ANSWER SET - 69

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

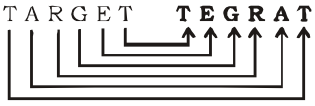
EXPLANATION - 69

1. (2) India is the 7th largest country of the world. Similarly, **Canada** is the **2nd** largest country of the world.

2. (3) G R E A T T A E R G

Similarly,

T A R G E T **T E G R A T**

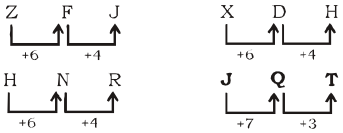


3. (2) $(7 + 5)^2 = 144$
Similarly, $(1 + 9)^2 = \mathbf{100}$

4. (2) **Africa** is a continent.

5. (3) $119 = 17 \times 7$
$323 = 17 \times 19$
$\mathbf{195 = 13 \times 15}$
$161 = 7 \times 23$
195 is not a multiple of two prime numbers

6. (4)



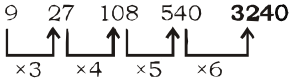
7. (4) **Lion**

8. (4) **952** is divisible by 4.

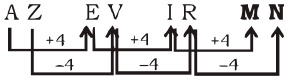
9. (3) ab**cd**ab**cd**ab**cd**

10. (4) **NOISE**

11. (2)



12. (3)



13. (3)

4	16	36	64	100
↓	↓	↓	↓	↓
2^2	4^2	6^2	8^2	10^2

14. (3) $(4 + 1) \times (3 + 7) = 50$
$(2 + 7) \times (4 + 3) = 63$
$(8 + 1) \times (8 + 1) = \mathbf{81}$

15. (2)

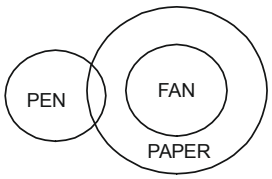
M	E	M	B	E	R	S
↓	↓	↓	↓	↓	↓	↓
1	2	1	3	2	4	5

R	A	N	D	A	M
↓	↓	↓	↓	↓	↓
4	7	8	9	7	1

Similarly,

M	A	M	B	R	A	N	E
↓	↓	↓	↓	↓	↓	↓	↓
1	7	1	3	4	7	8	2

16. (3)



I False
II True

17. (3) $7 \times (8 + 1) = 63$
$5 \times (6 + 1) = 35$
$10 \times (11 + 1) = \mathbf{120}$

18. (2) 4

19. (1)

20. (1) $114 + 19 \div 17 \times 3 - 15$
Change the symbol, as per given details,
$114 \div 19 * 17 - 3 + 15 = \mathbf{114}$

21. (3) 1st day the month $= \frac{21}{7}$
= 3 weeks + 0 day = Friday
then, 8th day of the month = Friday + 7
= **Friday**

22. (3)

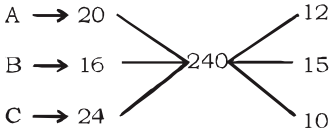
23. (1)

24. (2)

25. (1)

51. (4) ATQ,
$600 = 2 \times 2 \times 2 \times 3 \times 5 \times 5$
To make a perfect square, 600 is multiplied by 2 and 3 i.e. 6
Hence, Required number = **6**

52. (3) ATQ,



Work done by A = $4 \times 12 = 48$
Then, workdone by B and C = $240 - 48 + 3 \times 15 = 237$
Hence, Required days

$= \frac{237}{10 + 15} = 9\frac{12}{25}$ days

53. (3) ATQ,
Effective increment in area
$= 2 \times 3\pi r^2 - 4\pi r^2$

$= 2 \times \frac{22}{7} \times \frac{21}{4} \times \frac{21}{4} = \mathbf{173.25\ cm^2}$

