

## ANSWER SET - 21

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

## EXPLANATION - 21

- (2)
 

P	A	N	D	O	G
+2 ↓	+4 ↓	-2 ↓	+2 ↓	+4 ↓	-2 ↓
R	E	L	F	S	E
- (1)  $76 \Rightarrow 7 \times \frac{6}{2} = 21$ ,  
 $48 \Rightarrow 4 \times \frac{8}{2} = 16$
- (3)  $482 \Rightarrow 4 + 8 + 2 = 14$   
 $\Rightarrow \frac{14}{2} = 7$   
 $543 \Rightarrow 5 + 3 + 4 = 12 \Rightarrow \frac{12}{2} = 6$
- (2) Snake is a reptile and Duck is an **Aquatic** animal.
- (1) Only **April** month is of 30 days.
- (4) Except **Charminar**, all are in Maharashtra state.
- (4)  $123 \Rightarrow 1 + 2 + 3 = 6$ ,  
 $233 \Rightarrow 2 + 3 + 3 = 8$ ,  
 $142 \Rightarrow 1 + 4 + 2 = 7$ ,  
 $235 \Rightarrow 2 + 3 + 5 = 10 \neq 9$
- (1) Except Ashoka, all are Mughal Emperor.
- (2) **O R A N G E**
- (1) Neither conclusion I nor II follows.
- (3)  $7 \times 8 = 56 \Rightarrow \frac{56}{2} = 28$ ,  
 $9 \times 10 = 90 \Rightarrow \frac{90}{2} = 45$   
 $12 \times 6 = 72 \Rightarrow \frac{72}{2} = 36$
- (2)  $8 + 6 = 14 \Rightarrow \frac{14}{2} = 7$ ,  
 $9 + 13 = 22 \Rightarrow \frac{22}{2} = 11$

$$\text{and } 3 + 5 = 8 \Rightarrow \frac{8}{2} = 4$$

- (2)
 

6	3	8
-2	7	9
3	5	9
- (2)
- (1) After changing the signs,  
 $20 \div 4 \times 6 - 9 + 4 = 5 \times 6 - 9 + 4$   
 $= 30 - 9 + 4 = 34 - 9 = 25$
- (2)
 

0	1	4	15	64	328	1936
$\times 1+1$	$\times 2+2$	$\times 3+3$	$\times 4+4$	$\times 5+5$	$\times 6+6$	
63	72	90	117	153	198	
+9	+9	+9	+9	+9	+9	
- (2) Apple, Approach, **Appropriate**, Approval, Approve
- (3)
 

B	5 m	C
□		
A	5 m	D
20m		20m

$\therefore$  Required distance (AD) = 5 m
- (4)  $3+2+5 \Rightarrow 3 \times 2 \times 5 = 30$ ,  $2+4+6 \Rightarrow 2 \times 4 \times 6 = 48$   
 $7+3+2 \Rightarrow 7 \times 3 \times 2 = 42$ ,  $5+6+4 \Rightarrow 5 \times 6 \times 4 = 120$
- (3) **S O C I A L**  
4 5 3 2 6 1
- (2) Digit '2' represents the teachers who are social workers.
- (4)  $8a3c24b12d19$   
 $8 \times 3 + 24 \div 12 - 19$   
 $= 24 + 2 - 19 = 7$
- (1)
- (3) Total number of triangles = 21
- (2)  $\left[ \sqrt{x} - \frac{1}{\sqrt{x}} \right]^2 = x + \frac{1}{x} - 2$   
 $= (3 + 2\sqrt{2}) + \frac{1}{(3 + 2\sqrt{2})} - 2$   
 $= (3 + 2\sqrt{2}) + \frac{1}{(3 + 2\sqrt{2})} \times \frac{(3 - 2\sqrt{2})}{(3 + 2\sqrt{2})} - 2 = 4$   
 $\therefore \left( \sqrt{x} - \frac{1}{\sqrt{x}} \right) = 2$
- (3) Let C.P. = Rs 100 then, profit = Rs 320,  
S.P. = Rs 420  
New C.P. = 125% of Rs. 100 = Rs. 125  
New S.P. = Rs 420  
Profit = Rs. (420 - 125) = Rs 295  
 $\therefore$  Required percentage  
 $= \left[ \frac{295}{420} \times 100\% \right] = \frac{1475}{21}\% = 70\%$
- (1) P can complete the work in  $(12 \times 8)$  hrs. = 96 hrs.  
Q can complete the work in  $(8 \times 10)$  hrs. = 80 hrs

