

WBCS (Main) Exam Paper – VI Practice Set

Answers with Explanation

1. (c) $\begin{array}{r} \times \times \times \\ \times \times \times \dots \text{ (i)} \\ \hline 1752 \\ \times \times \times \dots \text{ (ii)} \\ \hline \times 1149 \\ \times \times \times \dots \text{ (iii)} \\ \hline \times 213 \end{array}$ অ্যাচিভার্স
- Number at (i) = $643 - 175 = 468$
 Number at (ii) = $1752 - 114 = 1638$
 Number at (iii) = $1149 - 213 = 936$
 Clearly, 468, 1638 and 936 are multiples of 234 and $234 > 213$.
 \therefore Divisor = 234 অ্যাচিভার্স
2. (b) $2^{31} = (2^8)^4 \div 2 = (256)^4 \div 2$
 $= \frac{\dots 6}{2} = \dots 3$
 Clearly, the remainder will be 3 when divided by 5.
 Illustration :
 $23 \div 5$ gives remainder = 3
 $83 \div 5$ gives remainder = 3
3. (c) Prime numbers between 80 and 90.
 = 83 and 89
 \therefore Required product = $83 \times 89 = 7387$
4. (b) The LCM of 5, 6, 7 and 8 = 840
 \therefore Required number = $840k + 3$ which is exactly divisible by 9 for some value of k.
 Now, $840k + 3 = 93 \times 9k + (3k + 3)$
 When $k = 2$, $3k + 3 = 9$, which is divisible by 9.
 \therefore Required number = $840 \times 2 + 3 = 1683$
5. (b) LCM of 25, 50 and 75 = 150
 On dividing 43582 by 150, remainder = 82
- $\begin{array}{r} 150) 43582 \text{ (290)} \\ \underline{300} \\ 1358 \\ \underline{1350} \\ 82 \end{array}$ অ্যাচিভার্স
- \therefore Required number
 = $43582 + (150 - 82) = 43650$
6. (a) We have to find HCF of
 (1657 - 6 = 1651) and
 (2037 - 5 = 2032) অ্যাচিভার্স
- $1651 = 13 \times 127$ অ্যাচিভার্স
 $2032 = 16 \times 127$
 \therefore HCF = 127
 So, required number will be 127.
7. (a) $? = \left(\frac{1}{2} - \frac{1}{4} + \frac{1}{5} - \frac{1}{6}\right) \div \left(\frac{2}{5} - \frac{5}{9} + \frac{3}{5} - \frac{7}{18}\right)$
 $= \left(\frac{30 - 15 + 12 - 10}{60}\right) \div \left(\frac{36 - 50 + 54 - 35}{90}\right)$
 $= \left(\frac{17}{60}\right) \div \left(\frac{5}{90}\right) = \frac{17}{60} \times 18 = \frac{51}{10} = 5\frac{1}{10}$
8. (a) Using (x) of Basic Formulae অ্যাচিভার্স
 Let $0.9 = x$, $0.2 = y$ and $0.3 = z$
 Then, the given expression

$$= \frac{x \times x \times x + y \times y \times y + z \times z \times z - 3 \times x \times y \times z}{x \times x + y \times y + z \times z - x \times y - y \times z - z \times x}$$

$$= \frac{x^3 + y^3 + z^3 - 3xyz}{x^2 + y^2 + z^2 - xy - yz - zx}$$

$$= \frac{(x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)}{x^2 + y^2 + z^2 - xy - yz - zx}$$

$$= x + y + z$$

$$= 0.9 + 0.2 + 0.3 = 1.4$$
9. (b) $\sqrt{0.01} + \sqrt{0.81} + \sqrt{1.21} + \sqrt{0.0009}$
 = $0.1 + 0.9 + 1.1 + 0.03$
 = 2.13
10. (b) Total correct marks of 35 children
 = $35 \times 35 + 35 - 65$
 = $1225 - 30 = 1195$
 Required average = $\frac{1195}{35} = 34.14$
- OR** অ্যাচিভার্স
- Difference = $-65 + 35 = -30$
 Required average = $35 - \frac{30}{35}$
 = $35 - 0.857 = 34.143$
11. (d) Middle i.e. eighth number
 = $8 \times 6.5 + 8 \times 8.5 - 15 \times 7$
 = $52 + 68 - 105 = 120 - 105$
 = 15 অ্যাচিভার্স