54. (2) ATQ,
Marked price of article

$= \frac{1828.70}{(100 - 23)} \times 100 = \mathbf{₹2375}$

55. (3) ATQ,

$\frac{7}{6}P = \frac{3}{5}Q = \frac{8}{5}R$

$\Rightarrow \frac{P}{Q} = \frac{3}{5} \times \frac{6}{7} = \frac{18}{35}$ and

$\Rightarrow \frac{Q}{R} = \frac{8}{5} \times \frac{5}{3} = \frac{8}{3}$

Then, P : Q : R
18 : 35
8 : 3
$\Rightarrow$ **144 : 280 : 105**

56. (2) ATQ,

Required average $= \frac{83(83 + 1)}{2 \times 83}$

= **42**

57. (1) ATQ,
C.P of 1st article

$= \frac{600}{(100 - 20)} \times 100 = ₹750$

C.P of 2nd article

$= \frac{600}{(100 + 20)} \times 100 = ₹500$

then, Loss = $2 \times 600 - 750 - 500$
$= -50$
Hence Required Loss = **₹50**

58. (2) ATQ,
Let number = x

then, $\frac{30 \times x}{100} - \frac{24 \times x}{100} = 45$

$\Rightarrow 6x = 4500 \Rightarrow x = \mathbf{750}$

59. (3) Time taken to cover the distance between 1st to 13th tree = 16 sec.
Then, time taken to cover another 13th tree to 52th tree = $16 \times 3 =$ **48 sec**

60. (1) ATQ,

$\frac{P \times r \times \frac{20}{3}}{100} = P$

$\Rightarrow r = 15\%$
Hence, Required rate = **15%**

61. (1) ATQ,

$\frac{1}{x^{(a+b)} + 1} + \frac{1}{x^{(b-a)} + 1}$

$= \frac{1}{x^{(a-b)} + 1} + \frac{1}{1 + \frac{1}{x^{a-b}}}$

$= \frac{x^{a-b} + 1}{x^{a-b} + 1} = 1$

62. (2) ATQ,

$x = 10 + 2\sqrt{21}$

$= (7)^2 \left(\sqrt{3}\right)^2 + 2\sqrt{7} \times \sqrt{3}$

$= \left(\sqrt{7} + \sqrt{3}\right)^2$

$\Rightarrow \sqrt{x} = \sqrt{7} + \sqrt{3}$ and

$\frac{1}{\sqrt{x}} = \frac{1}{\sqrt{7}+\sqrt{3}} = \frac{\sqrt{7}-\sqrt{3}}{4}$

Then,

$\sqrt{x} + \frac{1}{\sqrt{x}} = \sqrt{7} + \sqrt{3} + \frac{\sqrt{7}-\sqrt{3}}{4}$

$= \frac{5\sqrt{7}+3\sqrt{3}}{4}$

63. (1) ATQ,

$\frac{1+x}{\sqrt{x}+\frac{1}{\sqrt{x}}} - \frac{\sqrt{x}+\frac{1}{\sqrt{x}}}{1+x} + \frac{1}{\sqrt{x}}$

$= \frac{(1+x)\sqrt{x}}{x+1} - \frac{x+1}{(x+1)\sqrt{x}} + \frac{1}{\sqrt{x}}$

$= \sqrt{x} - \frac{1}{\sqrt{x}} + \frac{1}{\sqrt{x}} = \sqrt{x}$

64. (2) ATQ,

$\frac{p}{q} = \frac{a+9}{a-9}$

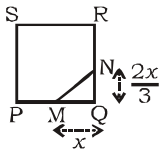
Apply componando and dividendo rule,

$\frac{p+q}{p-q} = \frac{a}{9}$

Square on both sides,

$\Rightarrow \left(\frac{p+a}{p-q}\right) = \frac{a^2}{81}$

65. (4) ATQ,



Let MQ = x

then, $NQ = \frac{2x}{3}$

then, area of ΔMQN

$= \frac{1}{2} \times x \times \frac{2x}{3} = 108$

$\Rightarrow x^2 = 324 \Rightarrow x = 18$

Hence, length of PR (diagonal)

