WBCS (Main) Exam Paper – VI Practice Set

Answers with Explanation

1. (a) $? = 369 \times \dfrac{1}{2} \times \dfrac{2}{3} = 123$

2. (a) Let the length of bamboo be x metres.
   ∴ Length of bamboo above water

   $= x - \dfrac{x}{10} - \dfrac{5x}{8}$

   $= \dfrac{40x - 4x - 25x}{40} = \dfrac{11x}{40}$

   According to the question,

   $\dfrac{11x}{40} = 2.75$

   $\Rightarrow x = \dfrac{2.75 \times 40}{11} = 10$ metres.

3. (a) $\dfrac{1}{15} + \dfrac{1}{35} + \dfrac{1}{63} + \dfrac{1}{99} + \dfrac{1}{143}$

   $= \dfrac{1}{3 \times 5} \times \dfrac{1}{5 \times 7} + \dfrac{1}{7 \times 9} + \dfrac{1}{9 \times 11} + \dfrac{1}{11 \times 13}$

   $= \dfrac{1}{2}\left(\dfrac{1}{3} - \dfrac{1}{5} + \dfrac{1}{5} - \dfrac{1}{7} + \dfrac{1}{7} - \dfrac{1}{9} + \dfrac{1}{9} - \dfrac{1}{11} + \dfrac{1}{11} - \dfrac{1}{13} \right)$

   $= \dfrac{1}{2}\left(\dfrac{1}{3} - \dfrac{1}{13} \right) = \dfrac{1}{2}\left(\dfrac{13-3}{39} \right) = \dfrac{5}{39}$

4. (a) HCF × LCM = Product of two numbers
   $\Rightarrow 8 \times \text{LCM} = 1280$

   $\Rightarrow \text{LCM} = \dfrac{1280}{8} = 160$

5. (d) The greatest number of five digits is 99999.
   LCM of 3, 5, 8 and 12

2	3	5	8	12
2	3	5	4	6
3	3	5	2	3
	1	5	2	1

   ∴ LCM = 2 × 2 × 3 × 5 × 2 = 120
   After dividing 99999 by 120, we get 39 as remainder 99999 – 39 = 99960 = (833 × 120)
   99960 is the greatest five digit number divisible by the given divisors.
   In order to get 2 as remainder in each case we will simply add 2 to 99960.
   ∴ Greatest number = 99960 + 2 = 99962

6. (c) First of all we find the HCF of 945 and 2475.
   HCF = 45
   Illustration :

   ```
   945)2475(2
       1890
       585)945(1
           585
           360)585(1
               360
               225)360(1
                   225
                   135)225(1
                       135
                       90)135(1
                           90
                           45)90(2
                               90
                                ×
   ```

   ∴ Maximum number of animals in each flock = 45
   Required total number of flocks

   $= \dfrac{945}{45} + \dfrac{2475}{45} = 21 + 55 = 76$

7. (d) Expression $= 1 - \dfrac{a}{1 - \dfrac{1}{1 + \dfrac{a}{1-a}}}$ is

   $= 1 - \dfrac{a}{1 - \dfrac{1}{\dfrac{1-a+a}{1-a}}}$

   $= 1 - \dfrac{a}{1 - \dfrac{1}{\dfrac{1}{1-a}}}$

   $= 1 - \dfrac{a}{1 - (1-a)} = 1 - \dfrac{a}{1-1+a}$

   $= 1 - 1 = 0$

8. (c) Expression
   $= 25 - 5\,[2 + 3\,\{2 - 2(5 - 3) + 5\} - 10] \div 4$
   $= 25 - 5\,[2 + 3\,\{2 - 2 \times 2 + 5\} - 10] \div 4$
   $= 25 - 5\,[2 + 9 - 10] \div 4$