12. (c) Average of first five odd multiples of 3

$$= \frac{3(1+3+5+7+9)}{5}$$

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$$= \frac{3 \times 25}{5} = 15$$

13. (d) $\frac{x}{y} = \frac{2}{5}$ (Given)

$$\therefore \frac{5x+3y}{5x-3y} = \frac{5\left(\frac{x}{y}\right)+3}{5\left(\frac{x}{y}\right)-3}$$

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(Dividing numerator and denominator by y)

$$= \frac{5 \times \frac{2}{5} + 3}{5 \times \frac{2}{5} - 3} = \frac{2+3}{2-3} = -5$$

14. (a) $\frac{2}{x} = \frac{4}{8} \Rightarrow 4x = 2 \times 8$

$$\Rightarrow x = \frac{2 \times 8}{4} = 4$$

$$\therefore \frac{x}{y} = \frac{2}{3}$$

$$\Rightarrow \frac{4}{y} = \frac{2}{3}$$

$$\Rightarrow 2y = 4 \times 3$$

$$\Rightarrow y = \frac{4 \times 3}{2} = 6$$

15. (b) Let the present age of A and B be 4x and 5x years respectively,
According to the question,

$$\frac{4x+5}{5x+5} = \frac{5}{6}$$

$$\Rightarrow 25x + 25 = 24x + 30$$

$$\Rightarrow x = 30 - 25 = 5$$

\therefore A's present age

$$= 4x = 4 \times 5 = 20 \text{ years}$$

16. (a) Let the number be x.

$$\therefore \frac{3}{5} \times \frac{60}{100} \times x = 36$$

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$$\Rightarrow x = \frac{36 \times 5 \times 5}{3 \times 3} = 100$$

17. (b) Expression

$$= \frac{25}{4} \% \text{ of } 1600 + \frac{25}{2} \% \text{ of } 800$$

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$$= \frac{1600 \times 25}{400} + \frac{800 \times 25}{200}$$

$$= 100 + 100 = 200$$

18. (c) Required per cent = $\frac{40}{80} \times 100 = 50$

19. (b) If the CP of A articles be equal to SP of B articles, then

$$\text{Loss percent} = \frac{B-A}{B} \times 100$$

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$$= \frac{16-10}{16} \times 100 = \frac{6}{16} \times 100 = 37.5\%$$

20. (d) C.P. of article = Rs. 100 (let).

$$\therefore \text{S.P.} = \text{Rs. } 125$$

$$\text{New S.P.} = \text{Rs. } 250$$

\therefore Profit percent

$$= \frac{250-100}{100} \times 100 = 150\%$$

21. (a) Loss = 5 - 4.50 = 0.50

$$\therefore \text{Loss percent} = \frac{0.50}{5} \times 100 = 10\%$$

22. (c) Single equivalent discount

$$= \left(10 + 5 - \frac{10 \times 5}{100}\right) \%$$

$$= (15 - 0.5)\% = 14.5\%$$

23. (b) (a) Single equivalent discount for 20% and 15%

$$= \left(20 + 15 - \frac{20 \times 15}{100}\right) \% = 32\%$$

Single equivalent discount for 32% and 10%

$$= \left(32 + 10 - \frac{32 \times 10}{100}\right) = 38.8\%$$

(b) Single equivalent discount for 25% and 12%

$$= \left(25 + 12 - \frac{25 \times 12}{100}\right) = 34\%$$

Single equivalent discount for 34% and 8%

$$= \left(34 + 8 - \frac{34 \times 8}{100}\right) \%$$

$$= 42 - 2.72 = 39.28\%$$

24. (c) Let the cost price be ₹100.

$$\text{Marked price} = ₹140$$

$$S.P. = \frac{75 \times 140}{100} = ₹ 105$$

∴ Profit per cent = 5%

25. (a) S.I. = Amount – Principal
= Rs. (6900 – 6000)
= Rs. 900

$$\therefore \text{Rate} = \frac{\text{Interest} \times 100}{\text{Principal} \times \text{Time}} = \frac{900 \times 100}{6000 \times 3}$$