$$\therefore \text{P's 1 hour's work} = \frac{1}{96} \text{ and}$$

$$\text{Q's 1 hour's work} = \frac{1}{80}$$

(P + Q)'s 1 hour's work

$$= \left[ \frac{1}{96} + \frac{1}{80} \right] = \frac{11}{480}$$

So, both P and Q will finish the

work in  $\left[ \frac{480}{11} \right]$  hrs

$\therefore$  Number of days of 8 hours

$$\text{each} = \left[ \frac{480}{11} \times \frac{1}{8} \right]$$

$$= \frac{60}{11} \text{ days} = 5 \frac{5}{11} \text{ days}$$

- (3) Ratio of times taken by A and B = 125 : 100 = 5 : 4

Suppose B takes x days to do the work.

$$5 : 4 :: 20 : x \Rightarrow x = \left[ \frac{4 \times 20}{5} \right] = 16$$

Hence, B takes **16 days** to complete the work.

- (3) Let ten's and unit's digits be 2x and x respectively

$$\text{Then, } (10 \times 2x + x) - (10x + 2x) = 36$$

$$\Rightarrow 9x = 36$$

$$\Rightarrow x = 4$$

$$\therefore \text{Required difference} = (2x + x) - (2x - x) = 2x = 8$$

$$60. (4) \frac{4}{15}A = \frac{2}{5}B$$

$$\Rightarrow A = \left[ \frac{2}{5} \times \frac{15}{4} \right] B$$

$$\Rightarrow A = \frac{3}{2}B$$

$$\Rightarrow \frac{A}{B} = \frac{3}{2}$$

$$\Rightarrow A : B = 3 : 2$$

$$\therefore \text{B's share} = \text{Rs} = \left[ 1210 \times \frac{2}{5} \right]$$

$$= \text{Rs } 484$$

- (4) Required average

$$= \left[ \frac{510 \times 5 + 240 \times 25}{30} \right]$$

$$= \frac{8550}{30} = 285$$

- (3) Decrease %

$$= -20 - 10 + \frac{(-20)(-10)}{100} = -28\%$$

So, the required percentage decrease = **28%**

- (1) Speed of the train relative to man

$$= \left[ \frac{125}{10} \right] \text{m/sec} = \left[ \frac{25}{2} \right] \text{m/sec}$$

$$= \left[ \frac{25}{2} \times \frac{18}{5} \right] = 45 \text{km/hr}$$

Let the speed of the train be  $x$  km/hr. then

relative speed =  $(x - 5)$  km/hr

$$\therefore x - 5 = 45 \Rightarrow x = 50$$

$\therefore$  Speed of the train = **50 km/hr**

64. (3) Let man's rate upstream be  $x$  km/ph

Then, his rate downstream =  $2x$  km/ph

$\therefore$  (Speed in still water):

(Speed of stream)

$$= \left[ \frac{2x + x}{2} \right] : \left[ \frac{2x - x}{2} \right]$$

$$= \frac{3x}{2} : \frac{x}{2} = 3 : 1$$

65. (4) Let the present ages of son and father be  $x$  and  $(60 - x)$  years respectively

Then,  $(60 - x) - 6 = 5(x - 6)$

$$\Rightarrow 54 - x = 5x - 30$$

$$\Rightarrow 6x = 84$$

$$\Rightarrow x = 14$$

$\therefore$  Son's age after 6 years =  $(x + 6) = 20$  years.

66. (4) Let the numbers be  $x$  and  $y$ .

Then,  $x + y = 25$  and  $x - y = 13$

$$4xy = (x + y)^2 - (x - y)^2$$

$$= (25)^2 - (13)^2$$

$$= 625 - 169$$

$$= 456$$

$$\therefore xy = 114$$

$\therefore$  Required product = **114**

67. (2) Let P, Q and R represent their respective monthly income.