   $= 25 - 5 \div 4 = 25 - \dfrac{5}{4}$

$$= \frac{100-5}{4} = \frac{95}{4} = 23.75$$

9. (b) $\sqrt{0.01} + \sqrt{0.81} + \sqrt{1.21} + \sqrt{0.0009}$ is
   = 0.1 + 0.9 + 1.1 + 0.03 = 2.13

10. (b) Total sum of x numbers = xy^2
    Total sum of y numbers = yx^2
    ∴ Required average

    $$= \frac{xy^2 + yx^2}{x+y} = \frac{xy(y+x)}{x+y} = xy$$

11. (a) Total expenditure = 120 × 7 = Rs. 840
    Total expenditure of 4 boys = 150 × 4 = ₹600
    Total expenditure of 3 girls = 840 – 600
    = ₹240

    ∴ Their average expenditure $= \frac{240}{3} = ₹ 80$

12. (b) Last number = Sum of 20 numbers – sum of first 12 numbers – sum of next 7 numbers
    = 20 × 12 – 11 × 12 – 7 × 10
    = 240 – 132 – 70 = 38

13. (c) $\frac{p}{1} = \frac{q}{2} = \frac{r}{4} = k$ (let)
    $\Rightarrow$ p = k, q = 2k, r = 4k
    ∴ $\sqrt{5p^2 + q^2 + r^2}$

    $= \sqrt{5k^2 + 4k^2 + 16k^2} = \sqrt{25k^2}$
    = 5k = 5p

14. (b) $A \times \frac{2}{3} = B \times \frac{4}{5}$

    $\Rightarrow \frac{A}{B} = \frac{4}{5} \times \frac{3}{2} = 6:5$

15. (b) Let the number to be added be z.

    ∴ $\frac{x+z}{y+z} = \frac{p}{q}$

    $\Rightarrow$ qx + zq = py + zp
    $\Rightarrow$ zp – zq = qx – py
    $\Rightarrow$ z(p – q) = qx – py

    $\Rightarrow z = \frac{qx - py}{p - q}$

16. (d) Since 18% of the students neither play football nor cricket.
    It means 82% of the students either play football or cricket or both.
    Using set theory
    ∴ n(A ∪ B) = n(A) + n(B) – n(A ∩ B)
    $\Rightarrow$ 82 = 40 + 50 – n(A ∩ B)

$\Rightarrow$ n(A ∩ B) = 90 – 82 = 8
∴ 8% students play both games.

17. (a) $x \times \frac{125}{100} = 100$

    $\Rightarrow x = \frac{100 \times 100}{125} = 80$

18. (b) Let the number be x

    then, $x \times \frac{90}{100} = 30$

    $\Rightarrow x = \frac{3000}{90} = \frac{100}{3} = 33\frac{1}{3}$

19. (b) Let the C.P. of the watch be ₹100.
    ∴ Its S.P. = ₹125
    ∴ Profit per cent on its S.P.

    $= \frac{Profit}{S.P} \times 100 = \frac{25}{125} \times 100 = 20\%$

20. (d) Let the C.P. of one orange = 1
    ∴ C.P. of 40 oranges = ₹40
    and S.P. of 40 oranges = ₹50
    ∴ Profit = (50 – 40) = ₹10

    ∴ Profit % $= \frac{10}{40} \times 100 = 25\%$

21. (a) Let the cost price of 1 book be x
    ∴ Cost price of 3 books = 3x and cost price of 12 books = 12x
    Selling price of 12 books = 1800
    = 12x + 3x = 15x
    $\Rightarrow$ 15x = 1800

    ∴ $x = \frac{1800}{15} = 120$

    The cost price of each book = ₹120

22. (c) Equivalent discount

    $= \left(15 + 10 - \frac{15 \times 10}{100}\right)\% = 23.5\%$

23. (d) Single equivalent discount for consecutive discounts of x% and y%

    $= \left(x + y - \frac{xy}{100}\right)\%$

24. (d) Let the CP of article be ₹100.
    ∴ Marked price = ₹140

    S.P. $= \frac{140 \times 80}{100} = ₹112$

    ∴ Gain per cent = 12%

25. (c) Difference in rate

$$= \left(8 - 7\frac{3}{4}\right)\% = \frac{1}{4}\%$$

Let the capital be ₹x.