= 5% per annum

26. (b) SI = ₹(7200–6000) = ₹1200

$$\therefore SI = \frac{PRT}{100}$$

$$\Rightarrow 1200 = \frac{6000 \times R \times 4}{100}$$

$$\Rightarrow R = \frac{1200 \times 100}{6000 \times 4} = 5\%$$

New rate of R = 5 × 1.5 = 7.5%

$$\text{Then, SI} = \frac{6000 \times 7.5 \times 5}{100} = ₹ 2250$$

∴ Amount = ₹(6000 + 2250) = ₹8250

27. (b) $\frac{500 \times 2 \times R_1}{100} - \frac{500 \times 2 \times R_2}{100}$
= 2.5, where R_1 & R_2 are rate% of both banks

$$\Rightarrow 10(R_1 - R_2) = 2.5$$

$$\Rightarrow R_1 - R_2 = \frac{2.5}{10}$$

= 0.25% per annum

28. (c) Let principal be Rs. P.

$$\text{Interest in 1 year} = \frac{PRT}{100}$$

$$= \frac{P \times 10}{100} = \text{Rs. } \frac{P}{10}$$

According to question,

$$\therefore P \left[\left(1 + \frac{R}{100} \right)^2 - 1 \right] - \frac{P}{10} = 132$$

$$\Rightarrow P \left[\left(1 + \frac{10}{100} \right)^2 - 1 \right] - \frac{P}{10} = 132$$

$$\Rightarrow P \left[\left(\frac{11}{10} \right)^2 - 1 \right] - \frac{P}{10} = 132$$

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$$\Rightarrow P \left(\frac{121}{100} - 1 \right) - \frac{P}{10} = 132$$

$$\Rightarrow \frac{21P}{100} - \frac{P}{10} = 132$$

$$\Rightarrow \frac{21P - 10P}{100} = 132$$

$$\Rightarrow \frac{11P}{100} = 132$$

$$\Rightarrow P = \frac{132 \times 100}{11} = \text{Rs. } 1200$$

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

$$\Rightarrow 1348.32 = 1200 \left(1 + \frac{R}{100} \right)^2$$

$$\Rightarrow \frac{1348.32}{1200} = \left(1 + \frac{R}{100} \right)^2$$

$$\Rightarrow \frac{134832}{120000} = \left(1 + \frac{R}{100} \right)^2$$

$$\Rightarrow \frac{11236}{10000} = \left(1 + \frac{R}{100} \right)^2$$

$$\Rightarrow \left(\frac{106}{100} \right)^2 = \left(1 + \frac{R}{100} \right)^2$$

$$\Rightarrow \frac{106}{100} = 1 + \frac{R}{100}$$

$$\Rightarrow 1 + \frac{6}{100} = 1 + \frac{R}{100}$$

$$\Rightarrow R = 6\% \text{ per annum.}$$

30. (d) Let S.I. = ₹100,
& Principal = ₹100

$$\therefore \text{Rate} = \frac{\text{S.I.} \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{100 \times 100}{100 \times 8} = \frac{25}{2} \%$$

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

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$$= 8000 \left[\left(1 + \frac{25}{200} \right)^2 - 1 \right]$$

$$= 8000 \left(\frac{81}{64} - 1 \right) = \frac{8000 \times 17}{64} = ₹2125$$

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31. (b) (A + B)'s 1 day's work = $\frac{1}{36}$

(B + C)'s 1 day's work = $\frac{1}{60}$

(C + A)'s 1 day's work = $\frac{1}{45}$

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Adding all three,

$$2(A + B + C)'s \text{ 1 day's work} \\ = \frac{1}{36} + \frac{1}{60} + \frac{1}{45} = \frac{5+3+4}{180} = \frac{1}{15}$$

$$\therefore (A + B + C)'s \text{ 1 day's work} = \frac{1}{30}$$

$$\therefore C's \text{ 1 day's work} = \frac{1}{30} - \frac{1}{36} = \frac{6-5}{180} = \frac{1}{180}$$

Hence, C alone will finish the work in 180 days.