Then, we have:

$$P + Q = (5050 \times 2) = 10100 \dots (i)$$

$$Q + R = (6250 \times 2) = 12500 \dots (ii)$$

$$P + R = (5200 \times 2) = 10400 \dots (iii)$$

Adding (i), (ii) and (iii),

$$\text{we get: } 2(P + Q + R) = 33000$$

$$\Rightarrow P + Q + R = 16500 \dots (iv)$$

Subtracting (ii) from (iv), we get

$$P = 4000$$

$$\therefore P\text{'s monthly income} = \text{Rs}$$

$$= 4000$$

68. (2) Let  $(17)^{3.5} \times (17)^{\sqrt{x}} = 17^8$

$$\text{Then, } (17)^{3.5 + \sqrt{x}} = 17^8$$

$$\therefore 3.5 + \sqrt{x} = 8$$

$$\Rightarrow \sqrt{x} = (8 - 3.5)$$

$$\Rightarrow \sqrt{x} = 4.5$$

$$\Rightarrow x = 20.25$$

69. (3) Then,  $y + 120\%$  of  $y = 550$

ATQ,

$$y + x = 550$$

$$\Rightarrow y + \frac{120}{100}y = 550$$

$$\Rightarrow \frac{11}{5}y = 550$$

$$\Rightarrow y = \left[ \frac{550 \times 5}{11} \right] = 250$$

$\therefore$  Y was paid ` **250 per week**

$$70. (2) \text{ C.P.} = \text{Rs} \left[ \frac{100}{122.5} \times 392 \right]$$

$$= \text{Rs} \left[ \frac{1000}{1225} \times 392 \right] = \text{Rs. } 320$$

$\therefore$  Required Profit = Rs  $(392 - 320) =$  ` **72**

71. (3) Dividing the terms by  $\sin \theta$

$$\Rightarrow \frac{15 + 3 \cot \theta}{15 - 3 \cot \theta} = \frac{15 + 3 \times 4}{15 - 3 \times 4}$$

$$= \frac{27}{3} = 9$$

72. (4)  $\angle A = 115^\circ - 45^\circ = 70^\circ$  and

$$\angle C = 180^\circ - 115^\circ = 65^\circ$$

$\therefore$  Required difference =  $70^\circ - 65^\circ = 5^\circ$

73. (4) Total exports of the three companies X, Y and Z together, during various years are:

In 1993 = Rs  $(30 + 80 + 60)$  crores = Rs 170 Cr

In 1994 = Rs  $(60 + 40 + 90)$  crores = Rs 190 Cr

In 1995 = Rs  $(40 + 60 + 120)$  crores = Rs 220 Cr

In 1996 = Rs  $(70 + 60 + 90)$  crores = Rs 220 Cr

In 1997 = Rs  $(100 + 80 + 60)$  crores = Rs 240 Cr

In 1998 = Rs  $(50 + 100 + 80)$  crores = Rs 230 Cr

In 1999 = Rs  $(120 + 140 + 100)$  crores = Rs 360 Cr

Clearly, the total exports of the three companies X, Y and Z together are same during the years **1995 and 1996**

74. (3) The difference between the exports from the companies X and Y during the various years are:

In 1993 = Rs  $(80 - 30)$  crores = Rs 50 Crores

In 1994 = Rs  $(60 - 40)$  crores = Rs 20 Crores

In 1995 = Rs  $(60 - 40)$  crores = Rs 20 Crores

In 1996 = Rs  $(70 - 60)$  crores = Rs 10 Crores

In 1997 = Rs  $(100 - 80)$  crores = Rs 20 Crores

In 1998 = Rs  $(100 - 50)$  crores = Rs 50 Crores

In 1999 = Rs  $(140 - 120)$  crores = Rs 20 Crores

Clearly, the difference is minimum in the year **1996**

75. (1) Average annual exports of

company Z during the given period

$$= \frac{1}{7} \times (60 + 90 + 120 + 90 + 60 + 80 + 100)$$

$$= \text{Rs.} \left[ \frac{600}{7} \right] \text{crores}$$

$$= \text{Rs. } 85.71 \text{crores}$$

So, In **4 years** which is 1994 (90 cr), 1995 (120 cr), 1996 (90 cr) and 1999 (100 cr), it is more than average.