$$\therefore \frac{1}{4}\% \text{ of } x = 61.50$$

$$\Rightarrow x = 61.50 \times 100 \times 4 = ₹24600$$

26. (b) Let the amount lent at 4% be x

∴ Amount lent at 5% = (60000 – x)

According to the question,

$$\frac{(60000 - x) \times 5 \times 1}{100} + \frac{x \times 4 \times 1}{100} = 2560$$

$$\Rightarrow 300000 - 5x + 4x = 256000$$

$$\Rightarrow x = 300000 - 256000 = 44000$$

27. (b) Principal = ₹ x

Amount = ₹2x

∴ Interest = 2x – x = ₹ x

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

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

= 12.5 % per annum

28. (c) Amount

$$= 6000\left(1 + \frac{10}{100}\right) \times \left(1 + \frac{\frac{1}{2} \times 10}{100}\right)$$

$$= 6000 \times \frac{11}{10} \times \frac{21}{20} = ₹ 6930$$

∴ C.I. = ₹(6930 – 6000) = ₹930

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

$$= 5000\left[\left(1 + \frac{10}{100}\right)^3 - 1\right]$$

$$= 5000\left[\left(\frac{11}{10}\right)^3 - 1\right]$$

$$\text{C.I.} = \frac{5000 \times 331}{1000} = ₹1655$$

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

$$246 = P\left[\left(1 + \frac{5}{100}\right)^2 - 1\right]$$

$$\Rightarrow 246 = P\left[\left(\frac{21}{20}\right)^2 - 1\right]$$

$$\Rightarrow 246 = P\left(\frac{441 - 400}{400}\right)$$

$$\Rightarrow 246 = \frac{41P}{400} \Rightarrow P = \frac{246 \times 400}{41} = ₹ 2400$$

$$\therefore \text{SI} = \frac{\text{Principal} \times \text{Time} \times \text{Rate}}{100}$$

$$= \frac{2400 \times 3 \times 6}{100} = ₹432$$

31. (b) $M_1 D_1 T_1 = M_2 D_2 T_2$

$$\Rightarrow 15 \times 20 \times 8 = 20 \times 12 \times T_2$$

$$\Rightarrow T_2 = \frac{15 \times 20 \times 8}{20 \times 12} = 10 \text{ hours}$$

32. (c)

Men	Working hours	Days
16 ↑	14 ↑	12 ↓
28	12	x

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

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

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

33. (d) Here, x = 18, y = 12, m = 3

Total time taken

$$= \left(\frac{y + m}{x + y}\right)x = \left(\frac{12 + 3}{18 + 12}\right) \times 18 = 9 \text{ days}$$

34. (c) Part of the tank filled in 1 hour by pipe $A = \frac{1}{2}$

Part of the tank filled by both pipes in 1 hour

$$= \frac{1}{2} + \frac{1}{6} = \frac{3 + 1}{6} = \frac{2}{3}$$

So, Time taken to fill $\frac{2}{3}$ part = 60 minutes

∴ Time taken to fill $\frac{1}{2}$ part

$$= \frac{60 \times 3}{2} \times \frac{1}{2} = 45 \text{ minutes}$$

∴ The tank will be filleld at 11:45 A.M.