32. (c) Men Working hours Days
 $16 \uparrow \quad 14 \uparrow \quad 12 \downarrow$
 $28 \uparrow \quad 12 \uparrow \quad x \downarrow$

$$\therefore \left. \begin{array}{l} 28 : 16 \\ 12 : 14 \end{array} \right\} :: 12 : x$$

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$$\Rightarrow 28 \times 12 \times x = 16 \times 14 \times 12$$

$$\Rightarrow x = \frac{16 \times 14 \times 12}{28 \times 12} = 8 \text{ days}$$

33. (c) Work done by 8 men in 6 days = $\frac{6}{12} = \frac{1}{2}$

$$\text{Remaining work} = 1 - \frac{1}{2} = \frac{1}{2}$$

4 more men are engaged.

$$\therefore \text{Total number of men} = 8 + 4 = 12$$

By work and time formula

$$\frac{W_1}{M_1 D_1} = \frac{W_2}{M_2 D_2}, \text{ we have}$$

$$\frac{1}{8 \times 12} = \frac{\frac{1}{2}}{12 \times D_2}$$

$$\Rightarrow D_2 = \frac{1}{2} \times \frac{8 \times 12}{12} = 4 \text{ days}$$

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34. (a) Part of the tank filled in an hour by both pumps

$$= \frac{1}{8} + \frac{1}{10} = \frac{5+4}{40} = \frac{9}{40}$$

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\therefore Part of the tank filled in 4 hours

$$= \frac{4 \times 9}{40} = \frac{9}{10}$$

35. (b) Let the leak empty the full tank in x hours.

$$\frac{1}{3} - \frac{1}{x} = \frac{2}{7}$$

$$\Rightarrow \frac{1}{x} = \frac{1}{3} - \frac{2}{7} = \frac{7-6}{21}$$

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$$\Rightarrow \frac{1}{x} = \frac{1}{21} \Rightarrow x = 21 \text{ hours}$$

36. (a) Part filled by A from 8 a.m. to 11 a.m.

$$= \frac{3}{15} = \frac{1}{5}$$

Part filled by B from 9 a.m. to 11 a.m.

$$= \frac{2}{12} = \frac{1}{6}$$

Total Part filled till 11 a.m.

$$= \frac{1}{5} + \frac{1}{6} = \frac{6+5}{30} = \frac{11}{30}$$

At 11 a.m. pipe C is opened to empty it.

\therefore Part of tank emptied in 1 hour

$$= \frac{1}{4} - \frac{1}{15} - \frac{1}{12} = \frac{15-4-5}{60} = \frac{1}{10}$$

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$\therefore \frac{11}{30}$ part will be emptied in

$$\frac{11}{30} \times 10 = \frac{11}{3} \text{ hours or } 3\frac{2}{3}$$

i.e. 3 hours 40 minutes

i.e. at 11.40 a.m.

37. (d) Speed = 180 kmph

$$= \frac{180 \times 5}{18} \text{ m/sec} = 50 \text{ m/sec}$$

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$$\left[\because 1 \text{ km/hr} = \frac{5}{18} \text{ m/s} \right]$$

38. (b) Time taken in covering 5 km = $\frac{5}{10} = \frac{1}{2}$ hour

= 30 minutes

That person will take rest for four times.

\therefore Required time = (30 + 4 × 5) minutes

= 50 minutes

39. (c) Let the length of the train be x metres.

When a train crosses a platform it covers a distance equal to the sum of lengths of train and platform. Also, the speed of train is same.

$$\therefore \frac{x+162}{18} = \frac{x+120}{15}$$

$$\Rightarrow 6x + 720 = 5x + 810$$

$$\Rightarrow 6x - 5x = 810 - 720$$

$$\Rightarrow x = 90$$

\therefore The length of the train = 90m.

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40. (a) Rate upstream of boat = $\frac{75}{3} = 25$ kmph

Rate downstream of boat = $\frac{60}{1.5} = 40$ kmph

\therefore Speed of boat in still water

$$= \frac{1}{2}(25 + 40) = \left(\frac{1}{2} \times 65\right) \text{ kmph} = 32.5 \text{ kmph}$$

41. (c) Rate upstream of boat

$$= 13 - 4 = 9 \text{ kmph}$$

\therefore Required time

$$= \frac{\text{Distance}}{\text{Speed}} = \frac{63}{9} = 7 \text{ hours}$$

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42. (c) Let the required distance be x km, then

$$\frac{x}{5+3} + \frac{x}{5-3} = 3$$

$$\Rightarrow \frac{x}{8} + \frac{x}{2} = 3$$

$$\Rightarrow \frac{x+4x}{8} = 3$$

$$\Rightarrow 5x = 24$$

$$\Rightarrow x = \frac{24}{5} = 4.8 \text{ km.}$$

43. (d) Let the breadth be x m.

