Tuesday | Botany |
| Wednesday | Maths |
| Thursday | Chemistry |
| Friday | Statistics |
| Saturday | Zoology |
| Sunday | English |

81. (1) Monday
82. (4) Three subjects i.e., Maths, Chemistry and Statistics.
83. (3) Zoology
84. (4) Friday
85. (2) Statistics
86. (3)
87. (4) \# B, \$ 7, \% V
88. (5) $5 * \%$
89. (2) TR
90. (1)
91. (3)


Only (i) and (ii) follows.
92. (1)


Only (i) follows.
93. (4)


Only (i) follows.
94. (5)


Only (i) follows.
95. (1)


None follows.
96. (5)
98. (3)
100. (5) ST, GI, SU, G-I.
97. (2)
99. (5)