35. (d) Let the inflow fill the tank in x hours.

$$\therefore \frac{1}{x} - \frac{1}{2x} = \frac{1}{36}$$

[leakage being half of inflow]

$$\Rightarrow \frac{2-1}{2x} = \frac{1}{36}$$

$$\Rightarrow 2x = 36$$

$$\Rightarrow x = \frac{36}{2} = 18 \text{ hours}$$

36. (c) Let the capacity of the tank be x gallons. Quantity of water filled in the tank in 1 minute when all the pipes A, B and C are opened

simultaneously $= \frac{x}{20} + \frac{x}{24} - 3$

According to the question,

$$\frac{x}{20} + \frac{x}{24} - 3 = \frac{x}{15}$$

$$\Rightarrow \frac{x}{20} + \frac{x}{24} - \frac{x}{15} = 3$$

$$\Rightarrow \frac{6x + 5x - 8x}{120} = 3$$

$$\Rightarrow 3x = 3 \times 120$$

$$\Rightarrow x = \frac{3 \times 120}{3} = 120 \text{ gallons}$$

37. (d) Speed of the man = 5km/hr

$$= 5 \times \frac{1000}{60} m/\min = \frac{250}{3} m/\min$$

Time taken to cross the bridge = 15 minutes
Length of the bridge = speed × time

$$= \frac{250}{3} \times 15m = 1250m$$

38. (b) Speed of train $= \frac{Distance}{Time}$

$$= \frac{10}{\frac{12}{60}} \text{ kmph} = \frac{10 \times 60}{12} = 50 \text{ kmph}$$

New speed = 45 kmph

∴ Required time $= \frac{10}{45}$ hour

$$= \frac{2}{9} \times 60 \text{ minutes} = \frac{40}{3} \text{ minutes}$$

= 13 minutes 20 seconds

39. (b) Speed of train = 60 kmph
Time = 210 minutes

$$= \frac{210}{60} \text{ hours}$$

or $\frac{7}{2}$ hours

Distance covered $= 60 \times \frac{7}{2} = 210$ km

Time taken at 80 kmph

$$= \frac{210}{80} = \frac{21}{8} \text{ hours} = 2\frac{5}{8} \text{ hours}$$

40. (a) Speed of current

$$= \frac{1}{2} \text{ (Rate downstream – Rate upstream)}$$

$$= \frac{1}{2} (12 - 6) \text{ kmph} = 3 \text{ kmph} \quad [\text{Rate}$$

$$\text{downstream} = \frac{1}{5} \times 60 = 12 \text{ kmph}]$$

41. (b) Let the speed of boat in still water be x kmph, then

$$\frac{12}{x+3} + \frac{12}{x-3} = 3$$

$$\Rightarrow 12\left(\frac{x-3+x+3}{(x+3)(x-3)}\right) = 3$$

$$\Rightarrow 4 \times 2x = x^2 - 9$$
$$\Rightarrow x^2 - 8x - 9 = 0$$
$$\Rightarrow x^2 - 9x + x - 9 = 0$$
$$\Rightarrow x(x - 9) + 1 (x - 9) = 0$$
$$\Rightarrow (x - 9) (x + 1) = 0$$
$$\Rightarrow x = 9 \text{ because } x \neq -1$$
∴ Speed can't be negetive.
Hence, speed of boat in still water = 9 kmph

42. (c) Let the distance be x km.
Speed upstream = 5 – 1
= 4 kmph
Speed downstream
= 5 + 1 = 6 kmph

$$\therefore \frac{x}{6} + \frac{x}{4} = 1$$

$$\Rightarrow \frac{2x + 3x}{12} = 1$$

$$\Rightarrow 5x = 12$$

$$\Rightarrow x = \frac{12}{5} = 2.4 \text{ km}$$

43. (b) the side of square be a units.
Area of this square $= a^2$
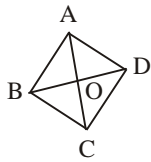
The diagonal of square $= \sqrt{2}a$
∴ Area of square $= 2a^2$
∴ Required ratio $= a^2 : 2a^2 = 1 : 2$

44. (b) Net Effect on area of rectangle

$$= \left(20 + 25 + \frac{20 \times 25}{100}\right)\% = 50\%$$

$$\left[\because \text{Net \% change} = \frac{a + b + ab}{100}\right]\%$$

45. (c)