\therefore Length = $(23 + x)$ m

$$\Rightarrow 2(x + 23 + x) = 206$$

$$\Rightarrow 4x = 206 - 46$$

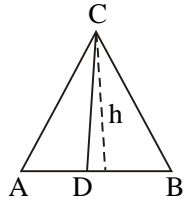
$$\Rightarrow x = \frac{160}{4} = 40 \text{ m}$$

\therefore Length = $40 + 23 = 63$ m

\therefore Required area = $63 \times 40 = 2520 \text{ m}^2$

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44. (d)



Given : $AB = 5$

$DB = 3$

$\therefore AD = 5 - 3 = 2$

In the figure we can see that both $\triangle ADC$ and $\triangle ABC$ have the same height, h .

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Area of a triangle = $\frac{1}{2} \times \text{base} \times \text{height}$

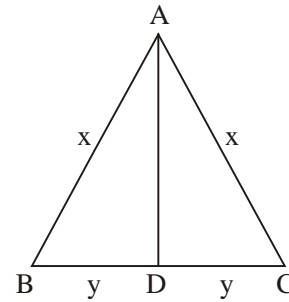
When height is constant,

We know, Area of triangle \propto base,

$$\therefore \frac{\text{Area of } \triangle ADC}{\text{Area of } \triangle ABC} = \frac{AD}{AB} = \frac{2}{5}$$

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45. (d)



Let $AB = AC = x$ cm

and $BD = DC = y$ cm

then, $AD^2 = x^2 - y^2$

$$\Rightarrow x^2 - y^2 = 64$$

$$x + x + 2y = 64$$

$$\Rightarrow 2x + 2y = 64$$

$$\Rightarrow x + y = 32$$

$$\therefore \frac{x^2 - y^2}{x + y} = \frac{64}{32}$$

$$\Rightarrow x - y = 2$$

$$\therefore x + y = 32$$

$$\frac{x - y = 2}{x + y = 32}$$

$$2x = 34$$

$$\Rightarrow x = 17 \text{ cm}$$

Also, $x + y = 32$

$$\Rightarrow y = 32 - 17 = 15 \text{ cm}$$

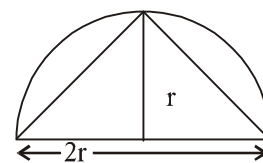
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\therefore area of $\triangle ABC = \frac{1}{2} \times BC \times AD$

$$= \frac{1}{2} \times 30 \times 8 = 120 \text{ sq.cm.}$$

46. (b) The largest triangle inscribed in a semi-circle will have base equal to $2r$ cm and height equal to r cm as shown in figure.



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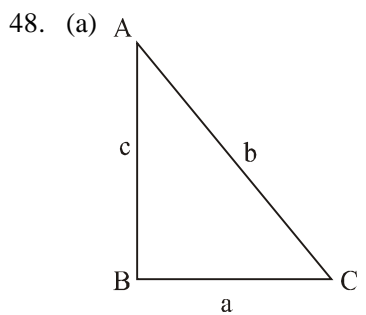
$$\therefore \text{Area} = \frac{1}{2} \times \text{base} \times \text{height}$$

$$= \frac{1}{2} \times 2r \times r = r^2 \text{ cm}^2$$

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47. (d) Let the side of a square is increased by x%,
its area is increased by $\left(2x + \frac{x^2}{100}\right)\%$

Here, x = 25%
∴ Effective increase in area
= $\left(2 \times 25 + \frac{25 \times 25}{100}\right)\% = 56.25\%$



a + b + c = 56 ... (i) প্র্যাচিভর্স

$$\frac{1}{2}ac = 84$$

$$\Rightarrow ac = 168 \text{ sq.cm.}$$

$$\therefore b^2 = a^2 + c^2$$

$$\Rightarrow b^2 = (a + c)^2 - 2ac$$

$$\Rightarrow b^2 = (56 - b)^2 - 2 \times 168 \text{ [By (i)]}$$

$$\Rightarrow b^2 = 3136 - 112b + b^2 - 336$$

$$\Rightarrow 112b = 2800$$

$$\Rightarrow b = \frac{2800}{112} = 25 \text{ cm}$$

49. (c) $\sqrt[3]{2} = 2^{\frac{1}{3}} = 3^{\frac{2}{6}} = \sqrt[6]{4}$ প্র্যাচিভর্স

$$\sqrt{3} = 3^{\frac{1}{2}} = 3^{\frac{3}{6}} = \sqrt[6]{27}$$

∴ $\sqrt{3}$ is greater.