$= 2 \times 18 \times \sqrt{2} \Rightarrow 36\sqrt{2}$

66. (2) ATQ,

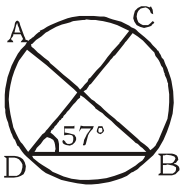
radius of circle (AO)

$= \sqrt{35^2 + 12^2} = 37$ cm

Then, ON $= \sqrt{(\text{radius})^2 - (CN)^2}$

$\Rightarrow ON = \sqrt{(37)^2 - (35)^2} =$ **12 cm**

67. (3) ATQ,



$\angle ADB = 90°$ (angle made in half circle)

then, $\angle ADC = 90° - 57° = 33°$

but $\angle ADC = \angle ABC$ (angle made by same chord)

$\Rightarrow \angle ABC =$ **33°**

68. (2) ATQ,

Let AB = x and BC = y

then, area of BCM

$= \frac{1}{2} \times y \times \frac{2x}{3} = \frac{xy}{3}$

and area of CDN

$= \frac{1}{2} \times \frac{2y}{3} \times x = \frac{xy}{3}$

then, area of ABCD = xy

Now, $xy - \frac{1}{3}xy - \frac{1}{3}xy = 17$

$\Rightarrow \frac{1}{3}xy = 17$

$\Rightarrow xy = 51$

Hence, area of ABCD = **51 cm²**

69. (2) ATQ,

$(1 - \sin A \cos A)(\sin A + \cos A)$

$= (\sin^2 A + \cos^2 A - \sin A \cos A)(\sin A + \cos A)$

$=$ **$(\sin^3 A + \cos^3 A)$**

70. (3) ATQ,

$\sqrt{\frac{1-\sin A}{1+\sin A}}$

$= \sqrt{\frac{1-\sin A}{1+\sin A} \times \frac{1-\sin A}{1-\sin A}}$

$= \sqrt{\frac{(1-\sin A)^2}{1-\sin^2 A}} = \frac{1-\sin A}{\cos A}$

$=$ **sec A − tan A**

71. (4) ATQ,

$\sqrt{\frac{1}{\sin^2 A} + \frac{1}{\cos^2 A}}$

$= \sqrt{\frac{\sin^2 A + \cos^2 A}{\sin^2 A \cos^2 A}}$

$= \frac{1}{\sin A \cos A} = \text{cosec A sec A}$

$= \sqrt{1 + \tan^2 A}\sqrt{1 + \cot^2 A}$

$= \sqrt{1 + \tan^2 A}\sqrt{1 + \frac{1}{\tan^2 A}}$

$= \sqrt{1 + \tan^2 A}\frac{\sqrt{1 + \tan^2 A}}{\tan A}$

$= \frac{1 + \tan^2 A}{\tan A}$

$= \cot A + \tan A$

72. (2) ATQ,

Required average

$= \frac{152 + 35 + 14 + 138 + 34 + 40 + 35 + 150 + 63 + 68 + 112 + 73 + 196}{13} = 85$

73. (3) ATQ,

Option A $= \frac{(138-34)}{138} \times 100$

$= 75.36\%$

Option B $= \frac{(150-63)}{150} \times 100$

$= 58\%$

Option C $= \frac{(138-14)}{138} \times 100$

$=$ **90%**

Option D $= \frac{196-73}{196} \times 100$

$= 62.75\%$

74. (2) See the solution of question no 72.

75. (1) Required amount

$= (152 + 35 + 14 + 138 + 34 + 40 + 35 + 150 + 63 + 68 + 112 + 73 + 196) \times 56 = 1110 \times 50 =$ **₹ 55500**

84. (3) 'Providence smile upon' means 'someone is especially lucky, fortunate, or successful, good things tend to happen to someone'.

85. (4) look at something

86. (2) If an action was in continuation in the past, past continuous tense is used.

88. (1) 'GEAR' will replace 'GEARS' as you put the car in one gear at one time.

89. (2) Relative pronoun 'who' is used as sportsperson is the subject here who was won.