AB = 10 cm, AC = 16 cm;
$\Rightarrow$ AO = 8 cm

$$\therefore BO = \sqrt{10^2 - 8^2}$$

$$= \sqrt{100 - 64}$$

$$= \sqrt{36} = 6 \text{ cm}$$

∴ BD = 12cm

Hence, Area of rhombus $= \frac{1}{2}d_1 d_2$

$$= \frac{1}{2} \times 16 \times 12 = 96 \quad \text{cm}^2$$

46. (c) Perimeter of regular hexagon
= Perimeter of equilateral triangle.
i.e. If a side of the regular hexagon be x units, then side of triangle = 2x units.
∴ Required ratio

$$= 6\frac{\sqrt{3}}{4}x^2 : \frac{\sqrt{3}}{4}(2x)^2$$

$$= 6 : 4 = 3 : 2$$

47. (d) Let the sides be 3x, 4x and 5x respectively.
Here, $(3x)^2 + (4x)^2 = (5x)^2$
Hence, the triangle is right angled.

$$\therefore \frac{1}{2} \times 3x \times 4x = 216$$

$$\Rightarrow 6x^2 = 216 \Rightarrow x^2$$

$$= \frac{216}{6} = 36$$

$$\therefore x = \sqrt{36} = 6$$

Perimeter of triangle
= (3x + 4x + 5x) cm = 12x cm
= 12 × 6 = 72 cm

48. (b) Radius of the circle $= \frac{100}{2\pi}$ cm

When a square is inscribed in the circle, diagonal of the square is equal to diameter of the circle.
∴ Diagonal of square

$$= 2 \times \frac{100}{2\pi} = \frac{100}{\pi} \text{ cm}$$

∴ Side of square $= \frac{\text{Diagonal}}{\sqrt{2}}$

$$= \frac{100}{\sqrt{2}\pi} = \frac{50\sqrt{2}}{\pi} \text{ cm.}$$

49. (c) $\frac{1}{\sqrt{3} + \sqrt{4}}$

$$= \frac{1}{\sqrt{3} + \sqrt{4}} \times \frac{\sqrt{4} - \sqrt{3}}{\sqrt{4} - \sqrt{3}}$$

$$= \frac{\sqrt{4} - \sqrt{3}}{4 - 3} = \sqrt{4} - \sqrt{3}$$

Similarly,

$$\frac{1}{\sqrt{4} + \sqrt{5}} = \sqrt{5} - \sqrt{4} \dots \text{so on}$$

∴ Expression

$$= \sqrt{4} - \sqrt{3} + \sqrt{5} - \sqrt{4} + \sqrt{6} - \sqrt{5} + \sqrt{7} - \sqrt{6} +$$

$$\sqrt{8} - \sqrt{7} + \sqrt{9} - \sqrt{8}$$

$$= \sqrt{9} - \sqrt{3} = 3 - \sqrt{3}$$

50. (b) Expression

$$= \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}} - \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$$

$$= \frac{\left(\sqrt{3} + \sqrt{2}\right)^2 - \left(\sqrt{3} - \sqrt{2}\right)^2}{\left(\sqrt{3} + \sqrt{2}\right)\left(\sqrt{3} - \sqrt{2}\right)}$$

$$= \frac{3+2+2\sqrt{6}-3-2+2\sqrt{6}}{\left(\sqrt{3}\right)^2-\left(\sqrt{2}\right)^2}$$

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

51. (b) Diamond is a transparent precious stone of pure carbon. Similarly, corundum is equivalent to Ruby.

52. (c) The second term is antonym of the first term. Hence, Roof : Floor.

53. (b) Coldness is the inherent property of ice. Similarly, gravitation is the property of Earth.

54. (c) Editor is responsible for the production of newspaper. Similarly, author writes novel.