50. (a) $x = \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$

$$= \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}} \times \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} + \sqrt{3}}$$

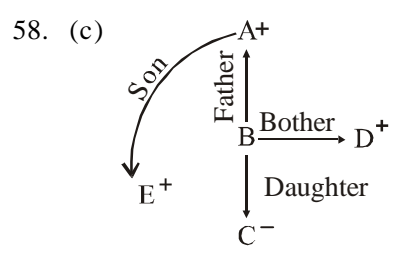
$$= \frac{(\sqrt{5} + \sqrt{3})^2}{5 - 3} = \frac{5 + 3 + 2\sqrt{15}}{2}$$

$$= \frac{8 + 2\sqrt{15}}{2} = 4 + \sqrt{15}$$
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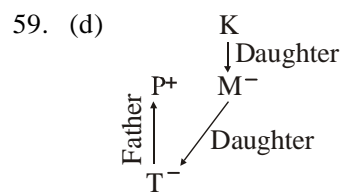
$$\therefore y = \frac{\sqrt{5} - \sqrt{3}}{\sqrt{5} + \sqrt{3}} = 4 - \sqrt{15}$$
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$$\therefore x + y = 4 + \sqrt{15} + 4 - \sqrt{15} = 8$$

51. (c) Teacher teaches students.
Similarly, lawyer serves his client.
52. (a) Bow and Arrow are complementary to each other. Similarly, Pistol and Bullet are complementary to each other.
53. (d) The second belongs to the first. Dictionary is a reference material. Similarly, Newspaper is a periodical.
54. (c) The flesh of sheep is called mutton. Similarly, the flesh of deer is called venison.
55. (a) Saint seeks peace and solace through meditation. Similarly, scientist does research to establish some principles.
56. (c) Actors take part in play. Similarly, musicians perform concert. Concert is a musical entertainment given in public by one or more musicians. Play is a work written to be performed by actors. প্র্যাচিভর্স
57. (a) The letters have been written in the reverse order.
STAR \Rightarrow RATS
Similarly,
WARD \Rightarrow DRAW



Clearly, A is father of E, D and B of which E and D are sons and B's sex is not given and C is B's daughter hence two possibilities exist:
(i) When B is female — then E (and also D) is maternal uncle of C. So option (c).
(ii) When B is male — then E (and also D) is paternal uncle of C.
Hence C and E are niece and uncle respectively. Option (c) is correct.



Obviously P and M are parents (father and mother respectively) of T. Hence P and M are husband-wife. Hence P is son-in-law of M's mother/father 'K'.

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60. (c) Only daughter of Vijay's mother means sister of Vijay.

Sister of Vijay is mother of Anand. Therefore, Anand is nephew of Vijay.

61. (d)

$+\Rightarrow \times$	$-\Rightarrow +$
$\times \Rightarrow \div$	$\div \Rightarrow -$

$$10 + 5 \times 10 \div 2 - 5$$

$$\Rightarrow ? = 10 \times 5 \div 10 - 2 + 5$$

$$\Rightarrow ? = 5 - 2 + 5 = 8$$

62. (a) $5 + 3 \times 8 - 12 \div 4 = 3$

$$\Rightarrow 5 + 3 \times 8 \div 12 - 4 = 3$$

$$\Rightarrow 5 + 2 - 4 = 3$$

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63. (c)

$+\Rightarrow \times$	$-\Rightarrow \div$
$\times \Rightarrow -$	$\div \Rightarrow +$

$$16 \div 4 \times 10 - 5 + 8 = ?$$

$$\Rightarrow ? = 16 + 4 - 10 \div 5 \times 8$$

$$\Rightarrow ? = 16 + 4 - 2 \times 8$$

$$\Rightarrow ? = 16 + 4 - 16 = \boxed{4}$$

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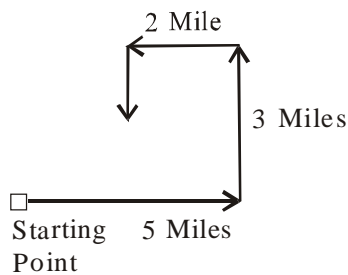
64. (c) Except Late, all other words convey more or less similar meaning.

65. (c) Except February, all other months have 31 days each. There are 28 or 29 days in the month of February.