55. (b) $18 \times 2 = 36$ and
$36 - 6 = 30$
Therefore,
$36 \times 2 = 72$ and $72 - 6 = 66$

56. (b) $25 = 5 \times 5$
and $37 = (5 + 1)^2 + 1$
$49 = 7 \times 7$
and $? = (7 + 1)^2 + 1 = \boxed{65}$

57. (a) $42 - (7)^2 - 7 = 49 - 7$
$56 = (8)^2 - 8 = 64 - 8$
Similarly,
$110 = (11)^2 - 11 = 121 - 11$
Now, $(12)^2 - 12 = 144 - 12 = 132$

58. (d)

So C and B are daughters of D.
So, A is uncle of D's daughter (B and) C.

59. (a) The son of P is brother of R and S.
Q is uncle of R and S.

60. (b) Only son of woman's grandfather means the father of woman. Man's brother's father is the father of that woman.
Therefore, the woman is sister of that man.

61. (b)

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

Option (1)
$18 \div 6 - 7 + 5 \times 2 = 20$
or, $18 \times 6 + 7 \div 5 - 2 = 20$

or, $108 + \dfrac{7}{5} - 2 = 20$

or, $\dfrac{540 + 7 - 10}{5} = 20$

or, $547 - 10 \neq 20 \times 5$
Option (2)
$18 + 6 \div 7 \times 5 - 2 = 18$
or, $18 \div 6 \times 7 - 5 + 2 = 18$
or, $3 \times 7 - 5 + 2 = 18$
or, $21 - 5 + 2 = 18$

62. (c)

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

Option (1)
$46 - 10 + 10 \times 5 = 92$
or, $46 \times 10 - 10 \div 5 = 92$
or, $460 - 2 \neq 92$
Option (2)
$265 + 11 - 2 \times 14 = 22$
or, $265 - 11 \times 2 \div 14 = 22$

or, $265 - \dfrac{22}{14} \neq 22$

Option (3)
$66 \times 3 - 11 + 12 = 230$
or, $66 \div 3 \times 11 - 12 = 230$
or, $22 \times 11 - 12 = 230$
or, $242 - 12 = 230$

63. (d) $4 \times 6 \div 2 - 4 + 8 = 16$
$\Rightarrow 4 \times 3 - 4 + 8 = 16$
$\Rightarrow 12 - 4 + 8 = 16$

64. (b) In all other pairs of numbers the difference between the two numbers is of 25.
$62 - 37 = 25$
$85 - 60 = 25$
$103 - 78 = 25$
But, $74 - 40 = \boxed{34}$

65. (b) The second number is three times the first number except in the case of option (2).
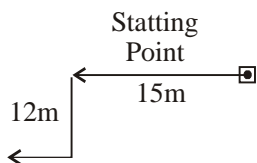$81 \times 3 = 243$
$64 \times 3 = 192$
$25 \times 3 = 75$
But, $16 \times 4 = 64$

66. (a) Except in the number pair $94 - 7$, in all others we get the second number by dividing the first number by 7.
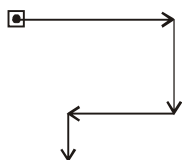
67. (c) 81 is a perfect square.

68. (b)

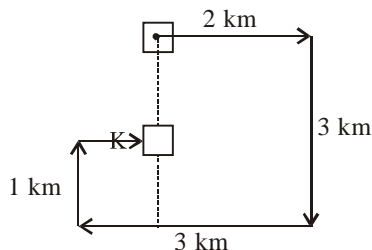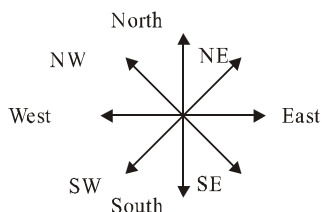Now she if facing towards west.

69. (b)

Now, he was going towards south.
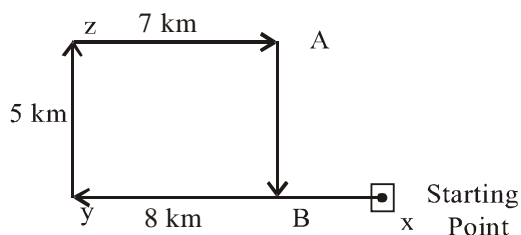
70. (b)

71. (a)

Required distance = xy– yB = (8 – 7) km
= 1 km

72. (a) Day before yesterday was
Thursday.
Today is Saturday.
Tomorrow will be Sunday.

73. (c) Tomorrow will be Thursday.
Thursday + 3 Days = Sunday

74. (a) The year 1996 was a Leap Year.
Number of days remaining in the 1996
= 366 – 26 = 340 days
= 48 weeks 4 odd days

1997, 1998 and 1999 together have 3 odd days.
2000 was a Leap year
Days upto 15th August 2000
31 + 29 + 31 + 30 + 31 + 30 + 31 + 15 = 228 days

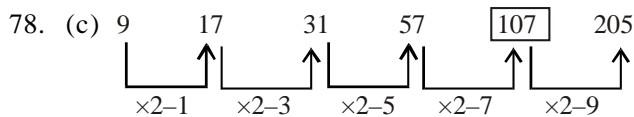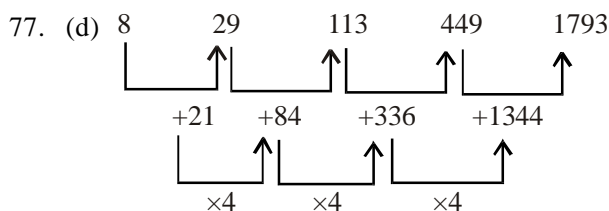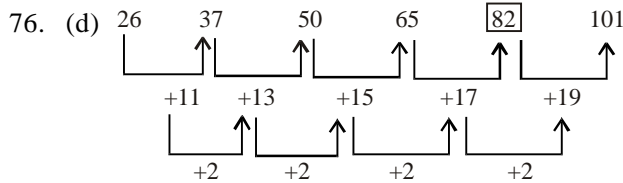$\dfrac{228}{7} = 32$ weeks 4 odd days

Now, total number of odd days
= 4 + 3 + 4 = 11

$\dfrac{11}{7} = 1$ week 4 odd days

15th August 2000 was 4 days beyond Friday, i.e., Tuesday.

75 (b)

76. (d)

77. (d)

78. (c)
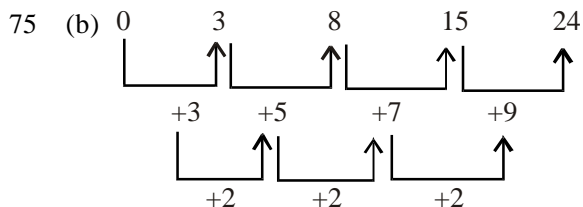
79. (c) D = 4 and

B	A	D
↓	↓	↓
2 +	1 +	4 = 7

Similarly,

A	N	T
↓	↓	↓
1 +	14 +	20 = 35

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

C	O	V	E	R
↓	↓	↓	↓	↓

$3 + 15 + 22 + 5 + 18 = 63$

Therefore,

B	A	S	I	S
↓	↓	↓	↓	↓

$2 + 1 + 19 + 9 + 19 = \boxed{50}$

81. (c)
9	2	4	0	7	1
↓	↓	↓	↓	↓	↓
B	S	E	U	A	C

82. (b) In the given word there are only two Ps while in the word PEPPER there are three Ps.

83. (a) There is only one 'L' in the keyword while there are two Ls in the word LIBERAL.

84. (d) There is no 'I' letter in the given word. Therefore, the word GREGARIOUS cannot be formed.