66. (c) Except Panchsheel, all others are holy books. Panchsheel is a set of principles to be followed in relation with other countries.

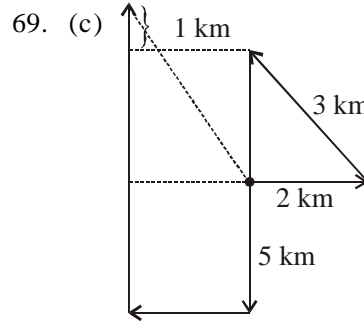
67. (c) Fantasy is different from the other three words. Fantasy means 'imagination'. All other words show negative or painful state.

68. (a) According to question



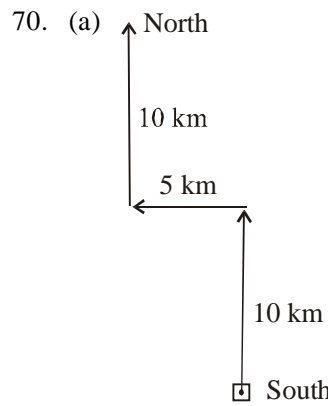
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It is clear from the diagram that I was going towards south finally.



শ্রীচিহ্ন

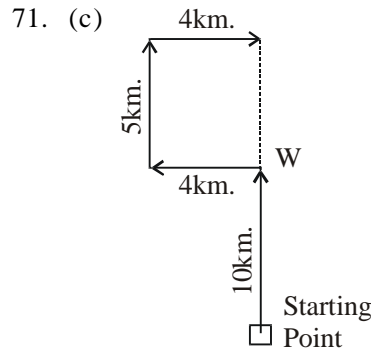
Now Roy is in North-West direction from the starting point.



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Now, he is in north direction.

শ্রীচিহ্ন



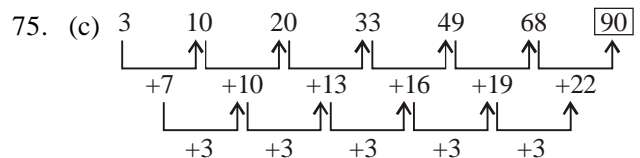
Required distance = 10 + 5 = 15 km.

72. (c) Today is Thursday + 2 = Saturday
Therefore, tomorrow will be Sunday.

73. (c) Mondays \Rightarrow 8, 15, 22 and 29
Therefore, 30th \Rightarrow Tuesday

74. (b) The actual time would be 2:40

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76. (a)

	+4		+6		+8	
	↓		↓		↓	
9	27	31	155	161	1127	1135
↑	↑	↑	↑	↑	↑	↑
×3		×5		×7		

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77. (b)

44	56	69	83	98	114
↑	↑	↑	↑	↑	↑
+12	+13	+14	+15	+16	

78. (b)

480	96	24	8	4
↑	↑	↑	↑	↑
÷5	÷4	÷3	÷2	

79. (b) D = 4, i.e., Position Number is English alphabet

C	O	V	E	R
↓	↓	↓	↓	↓
3	15	22	5	18

3 + 15 + 22 + 5 + 18 = 63

Therefore,

B	A	S	I	S
↓	↓	↓	↓	↓
2	1	19	9	19

2 + 1 + 19 + 9 + 19 = 50

80. (c)

4	0	8	9	2	7
↓	↓	↓	↓	↓	↓
E	U	R	B	S	A

81. (b)

R	E	F	O	R	M	
↓	↓	↓	↓	↓	↓	
4	2	6	3	4	9	
F	O	R	M	U	L	A
↓	↓	↓	↓	↓	↓	↓
6	3	4	9	8	7	1

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Therefore,

A	M	U	L
↓	↓	↓	↓
1	9	8	7

82. (b) There is no 'A' letter in the given word. Therefore, the word ABILITY cannot be formed.

L E G I **BIL** I T Y ⇒ BILL
 L E **GIB** I L I T Y ⇒ BIG
LEG I B I L I T Y ⇒ LEG

83. (d) There is only one 'N' in the given word. So, the word KNOWN cannot be formed.
 There is only, one 'O' in the given word. So, the word GODOWN cannot be formed.
 There is no 'R' letter in the given word. So, the word WONDER cannot be formed.

K **NO** W **LEDG** E ⇒ GOLDEN

84. (a) There is no 'L' letter in the given word. Therefore, the word MANTLE cannot be formed.
 There is no 'I' letter in the given word. Therefore, the word SUMMIT cannot be formed.