85. (a) We can align the premises by changing their order :
Some citizens are soldiers,

All soldiers are men.
We know that
I + A → I type conclusion
Thus, our derived conclusion would be :
"Some citizens are men".
This is conclusion on I.

86. (d) We can align the premises by converting the second premise.
All Americans are **English speaking**

No English speakers are Eskimos
We know that,
A + E → E type conclusion
Thus, our derived conclusion would be:
"No Americans are Eskimos."
Conclusion I is the converse of the derived conclusion.
Conclusion II is the converse of second premise.

87. (b) We can align the premises by converting the second premise.
All children are playful.

Some playfuls are animals.

We know that,
A + I → No conclusion.

88. (b) The original position of Hema from the left = 9th
Therefore, her position from right
= 16 – 9 + 1 = 8th

89. (b) The rank of Suresh = 28th

$\xrightarrow{}$ 13th   28th
$\boxed{R}$ ------14 Students------ $\boxed{S}$

90. (c)
$\boxed{\text{LEFT}}$ $\boxed{\text{RIGHT}}$
10 persons   11th   9 persons
$\xrightarrow{} \boxed{A} \cdots \boxed{B} \xleftarrow{}$
         10th

After interchanging the position

10 persons   11th   18th   9 persons
$\xrightarrow{} \boxed{A} \cdots \boxed{B} \xleftarrow{}$
         10th

Total number of persons in the rows
= 10 + 1 + 6 + 1 + 9 = 27

91. (b) First of all take the product of all the numbers given outside the square and divide it by 10 to get the number inside the square.
1st Figure
$5 \times 3 \times 4 \times 2 = 120$
$120 \div 10 = 12$
2nd Figure
$5 \times 6 \times 2 \times 3 = 180$
$180 \div 10 = 18$
3rd Figure
$5 \times 2 \times 2 \times 9 = 180$
$180 \div 10 = \boxed{18}$

92. (c) The central number is the sum of square roots of all the four numbers located at the corners in the given arrangement.
1st Figure
$\sqrt{4} = 2;$ $\sqrt{16} = 4;$
$\sqrt{9} = 3;$ $\sqrt{25} = 5$
Now, 2 + 4 + 3 + 5 = 14
2nd Figure
$\sqrt{9} = 3;$ $\sqrt{49} = 7;$
$\sqrt{36} = 6;$ $\sqrt{1} = 1$
Now, 3 + 7 + 6 + 1 = $\boxed{17}$

93. (b) $8 \times 2 = 16$ and $8 \times 4 = 32$
$9 \times 2 = 18$ and $9 \times 4 = 36$
$10 \times 2 = 20$ and $10 \times 4 = 40$

94. (c) In each arrangement the product of the upper

two numbers is equal to the bottom number.

1st arrangement

$5 \times 4 = 20$

অ্যাচিভার্স

2nd arrangement

$8 \times 8 = 64$

3rd arrangement

$6 \times 6 = \boxed{36}$

95. (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

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

96. (a) Meaningful order

a. Pulp

↓

c. Paper

↓

b. Print

অ্যাচিভার্স

↓

e. Publish

↓

d. Purchase

97. (d) Logical order of the given words :

(c) Egg

↓

(d) Worm

↓

(b) Cocoon

অ্যাচিভার্স

↓

(a) Butterfly

98. (c) Author writes with pen on paper. And as such, book is published. A large number of books are kept in library. Thus, Meaningful order :

(c) Author

↓

(e) Pen

↓

(a) Paper

↓

(d) Book

↓

(b) Library

99. (c) When '2' is at the bottom, number '1' will be on the top.

100. (b) The numbers 2, 4, 5 and 6 cannot be on the face opposite to 3.

The numbers 1, 3, 4 and 6 cannot be on the face opposite to 5.

Therefore, 2 lies opposite 5.

Clearly, 4 lies opposite 6.

অ্যাচিভার্স

———★★★———