There is only 'S' in the given word. Therefore, the word ASSURE cannot be formed.

M E **AS** U **RE** M E N **T** ⇒ MASTER

85. (b) First premise is Particular Affirmative (I-type). Second premise is Universal Affirmative (I-type). Both the premises are already aligned. Thus, Some doctors are teachers

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↙ ↘

All teachers are counsellors.
 We know that,
 I + A ⇒ I-type conclusion.
 Therefore, our derived conclusion would be :
 "Some doctors are counsellors".
 Thus, only conclusion II follows.

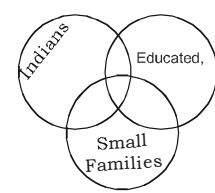
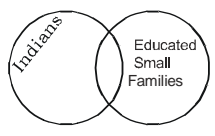
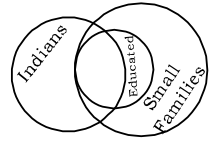
86. (b) First statement is Particular Affirmative (I-type). Second statement is Universal Affirmative (A-type). Both the statements are already aligned. Thus, Some Indians are educated.

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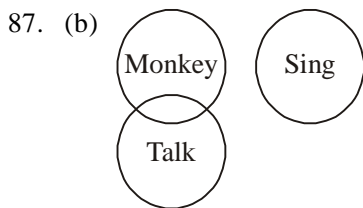
↙ ↘

(All) Educated men prefer small families.
 We know that,
 I + A ⇒ I-type Conclusion.
 Therefore, our derived Conclusion would be:
 "Some Indians prefer small families."

Venn-diagrams



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Clearly, all monkeys cannot sing.

88. (d) Sonu > Yatendra ... (i)
 (S) (Y)
 Amit > Sonu ... (ii)
 (A) (S)
 Subhash > Amit ... (iii)
 (Sb) (A)
 Sattu is the tallest.
 Combining all the statements

$$\text{Sattu} > \text{Sb} > \boxed{\text{A}} > \text{S} > \text{Y}$$

↓
Amit

89. (d) Anil > Sunny
 Baby > Sunny
 Anil > Sunny > Bose
 Anil > Baby
 Anil > Baby > Sunny > Bose

90. (b) Arun's rank from the last
 $= 31 - 17 + 1 = 15\text{th}$

91. (b) $4 \times 2 \times 3 \times 3 = 72$
 $9 \times 4 \times 2 \times 10 = 720$

$6 \times 20 \times 1 \times 6 = \boxed{720}$

92. (c) The sum of the squares of the upper two numbers is equal to the lower number in each figure.

First Figure
 $(2)^2 + (4)^2 = 4 + 16 = 20$

Second Figure
 $(3)^2 + (9)^2 = 9 + 81 = 90$

Third Figure
 $(1)^2 + (7)^2 = 1 + 49 = \boxed{50}$

93. (b) $4 \times 3 = 12$ and $(12)^2 = 144$
 $11 \times 9 = 99$ and $(99)^2 = 9801$
 $15 \times 6 = 90$ and $(90)^2 = 8100$

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94. (b) $12 \times 4 = 48$

$\sqrt{25} = 5$
 $16 \times 4 = 64$

$\sqrt{81} = 9$
 Similarly,

$15 \times 4 = \boxed{60}$

$\sqrt{49} = 7$

95. (b) **First Figure**
 $(6 \times 7) + (8 + 4) = 42 + 12 = 54$

Second Figure
 $(8 \times 4) + (12 + 7) = 32 + 19 = 51$

Third Figure
 $(9 \times 5) + (14 + 9) = 45 + 23 = 68$

96. (c) Suppose, the present age of Vishal be x years.
 According to question,

$x + 1 = 2(x - 12)$
 or, $2x - x = 25$
 $\therefore x = 25$ years

97. (b) Ascending order of words :
 in order of ages of history
 c. Stone Age

↓
 b. Metallic Age

↓
 d. Alloy Age

↓
 a. Atomic Age

98. (d) Meaningful order of words :
 (c) Sick

↓
 (b) Doctor

↓
 (a) Diagnosis

↓
 (d) Treatment

↓
 (e) Recovery

99. (c) Clearly, there are six blocks in the diagram.
 100. (b) Six cubes are visible and four cubes are invisible. Thus, there are 10 cubes.

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